



MA6000 All-in-One

LED Video Splicing Processor

Data Sheet

Introduction

MA6000 is a new generation of LED two-in-one video splicing server for small pitch screens with high image quality. It can be used as a two-in-one video splicing processor for video processing, video, and control, or as a pure video splicing processor. It also adds the application of AI visual analysis and cloud digital management platform. The whole machine adopts modular configuration and plug-in card structure, and can flexibly configure input and output cards according to user needs. It supports hot-swappable input and output cards, with stable performance. It can be widely used in energy and electricity, judicial prisons, military command, water conservancy and hydrology, meteorology and earthquake, metallurgy and steel, banking and finance, national defense and security, public security and transportation, exhibitions, production scheduling, radio and television, education and scientific research, stage rental and other fields.

Based on the powerful hardware FPGA system architecture and the LED control system built-in network port with load modular design concept, MA8000 not only has the stable and efficient genetic genes of pure hardware architecture, but also supports various interface modules for flexible and personalized combination, simple maintenance, and reduces equipment failure rate. MA8000 supports common HDMI, DVI, DP (adapter), VGA, CVBS (adapter), SDI and IP input interfaces, supports 10-bit video source input and processing, supports 4K high-definition video input and output; supports built-in LED splicing sending card, can realize backup between network ports and ultra-long-distance transmission, supports multi-screen multi-layer management, input and output EDID management and preview, input source name modification, settings and other operations, which can bring you a rich picture construction experience.

In addition, MA6000 can be cross-platform and cross-system web browser B/S architecture without installation of graphical control software, can support multi-user online operation in Linux, Windows, Kylin system, Xinchuang system, Euler system, Android, iOS and other operating system environments, realize information synchronization, fast response speed, greatly improving the efficiency of on-site environment configuration.

Features

Card-insertion structure design, free matching

- LED splicing sending card
MA_8-channel network port sending card, a single network port can load 600,000 pixels, and a single card can load up to 4.8 million pixels.
- Support input single card slot multi-capacity
4 channels 2K*1K@60Hz
2 channels 4K*2K@30Hz
1 channel 4K*2K@60Hz
1 channel 8K*4K@30HZ
- Support single card single interface with screen.
- Real-time monitoring of input and output online status.
- Input and output cards support hot swapping without affecting the normal operation of other boards.
- IPC decoding on demand single card can support up to 128 network camera input decoding on the wall, can realize multi-source splicing, support H.265, H.265+, H.264, SAVC, samarth.265, etc.
- Support automatic decoding of input source HDCP.
- Support HDR10 and HLG video.

Multi-screen management, centralized control

- Each screen can customize the output resolution different from other screens.
- Synchronous splicing of output interfaces.
Adopting frame synchronization technology, the output images of all output interfaces are guaranteed to be completely synchronized, the picture is complete, the playback is smooth, there is no stuttering, frame loss, tearing or seams.
- Input source grouping.
Support group management of input sources.
- Support LCD screen edge compensation configuration.

Diversified display, flexible configuration

- High-definition dynamic scrolling subtitles.
Supports scrolling text display function. Users can customize the content, speed and style of scrolling text, and can publish slogans and notification messages.
- Input source management.
The software uses automatic detection to identify input and output sources, and can easily manage the number and type of input and output sources.
- Custom user scenes

512 user-defined scenes, support seamless switching of scene special effects, and the response speed of scene switching is less than 60ms.

- Automatic timing patrol of scenes

You can choose whether each scene participates in automatic patrol, which is convenient for monitoring and exhibition display applications

- Image quality adjustment.

Supports input source quality, output quality and layer quality management, including brightness, contrast, saturation, chroma and gamma adjustment.

- The whole system supports HDR and 10bit video processing, and the picture display is more delicate and clear, and the picture is clearer.

PC, tablet control, easy to operate

- Adopt client control, real-time response to operation,
Adopt 1000M/100M adaptive network interface, support multi-user access at the same time.
- The control interface can realize input source preview and output echo.
- Support control through visual management platform APP

Multiple monitoring and backup design, stable and reliable

- Automatic system monitoring and alarm.
Support hardware monitoring, abnormal alarm, operation status and other equipment monitoring.
- Support multiple power supply backup to improve system stability.
- Equipment backup.
Support backup between devices.
Support backup between LED splicing sending cards.

