DHI-M80-S12

VIDEO MATRIX PLATFORM HOST

Series Overview

The Video Matrix Platform delivers a next-generation, telecom-grade video processing solution. In addition to being developed with a robust ATCA framework (Advanced Telecom Computing Architecture), this platform also has a modular design with a card-based structure that allows its input and output cards to be flexibly configured to suit your specific needs. This powerful platform efficiently acquires various types of signal sources, performs audio and video encoding, accesses network signals, and decodes and transmits videos to the video wall. It also features advanced functions such as matrix switching, plan management, video splicing, window roaming, and live video. Its versatility allows it to be effectively utilized in command centers, monitoring stations, conference rooms, exhibition halls and more locations.

Functions

Resilient Framework

All slots are interchangeable, letting you freely mix inputs and outputs to make full use of every slot.

Flexible Expansion

Supports cascading, with linear capacity scaling to meet growing demands.

Stable Resolution Even at 4K

Supports acquiring and outputting signals at 4K@60 Hz, providing ultra-high resolution output through advanced video capture and splicing techniques.

- Standard 19" 5U rack-mounted server with ATCA telecommunication-grade architecture.
- 12 slots for audio and video cards.
- Offers redundant dual power supply, making it highly suitable for locations such as machine rooms. (Single power supply is standard; dual power supply requires optional configuration.)
- The intelligent fan can be automatically adjusted to moderate the temperature, ensuring the stability and reliability of the system.
- Adopts the H.265 video compression standard, offering support for dual stream technology and variable bit rates. It can encode both composite and video streams while ensuring audio and video synchronization during composite stream encoding.
- Supports mainstream video signal interfaces such as DP, HDMI, and DVI.
- Supports input of up to 48 channels at 1080p@60 Hz for HD encoding, or 24 channels at 4K@60 Hz for UHD encoding.
- Supports up to 48 channels of 4K signal output through HDMI ports, allowing for seamless splicing across up to 48 screens.
- Decodes videos in 32 MP, 16 MP, 12 MP, 8 MP, 5 MP, 3 MP, 1080p, 720p, and D1. Only H.265 can be used to decode videos in 32 MP, 16 MP and 12 MP.
- Supports processing multiple copies of signals, utilizing a maximum of 32 output channels for each signal.
- The device can be freely controlled through the webpage, desktop client, mobile client and network keyboard.
- Features splicing, scaling, video integration, roaming, windowing, and OSD.
- Splits to 1, 4, 6, 8, 9, 16, 25, and 36 windows. You can also customize the split windows.
- Up to 128 presets can be set for scenes. You can also customize the layout of each scene on the video wall.
- Displays the background image in high definition.
- Offers subtitles that can be overlayed and displayed on both single and spliced screens. You can customize the font style and color, character spacing, background color, and speed to suit your preferences.
- Four 2.5 Gbps RJ-45 ports and two 10 Gbps optical ports.

Redundant Hot Backup

Uninterrupted 24/7 operation is ensured by dual active controllers, dual power supplies, and full-link hot backup for output cards and LED controllers.

Easy O&M through the Touch Screen

The touch screen makes it convenient to perform operation and maintenance as it visually displays the running status of the device.

LED Display Compatibility

The resolution can be customized for output ports, ensuring optimal compatibility with LED displays.

Effortless Integration with Security Platforms

Seamlessly integrates with Dahua's general and industry-specific platforms, creating a complete end-to-end solution for the security industry.

Scene

Suitable for command centers, monitoring centers, operation centers, digital exhibition halls and more scenes.

Technical Specification

System

Main Processor	64 high-performance octa-core processor
Operating System	Embedded Linux operating system
Bus	Dual bus for the network and serial port
Slot	15 slots in total. Each of the following items has its own slot: the switching card, main control card, and central control card. But the central control card is reserved. The remaining 12 slots are reserved for audio and video cards. Furthermore, the audio and video cards can be freely inserted into their slots without restrictions
Cabinet	Single power supply (dual power supply optional); single main control board (dual main control board optional); intelligent temperature-controlled fan
Touch Screen	An 8-inch touch screen with a resolution of 1280 × 800 that enables the visualization of any touch operation for the device

Port

USB	1 × USB 3.0 port and 1 × USB 2.0 port
Network Port	4 × 2.5 Gbps RJ45 port and 2 × 10 Gbps optical port
RS-232	2
RS-485	2
HDMI	1 (reserved)
Alarm Input Port	2 (reserved)
Alarm Output Port	2 (reserved)
Audio Input Port	One 3.5 mm jack port (reserved)
Audio Output Port	One 3.5 mm jack port
Type-C Port	1 Type-C port that supports USB 2.0

