

# V Series Video Splicer

## Specification V4.0



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## 1 Update Records

| Document Version | Hardware Version | Release Time      | Update Record |
|------------------|------------------|-------------------|---------------|
| V4.0             | V1.0.0           | July 18(th), 2025 | First release |

## 2 Product Introduction

The V-Series Video Splicer is Mooncell's newly launched ultra-intelligent and cost-effective video signal processing equipment. Featuring a modular 3U/5U/7U/14U standard chassis design, it supports both digital and analog signals, enabling seamless display of 4K@60Hz and lower resolution video signals across video walls of various specifications. With 4:4:4 color processing technology, it delivers rich colors, sharp image quality, and exceptionally realistic visual effects for large-screen displays. The Mooncell V-Series Video Splicer comprehensively meets ultra-high-definition application requirements in scenarios including command and dispatch centers, conference and reporting halls, exhibition centers, data operation centers, and broadcasting studios..

## 3 Product Characteristics

### 3.1 Modular Design: Free Mixing Combination

- Chassis network port load capacity
  - 3U: 40 network ports output, maximum load 26 million pixels
  - 5U: 60 network ports output, maximum load 39 million pixels
  - 7U: 100 network ports output, maximum load 65 million pixels
  - 14U: 200 network ports output, maximum load 130 million pixels

- Maximum input channels  
3U: 36 channels 2K, 24 channels 4K@30Hz, 6 channels 4K@60Hz  
5U: 48 channels 2K, 24 channels 4K@30Hz, 12 channels 4K@60Hz  
7U: 80 channels 2K, 40 channels 4K@30Hz, 20 channels 4K@60Hz  
14U: 160 channels 2K, 80 channels 4K@30Hz, 40 channels 4K@60Hz
- Single network port supports maximum width/height: 65,536 pixels
- Supports input signals: DVI, HDMI1.3, HDMI1.4, HDMI2.0, DP1.2, VGA, SDI, etc.
- Single output card supports 10 Gigabit network ports output, directly connecting to LED display receiving cards

### 3.2 Diversified Display Function

- Display functions  
Arbitrary layering among all signals, multi-screen free roaming and scaling  
Supports irregular display screen splicing  
Supports frame synchronization function  
Supports intelligent irregular splicing  
Supports HDMI audio input
- WEB control for convenient operation  
Supports PC scenes, can save scene files  
Supports modifying EDID of input interfaces  
Supports signal source cropping and local zoom  
Supports intelligent resolution setting, different resolutions can be used between network ports
- Backup design for stability and reliability  
Supports input signal hot backup

## 4 Application Scenarios

### 4.1 V300 Front/Rear Panel Interfaces



\*Product images are for reference only. The actual product shall prevail upon purchase.

| # | Illustration                                                                                                                        |
|---|-------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Output Slots: 4x RJ45 x 10                                                                                                          |
| 2 | Power Switch                                                                                                                        |
| 3 | Power Jack                                                                                                                          |
| 4 | 3D-IN Interface (Not Supported)                                                                                                     |
| 5 | GenLock Synchronization Cascade                                                                                                     |
| 6 | RJ45 Network Port                                                                                                                   |
| 7 | RS232 Serial Port                                                                                                                   |
| 8 | 2K/4K Input Slots (Optional Board): HDMI 2.0 x2 / DP 1.2 x2 / HDMI 1.3 x8 / HDMI 1.3 x4 / DVI x4 / HDMI 1.4 x4 / VGA x4 / 3G-SDI x4 |
| 9 | 2K Input Slots (DVIx4/HDMI1.3x4/VGAx4/3G-SDIx4)                                                                                     |