Audio synchronous and asynchronous input and output

- The input motherboard supports built-in HDMI audio input
- The output supports synchronous and asynchronous 3.5MM audio terminal output
- The output supports arbitrary mixed insertion of card slots and output port board mapping

➤ **Large load capacity**

Supports 8-way network output, a single network port can load 600,000 pixels, and a single card can load up to 5.2 million pixels



➤ **Multiple receiver card options**

Optional according to the user's scene requirements



MA-J70-A8S



MA-J60-320



MA-J60-A10S



MA-J60-12

➤ **Multi-layer display**

A single card supports 8 shared layers, or 2 2K layers per port, or 2 4K layers. Layers support

cross-interface output, and the number of layers does not decrease when the interface is crossed.



➤ **Rich interfaces**

Specific and rich input and output interfaces, supporting HDMI, VGA, SDI, DVI, BNC, KVM-USB, RS232, RS485, Audio3.5 to meet most application interface scenarios.



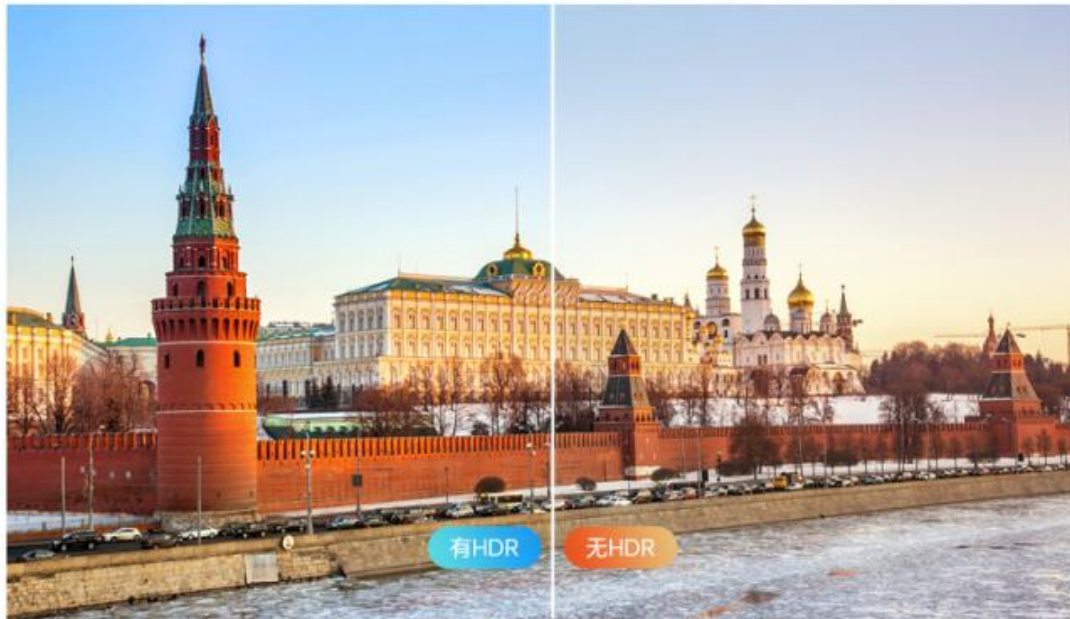
➤ **4K Ultra HD**

Signal acquisition, processing and output can be matched with DP1.2, HDMI2.0 and other ultra-high-definition true 4K@60HZ or 8K@60HZ boards to achieve ultra-high resolution image display.



➤ **HDR 10 real-time processing**

The whole system supports HDR and 10-bit video processing, and the picture display is more delicate and clear, and the picture is clearer.



➤ **8K/4K point-to-point splicing**

You can use a computer multi-screen output card, connected to the geometric 4K input card of the splicing processor, and the geometric 8K@30HZ, 4K (4K@60HZ, 4K@30HZ optional) input card to achieve ultra-high resolution non-deformation, non-stretching vector-level image splicing.