VEC0205EHP-M80

Video Input	2-channel HDMI 2.0 port and 2-channel DP 1.2 port. Either one can be set for each input channel
Audio Input	2-channel HDMI/DP embedded audio port and 2-channel 3.5 mm jack port
Encoding Format	H.265
Encoding Capability	Supports 2-ch YUV420 4096 × 2160@60 Hz or 2-ch YUV444 4096 × 2160@30 Hz, with downward resolution compatibility; Supports custom resolutions, with a range of width 800–8192, height 600–8192, and a total pixel width × height ≤ 8847360 (4096 × 2160)
Audio Encoding Format	PCM; G711.A

VEC0405HH-M80

Video Input	4 × HDMI 1.3 ports
Audio Input	4-channel HDMI embedded audio port and 4-channel 3.5 mm jack port
Encoding Format	H.265
Encoding Capability	Supports 4 channels YUV444/YUV420 at 1920 × 1200@60 Hz, with compatibility for lower resolutions. Supports custom resolutions within the range: width 800-3840, height 600-2880, with total pixel count (width × height) ≤ 2304000 (1920 × 1200)
Audio Encoding Format	PCM; G711.A

VDC0405EH

Video Output (LCD)	4 × HDMI 2.0 ports. If a layer spans multiple decoding cards, each card must decode the layer individually; 1. When the number of 4K input video walls is less than or equal to 2, it can decode videos at the following resolutions: • 4 channels at 1920 × 1080@60 Hz; • 4 channels at 3840 × 2160@60 Hz. The video will not cross the edge of the LCD screen; • 2 channels at 3840 × 2160@60 Hz. This is for the scene where videos from multiple channels will cross the screen; 2. When the number of 4K input video walls exceeds 2, it can decode videos at the following resolutions: • 4 channels at 1920 × 1080@60 Hz; • 4 channels at 3840 × 2160@60 Hz. The signal will not cross the edge of the video screen; • 1 channel at 3840 × 2160@60 Hz. This is for the scene where videos from multiple channels will cross the screen
Video Output (LED)	4 HDMI 2.0 ports. The layer covers multiple decoding cards, each requiring one decoding operation; Supports embedded audio output; Supports 2-ch 4K or 4-ch 1080p; Supports custom resolutions, four output ports share the same total output capacity: 1) To ensure output port synchronization, the resolution of each individual card and the entire video wall must be consistent; 2) Width range: 200–3840, height range: 200–3840; 3) Maximum total pixels per port: width × height ≤ 8294400 (3840 × 2160); 4) Total pixel load capacity of each board's output ports ≤ 17MP
Video Format	Supports decoding of video compression formats: H.265; H.264; MJPEG; MPEG4; SVAC (customizable); and MPEG2

Decoding Capability	Supports performing real-time decoding of network videos based on the following capabilities: 2-ch 32MP@25 fps; 4-ch 8MP@60 fps; 8-ch 8MP@30 fps; 36-ch 1080p@30 fps; 18-ch 1080p@60 fps and 130-ch D1@25 fps. Only H.265 can be used to decode videos in 32 MP
Decoding Resolution	32 MP, 16 MP, 12 MP, 8 MP, 5 MP, 3 MP, 1080p, UXGA, 720p, D1, HD1, 2CIF, CIF, QCIF, 32 MP and 16 MP are supported only in H.265
Video Output Resolution	3840 × 2160@60 Hz, 3840 × 2160@30 Hz, 2048 × 1152@60 Hz, 1920 × 1200@60 Hz, 1920 × 1080@60 Hz, 1280 × 1024@60 Hz, 1280 × 720@60 Hz, 1024 × 768@60 Hz. Supports custom resolution output (e.g., 2160 × 3840@60 Hz, 3072 × 2700@60 Hz)
Multi-screen Display	Supports 1/4/6/8/9/16/25/36 screen split, and supports M × N custom split. Each output port supports up to 36 screens (others customizable); a single board supports up to 144 screens; the entire unit supports up to 1728 screens