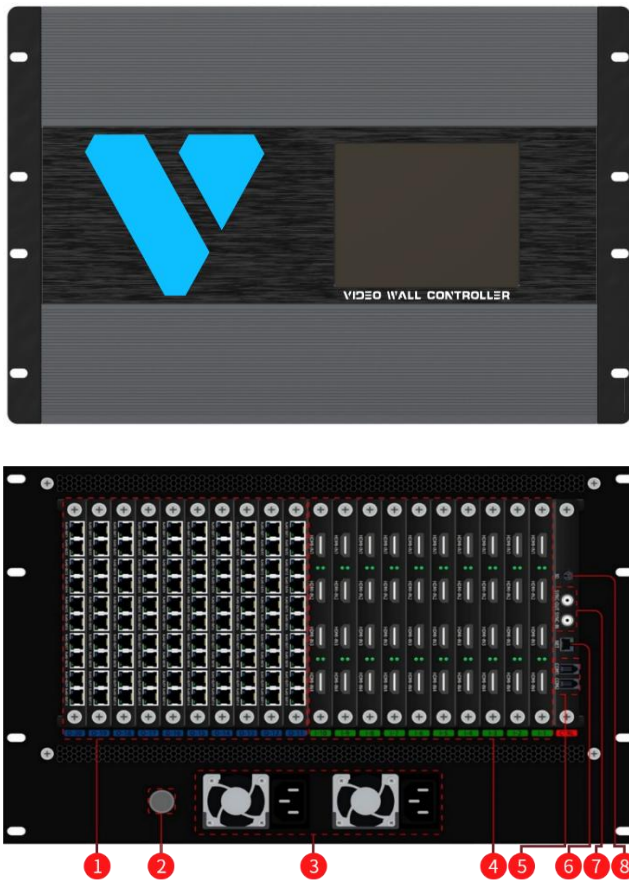
## 4.2 V500 Front/Rear Panel Interfaces



\*Product images are for reference only. The actual product shall prevail upon purchase.

| # | Illustration                                                                                                     |
|---|------------------------------------------------------------------------------------------------------------------|
| 1 | Output Slots: 6x RJ45 x10                                                                                        |
| 2 | Echo Slot                                                                                                        |
| 3 | Genlock Synchronization Cascade                                                                                  |
| 4 | RJ45 Network Port                                                                                                |
| 5 | RS232 Serial Port                                                                                                |
| 6 | Power switch                                                                                                     |
| 7 | Redundant power supply                                                                                           |
| 8 | Input slots (2K/4K)<br>(DVIx4 / HDMI 1.3x4 / HDMI 2.0x2 / DP 1.2x2 / HDMI 1.3x8 / HDMI 1.4x4 / VGAx4 / 3G-SDIx4) |

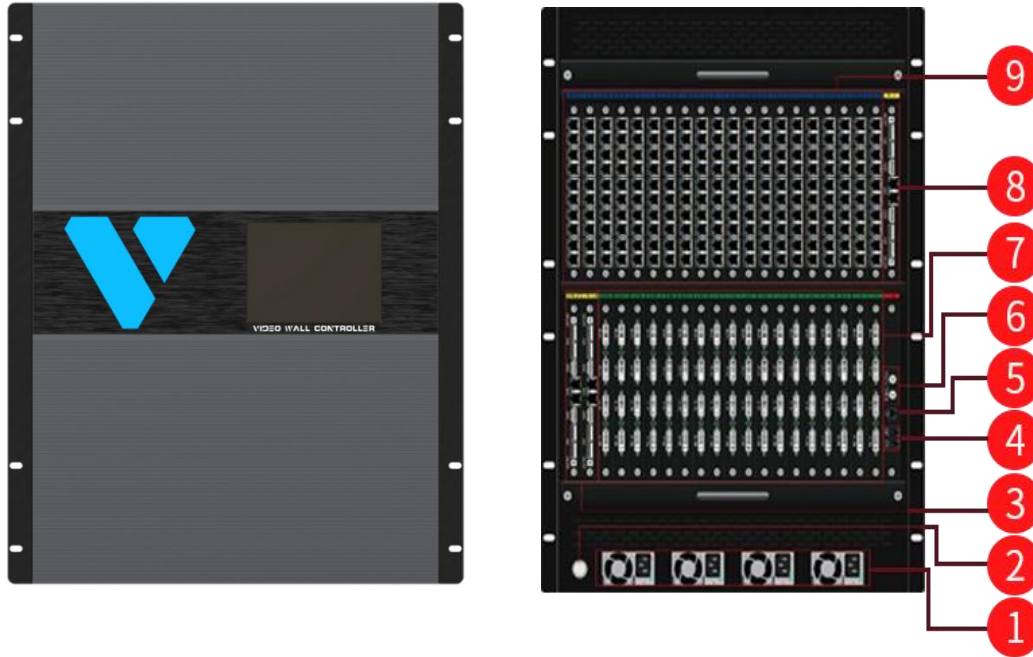
### 4.3 V700 Front/Rear Panel Interfaces



\*Product images are for reference only. The actual product shall prevail upon purchase.

| # | Illustration                                                                                                                |
|---|-----------------------------------------------------------------------------------------------------------------------------|
| 1 | Output slots: 10 RJ45 ports                                                                                                 |
| 2 | Power switch                                                                                                                |
| 3 | Power jack                                                                                                                  |
| 4 | 2K/4K Input Slots (Optional Board): DVIx4 / HDMI 1.3x4 / HDMI 2.0x2 / DP 1.2x2 / HDMI 1.3x8 / HDMI 1.4x4 / VGAX4 / 3G-SDIx4 |
| 5 | RS232 Serial Port                                                                                                           |
| 6 | RJ45 Ethernet Port                                                                                                          |
| 7 | GenLock Synchronization Cascade                                                                                             |
| 8 | 3D-IN Interface (Not Supported)                                                                                             |