➤ **AI voice recognition control**

Supports AI voice recognition control, which can quickly and conveniently call up the display control screen and zoom image, as well as scene control.



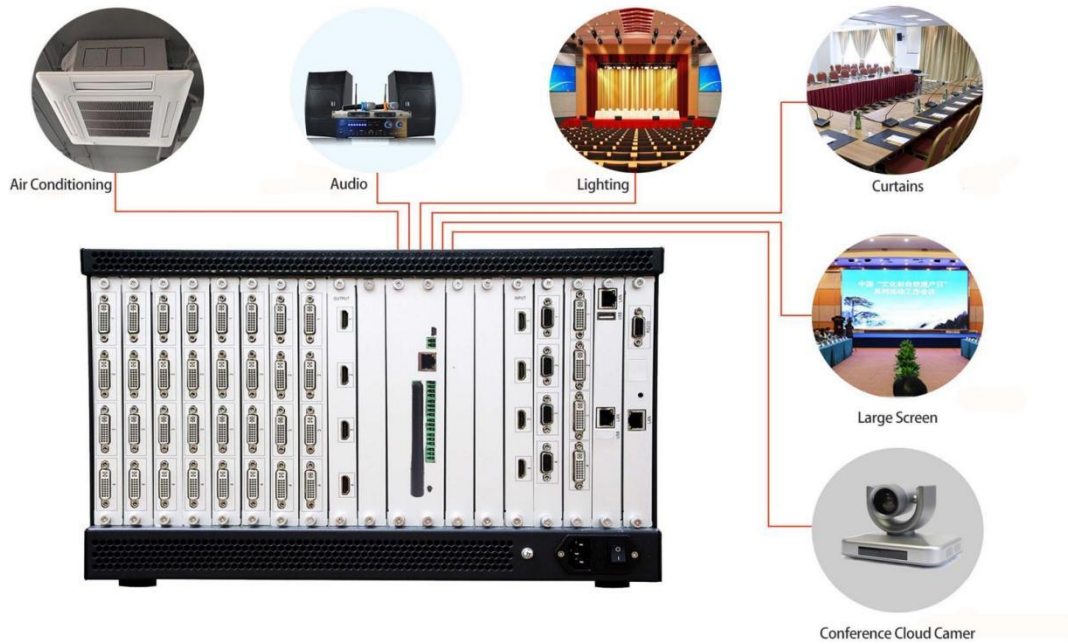
➤ **IPC decoding**

Supports streaming protocols such as H.264, H.265, ONVIF, IPC decoding of mainstream manufacturers and national standard GB28181, as well as NVR/DVR decoding and video playback.



➤ **Integrated built-in central control system**

The built-in central control system can control curtains, lights, large screens, air conditioners, conference cameras, audio, etc., facilitating integrated management of conference rooms.



Interface Description



Front panel



Rear panel

Note:

The product photos in this article are for reference only. Please refer to the actual product purchased.

The silkscreen description of the card slot on the rear panel:

- The logo from top to bottom is the order of card insertion. The left side is the input card slot. The number indicates the input port number of a single card. "Input" means input.
- Output card slot can only install output cards.
- When using the device, please place the device horizontally. Do not flip or place it vertically.
- This product can be installed in a 19-inch standard cabinet. The cabinet load-bearing requirement is at least four times the weight of all the equipment in the cabinet.
- 8 M5 × 10 screws are required for installation.