Function

Multi-screen Display	Splits to 1/4/6/8/9/16/25/36 windows, and supports M × N custom split
Interoperability	ONVIF;RTSP;DahuaPrivate;HikvisionPrivate
Transmission Protocol	TCP;UDP;RTP;RTSP;RTCP
Max System Configuration	Supports installation of up to 12 audio and video cards. The maximum output resolution is 48-ch 4K@60 Hz. The maximum input resolution is 48-ch 1080p@60 Hz or 24-ch 4K@60 Hz
Network Signal Access	Up to 10,000 network channels can be accessed. If you want to adjust the number of network channels to be accessed, please contact the manufacturer
Screen Splicing	Splices up to 48 screens
Spliced Screen Function	Splicing and zoom, video integration, roaming, windowing, and OSD
Video Wall	Supports 16 video walls
Subtitle	Single video wall: a total of 8 captions, including 1 scrolling caption and 7 static captions
Scene	1. Supports video scenes; supports up to 128 scenes; 2. Supports additional presets (with iSee): supports up to 128 presets; 3. Supports combined presets (with iSee): supports up to 128 presets
Scenario Tour	1. Supports scene tour, with tour interval adjustable from 10 to 300 seconds; 2. Supports scheduled switching, with settings configurable by day of the week, and multiple time periods can be set per day
Background Capability	1. Number of background images: 64; 2. Background image resolution: width × height × 3 < 400 × 1024 × 1024; 3. Background image types: jpg, bmp
Output Setting	1. Supports configuration of screen chroma, brightness, contrast, and saturation; 2. Output layer formats supported: YUV422, XRGB8888; 3. Audio output modes: 3.5mm, HDMI, HDMI & 3.5mm; default is 3.5mm
Smart Display	1. Supports smart rules; 2. Supports intelligent tracking frames;
Smart Display	3. Supports metadata of face, people, vehicle, non-motor vehicle, and crowd density
Fan Control	1. 6 smart fans; 2. Supports normal mode and conference room mode; 3. Supports fan group configuration, with temperature ranges corresponding to low, medium, and high speeds
Equipment Management	1. Supports local signals and network signals; 2. Supports custom signal grouping (5-level grouping) and favorites (2-level grouping)
SDK	Supports secondary development, and provides platform SDK
Control Mode	Operations can be performed directly through the device's touch screen. You can also connect to the device through the webpage, desktop client, mobile client and network keyboard

General

Power Supply	100–127 VAC/100–240 VAC, 50–60 Hz, 10/5 A, hot swapping
Power Redundancy	Dual
Power Consumption	≤1200 W
Operating Temperature	–10 °C to +50 °C (+14 °F to +122 °F)
Operating Humidity	10%–90% (non-condensing)
Storage Temperature	–10 °C to +50 °C (+14 °F to +122 °F)
Storage Humidity	10%–90% (non-condensing)
Product Dimensions	354.8 mm × 484.0 mm × 409.2 mm (13.94" × 19.06" × 16.11") (H × W × D)
Packaging Dimensions	554 mm × 622 mm × 563 mm (21.81" × 24.49" × 22.13") (H × W × D)
Gross Weight	25 kg (55.12 lb)
Net Weight	20 kg (44.09 lb)
Series	M80
Type	Server

Ordering Information

Type	Model	Description
VIDEO MATRIX PLATFORM	DHI-M80-S12	VIDEO MATRIX PLATFORM HOST
Accessories (Optional)	Controller-Panel-8U-5U	VIDEO MATRIX PLATFORM BLANK PANEL
	TSFP-1310-20-SMF	SFP+ Optical Module
	DHI-MBC-M80-S12	VIDEO MATRIX PLATFORM MAIN CARD
	NSW-M80-S12	VIDEO MATRIX PLATFORM SWITCHING CARD
	DHI-VEC0405HH-M80	VIDEO MATRIX PLATFORM ENCODING CARD
	DHI-VDC0405EH-M80	VIDEO MATRIX PLATFORM DECODING CARD
	DHI-VEC0205EHP-M80	VIDEO MATRIX PLATFORM ENCODING CARD

Accessories

Optional:

Controller-Panel-8U-5U
VIDEO MATRIX PLATFORM
BLANK PANEL

TSFP-1310-20-SMF
SFP+ Optical Module

DHI-MBC-M80-S12
VIDEO MATRIX PLATFORM
MAIN CARD

NSW-M80-S12
VIDEO MATRIX PLATFORM
SWITCHING CARD

DHI-VEC0405HH-M80
VIDEO MATRIX
PLATFORM ENCODING
CARD

DHI-VDC0405EH-M80
VIDEO MATRIX PLATFORM
DECODING CARD

DHI-VEC0205EHP-M80
VIDEO MATRIX PLATFORM
ENCODING CARD

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