#### 4.4 V1400 Front/Rear Panel Interfaces



\*Product images are for reference only. The actual product shall prevail upon purchase.

| # | Illustration                                                                                                                 |
|---|------------------------------------------------------------------------------------------------------------------------------|
| 1 | Power Supply                                                                                                                 |
| 2 | Power Switch                                                                                                                 |
| 3 | Echo Card and Input Card Slot (Shared)                                                                                       |
| 4 | RS232 Serial Port                                                                                                            |
| 5 | RJ45 Ethernet Port                                                                                                           |
| 6 | GenLock Synchronization Cascade                                                                                              |
| 7 | 2K/4K Input Slots (Optional Boards: DVIx4 / HDMI 1.3x4 / HDMI 2.0x2 / DP 1.2x2 / HDMI 1.3x8 / HDMI 1.4x4 / VGAX4 / 3G-SDIx4) |
| 8 | Return to Card Slot                                                                                                          |
| 9 | Output Slot: 20 RJ45 x 10                                                                                                    |

## 5 Board Specifications

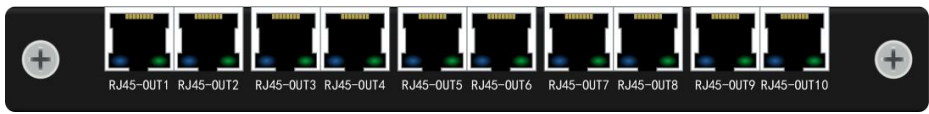
### 5.1 Input Interface

| Interface | Signal Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4×DVI     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|           | <ul style="list-style-type: none"> <li>• Supports only VESA standard DVI-D digital signals: <ul style="list-style-type: none"> <li>• Maximum single-port resolution: 2048×1152@60Hz</li> <li>• Minimum single-port resolution: 800×600@60Hz</li> <li>• Supports EDID customization</li> </ul> </li> <li>• Interface indicator status description: <ul style="list-style-type: none"> <li>• Illuminated: Input source normally connected</li> <li>• Not illuminated: No signal source connected or signal source abnormal</li> </ul> </li> </ul>      |
| 4×HDMI1.3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|           | <ul style="list-style-type: none"> <li>• Complies with EIA/CEA-861 standard, HDMI1.3×4 standard: <ul style="list-style-type: none"> <li>• Maximum single-port resolution: 2048×1152@60Hz</li> <li>• Minimum single-port resolution: 800×600@60Hz</li> <li>• Supports EDID customization</li> </ul> </li> <li>• Interface indicator status description: <ul style="list-style-type: none"> <li>• Illuminated: Input source normally connected</li> <li>• Not illuminated: No signal source connected or signal source abnormal</li> </ul> </li> </ul> |
| 4×HDMI1.4 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <ul style="list-style-type: none"> <li>• HDMI1.4 standard: <ul style="list-style-type: none"> <li>• Supports 3840x2160@30Hz, 3840×1080@60Hz</li> <li>• Supports EDID customization</li> </ul> </li> <li>• Interface indicator status description: <ul style="list-style-type: none"> <li>• Illuminated: Input source normally connected</li> <li>• Not illuminated: No signal source connected or signal source abnormal</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                         |
| 2×HDMI2.0 |  <ul style="list-style-type: none"> <li>• HDMI2.0×2 standard: <ul style="list-style-type: none"> <li>• Supports 3840×2160@60Hz, 4096×2160@60Hz, 1920×4800@60Hz, 7680×1080@60Hz</li> <li>• Maximum width: 7680 pixels</li> <li>• Maximum height: 4800 pixels</li> <li>• Supports EDID customization: <ul style="list-style-type: none"> <li>○ Compatible with HDMI1.4 and HDMI1.3 video input</li> </ul> </li> </ul> </li> <li>• Interface indicator status description: <ul style="list-style-type: none"> <li>• Illuminated: Input source normally connected</li> <li>• Not illuminated: No signal source connected or signal source abnormal</li> </ul> </li> </ul> |
| 2×DP1.2   |  <ul style="list-style-type: none"> <li>• DP1.2×2 standard: <ul style="list-style-type: none"> <li>• Supports 3840×2160@60Hz, 4096×2160@60Hz, 1920×4800@60Hz, 7680×1080@60Hz</li> <li>• Maximum width: 7680 pixels</li> <li>• Maximum height: 4800 pixels</li> <li>• Supports EDID customization: Compatible with DP1.1 video input</li> </ul> </li> <li>• Interface indicator status description: <ul style="list-style-type: none"> <li>• Illuminated: Input source normally connected</li> <li>• Not illuminated: No signal source connected or signal source abnormal</li> </ul> </li> </ul>                                                                    |