Input Card	
4 way DVI input card	Supports SL-DVI and DL-DVI input modes, 10-bit video source input and HDCP 1.4, does not support interlaced signal input. • SL-DVI mode Port 1, Port 2, Port 3 and Port 4 can all be input. The maximum resolution of a single channel is 1920x1080@60HZ. • DL-DVI mode
4 way HDMI input card	Supports 10-bit video source input, does not support interlaced signal input. HDMI 1.3 input • 4×HDMI 1.3 Each channel supports up to 1920×1080@60Hz. Supports HDCP 1.4.
2 way	• 2×4K@30Hz HDMI 1.4

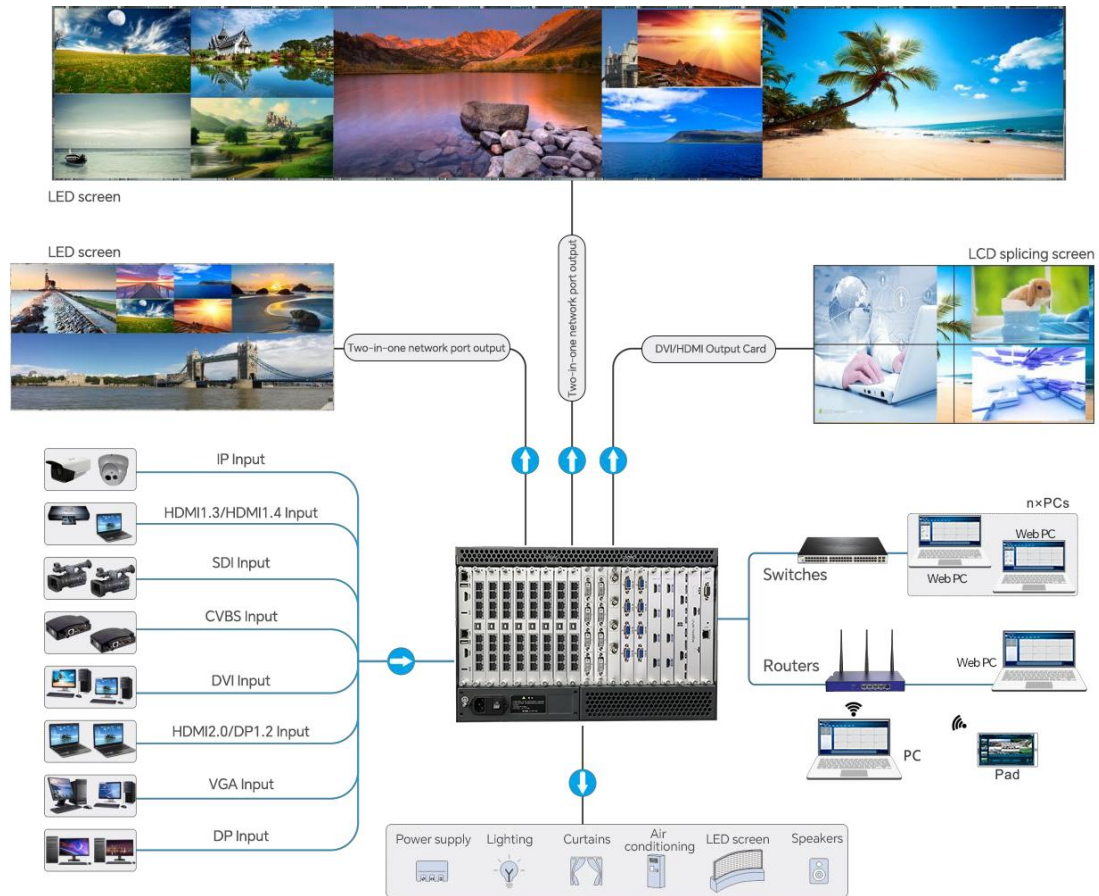
4K@30Hz HDMI2.0	Each channel supports up to 3840×2160@30Hz video input. Maximum width 7680 (7680×1080@30Hz), Maximum height 7680 (1920×7680@30Hz) Supports HDCP 1.4.
1 way 4K@60Hz/8K30HZ HDMI2.0	• 1×4K@60Hz /8K30HZ (7680*2160@30HZ) HDMI 1.4 input • HDMI 1.3 interface does not input, HDMI 1.4 interface input. • Single channel supports up to 3840×2160@60Hz video input, minimum 1920×1080@60Hz. • Supports custom resolution. Maximum width 7680 (7680×2160@30Hz, Maximum height 7680 (1920×7680@30Hz) Supports HDCP 1.4.
2×Network Port IP Decoder Card	Support interlaced signal input. 2×RJ45 Gigabit Ethernet ports • Support protocols: RTSP, GB28181 and ONVIF. • Support video encoding formats: H.264, H.265. • Single card simultaneous decoding performance: 4 channels 3840×2160@30fps 72 channels 1920×1080@30fps 144 channels 720×576@30fps • Support DHCP.
4 way 3G SDI input card	4×3G-SDI interfaces 3G-SDI interface, compatible with HD-SDI and SD-SDI standards. Supports ST-424 (3G), ST-292 (HD) and SMPTE 259 SD standard video source input. Single channel supports up to 1920×1080@30Hz video input. Supports 1080i/576i/480i deinterlacing.
4 way VGA input card	4×VGA interfaces, each channel supports up to 1920×1080@60Hz video input.
Standard central control	• 128×COM ports RS422/RS485/RS232 programmable ports, used to control devices with RS422/RS485/RS232 protocol. • 1×ETHERNET port Controls devices connected to the subcard. 10/100Mbps adaptive. Supports TCP/IP and UDP/IP protocols.
Output Card	
2 way	2×SL-DVI, supports single-link or dual-link output.