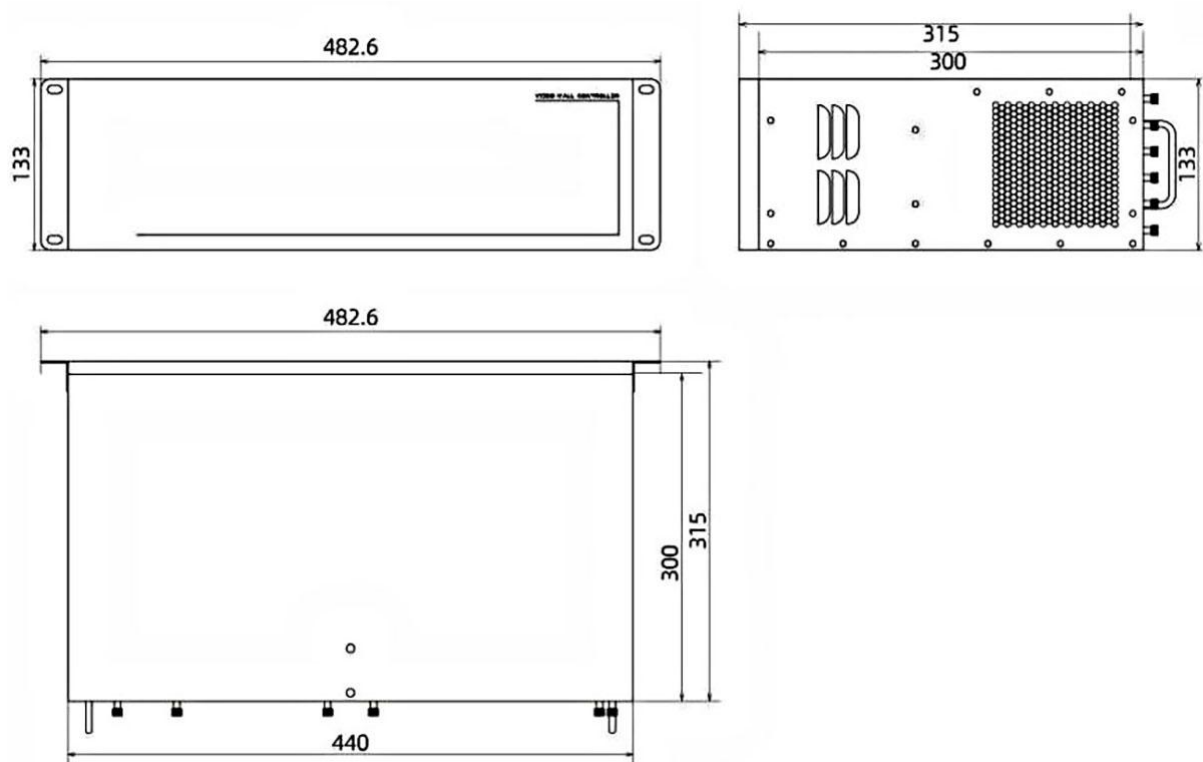
|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>8×HDMI1.3</p> |  <ul style="list-style-type: none"> <li>• One card with 8 ports, HDMI1.3 standard: <ul style="list-style-type: none"> <li>• Maximum single-port resolution: 2048×1152@60Hz</li> <li>• Minimum single-port resolution: 800×600@60Hz</li> <li>• Supports EDID customization</li> <li>• Only supports YCbCr 4:2:2 color depth processing</li> </ul> </li> <li>• Interface indicator status description: <ul style="list-style-type: none"> <li>• Illuminated: Input source normally connected</li> <li>• Not illuminated: No signal source connected or signal source abnormal</li> </ul> </li> </ul> |
| <p>8×VGA</p>     |  <ul style="list-style-type: none"> <li>- Complies with VESA standard, supports 1920x1080@60Hz</li> <li>• Interface indicator status description: <ul style="list-style-type: none"> <li>- Illuminated: Input source normally connected</li> <li>- Not illuminated: No signal source connected or signal source abnormal</li> </ul> </li> </ul>                                                                                                                                                                                                                                                    |
| <p>4×3G-SDI</p>  |  <p>3G-SDI interface, compatible with HD-SDI and SD-SDI standards:</p> <ul style="list-style-type: none"> <li>- Supports ST-424 (3G), ST-292 (HD), and SMPTE 259 SD standard video source input</li> <li>- Maximum single-channel support: 1920×1080@60Hz video input</li> <li>- Supports 1080i/576i/480i deinterlacing processing</li> </ul> <p>Interface indicator status description:</p> <ul style="list-style-type: none"> <li>- Illuminated: Input source normally connected</li> <li>- Not illuminated: No signal source connected or signal source abnormal</li> </ul>                   |

## 5.2 Output Interface

| Interface | Signal Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10×RJ45   |  <ul style="list-style-type: none"> <li>• RJ45 Gigabit Ethernet port:                             <ul style="list-style-type: none"> <li>• Maximum single-port load capacity: 650,000 pixels</li> <li>• Load capacity at 8-bit output color depth: 650,000 pixels</li> <li>• Load capacity at 10-bit output color depth: 480,000 pixels</li> <li>• Compatible with all Mooncell series receiving cards</li> </ul> </li> </ul> |

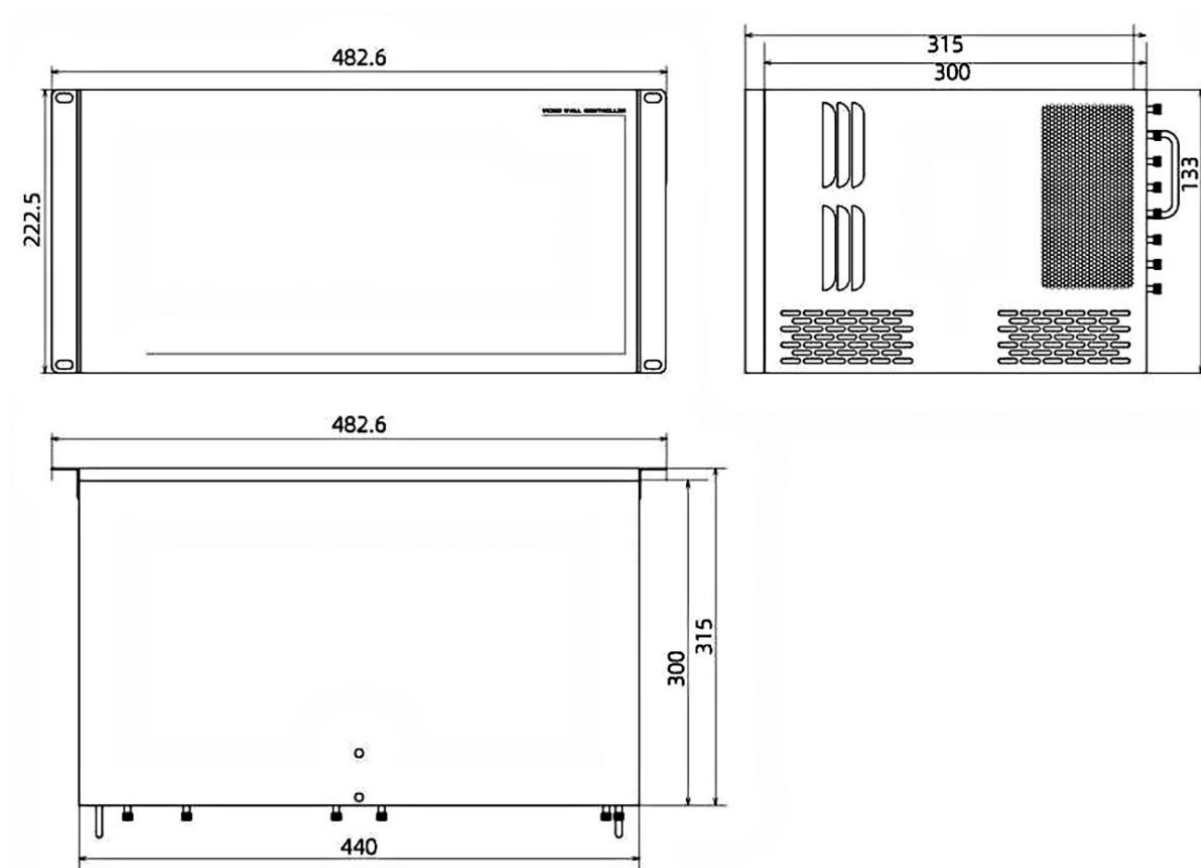
## 6 Dimensions

### 6.1 V300



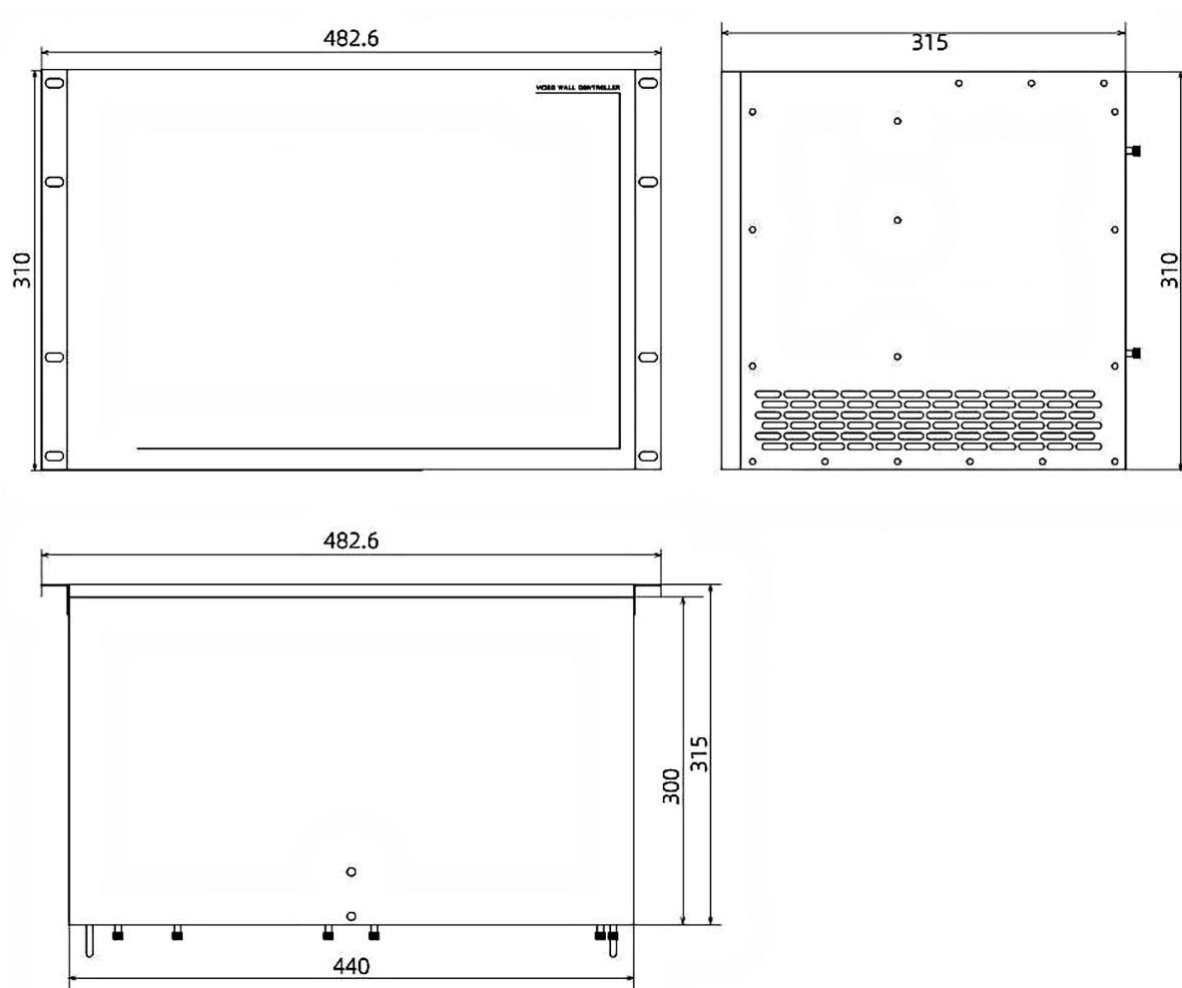
Tolerance:  $\pm 0.3$  Unit: mm

## 6.2 V500



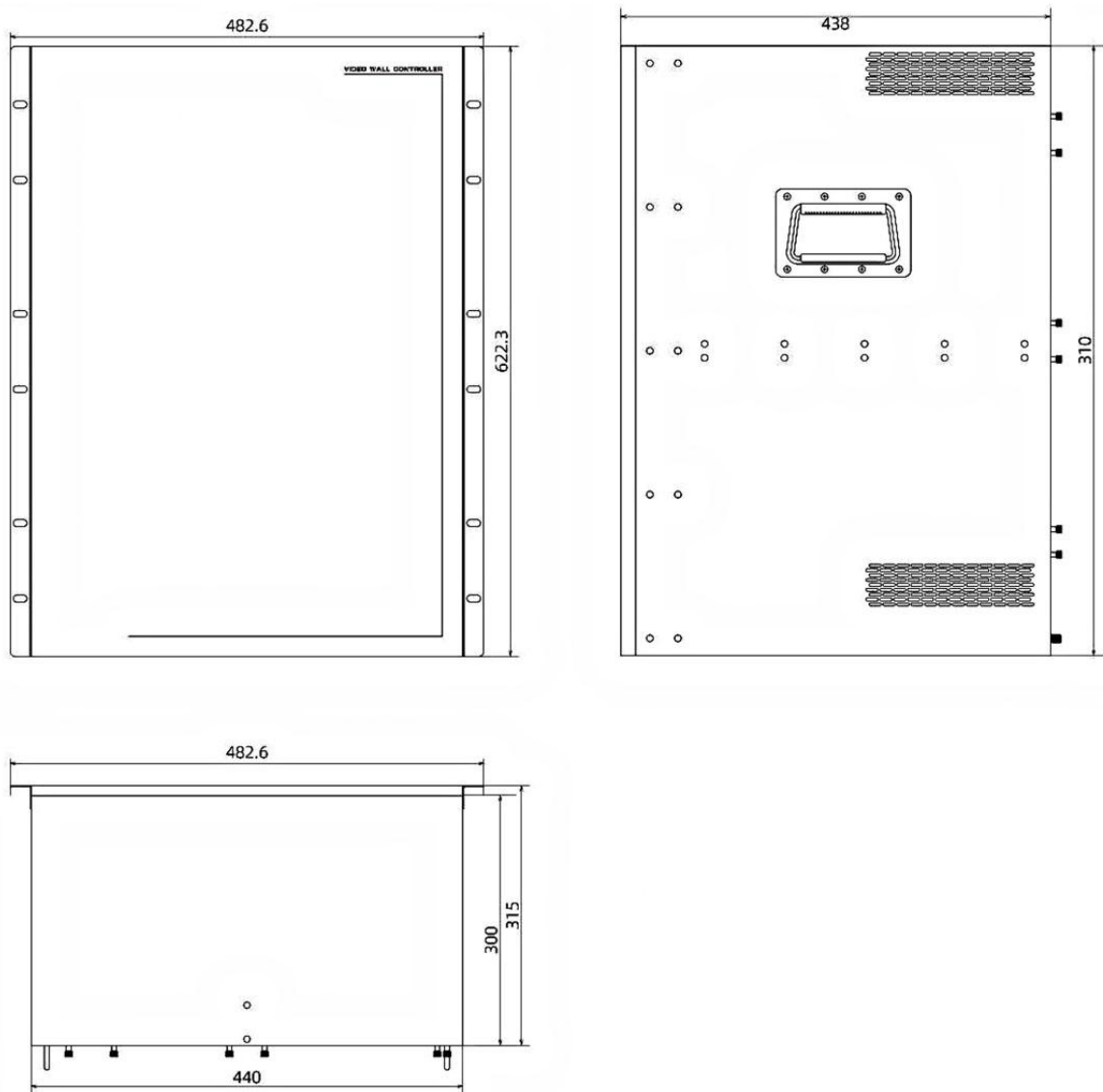
Tolerance:  $\pm 0.3$  Unit: mm

### 6.3 V700



Tolerance:  $\pm 0.3$  Unit: mm

## 6.4 V1400



Tolerance:  $\pm 0.3$  Unit: mm

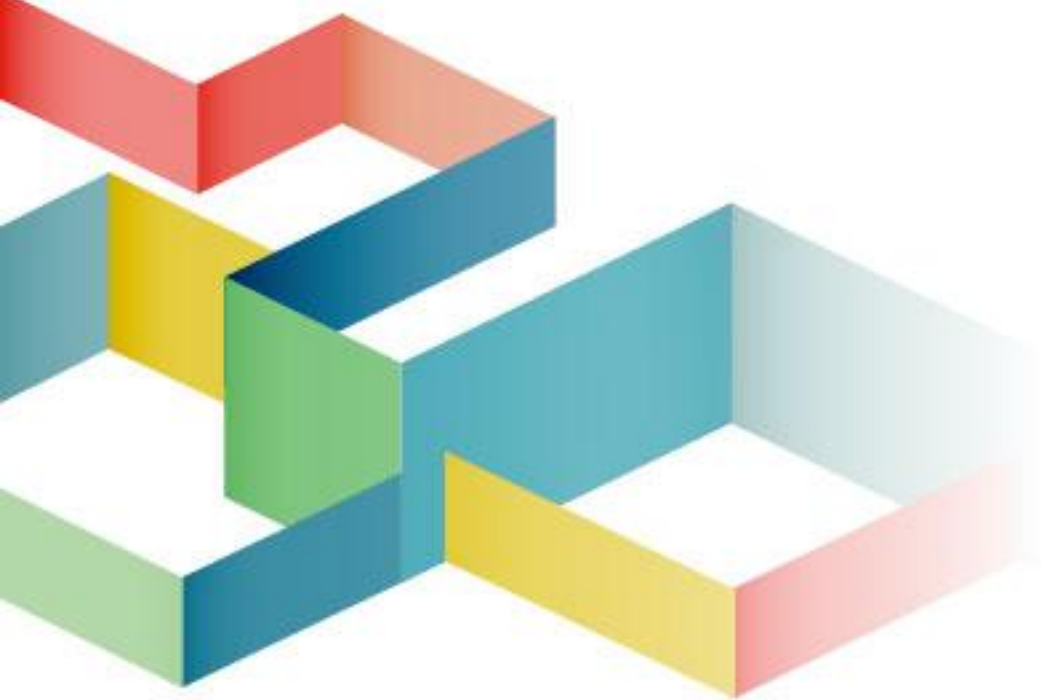
## 7 Product Specification

| V Series Video Splicer                 |                                                                                                                   |                                                        |                                                        |                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------|
| Model                                  | V300                                                                                                              | V500                                                   | V700                                                   | V1400                                                   |
| Chassis                                | 3U                                                                                                                | 5U                                                     | 7U                                                     | 14U                                                     |