DVI output card	Single-link output All four interfaces can be configured as output. Maximum output resolution of a single channel is 1920×1200@60Hz. Maximum width is 3840 pixels (3840×640@60Hz). Maximum height is 1920 pixels (1200×1920@60Hz). Supports 8-bit RGB4:4:4/YCbCr4:4:4/YCbCr4:2:2 output. Supports 10-bit YCbCr4:4:4 output.
2 way HDMI output card	2×HDMI 1.4, supports single-link or dual-link output. Single-link output All four interfaces can be configured as output. Maximum output resolution of a single channel is 1920×1200@60Hz Maximum width is 3840 pixels (3840×640@60Hz) Maximum height is 1920 pixels (1200×1920@60Hz) Supports 8bit RGB4:4:4/YCbCr4:4:4/YCbCr4:2:2 output Supports 10bit YCbCr4:4:4 output
8 way network port sending card	LED splicing sending card, maximum load 4 million pixels, maximum width 7680 pixels, maximum height 7680 pixels. When a single card is installed, it takes up the position of two other types of cards. 8×RJ45 Gigabit Ethernet port When the output bit depth is 8bit, the maximum load of a single Ethernet port is 650,000 pixels.
Control Card	
GENLOCK	Synchronous lock signal interface, supports Bi-Level and Tri-Level. - IN: Synchronous signal input. - LOOP: Synchronous signal loop output.
COM	RS232 protocol serial port, connected to the central control system, controlled by the central control system - IN: Central control system signal input interface. - OUT: Central control system signal loop output interface.

Specification

Model	MA8000
Chassis specifications	3U、6U、12U
Maximum number of supported input cards	3U supports 4 input cards, 6U supports 9 input cards, and 12U supports 18 input cards
Maximum number of supported input channels	72 channels
Maximum number of supported output 2-in-1	3U supports up to 5 8-port LED 2-in-1 cards with 40 network ports; 6U supports up to 9 8-port LED 2-in-1 cards with 72 network ports; 12U supports up to 18 8-port LED 2-in-1 cards with 144 network ports;
Maximum number of supported output network ports	3U supports up to 40 network ports for LED 2-in-1 cards; 6U supports up to 72 network ports for LED 2-in-1 cards; 12U supports up to 144 network ports for LED 2-in-1 cards;
Maximum number of LED screen load points(LED splicing sending card)	3U supports up to 20 million pixels, 6U supports up to 36 million pixels, and 12U supports up to 70 million pixels
Maximum number of layers	Share 8 windows
Power supply	100-240V~,50/60Hz,
Power consumption	400W
Operating temperature	0°C~45°C
Operating humidity	0%RH ~ 80%RH, non-condensing
Dimensions	3U:480*330*160mm 6U:480*350*265mm 12U:485*445*530mm
Net weight (without board)	3U:6KG 6U:9KG 12U:16KG

Application Diagram



Case Studies