| Maximum Input Channels                 | 2K-36 channels<br>4K30-24 channels<br>4K60-6 channels                                                             | 2K-48 channels<br>4K30-24 channels<br>4k60-12 channels | 2K-80 channels<br>4K30-40 channels<br>4k60-20 channels | 2K-160 channels<br>4K30-80 channels<br>4k60-40 channels |
| Gigabit Ethernet Output Channels       | 40 channels                                                                                                       | 60 channels                                            | 100 channels                                           | 200 channels                                            |
| Single Ethernet Port Output            | 650000 Pixels                                                                                                     |                                                        |                                                        |                                                         |
| Maximum Layers                         | 32                                                                                                                | 48                                                     | 80                                                     | 160                                                     |
| Maximum Ethernet Output                | 26 million Pixels                                                                                                 | 39 million Pixels                                      | 65 million Pixels                                      | 130 million pixels                                      |
| Single Ethernet Port Max Width/ Height | 1920/1920                                                                                                         |                                                        |                                                        |                                                         |
| HDR10 (10-bit enabled)                 | Maximum bandwidth per port: 1440<br>Maximum load per port: 480,000 Pixels<br>(Only the first 8 ports can be used) |                                                        |                                                        |                                                         |
| Audio                                  | Supports HDMI audio input                                                                                         |                                                        |                                                        |                                                         |
| Echo Card                              | Not supported                                                                                                     | Not supported                                          | Not supported                                          | Not supported                                           |
| Dimensions                             |                                                                                                                   |                                                        |                                                        |                                                         |
| Specification                          | 3U                                                                                                                | 5U                                                     | 7U                                                     | 14U                                                     |
| Size(mm)                               | 482.6×315×133                                                                                                     | 482.6×315×222.5                                        | 482.6×315×310                                          | 482.6×438×662.3                                         |
| Chassis Weight                         | 7.8 kg,<br>±0.5 kg tolerance                                                                                      | 13.7Kg,<br>±0.5 kg tolerance                           | 15.0Kg,<br>±0.5 kg tolerance                           | 30.0Kg,<br>±0.5 kg tolerance                            |
| Total Power Consumption                | 204W                                                                                                              | 550W×2                                                 | 550W×2                                                 | 550W×4                                                  |
| Supply Voltage                         | 110~240V                                                                                                          |                                                        |                                                        |                                                         |
| Supply Frequency                       | 50~60Hz                                                                                                           |                                                        |                                                        |                                                         |

|                  |             |
|------------------|-------------|
| Heat Dissipation | Fan cooling |
|------------------|-------------|

## 8 Precautions

- High voltage hazard: This product operates at AC 100V~240V.
- Do not allow liquids or metal fragments and other conductive materials to enter the device, to prevent safety accidents.
- Please use the device in a dry and clean environment.



National after-sales services hotline: 400-881-3531

Official website: [www.mooncell.com.cn](http://www.mooncell.com.cn)

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