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The Leading LED Display  
Service Provider





# About Us



Every NovaStar product is designed and built with six main principles in mind: innovation, stability, security, power, ease of use, and customer service. This is why NovaStar products are used all around the world, and trusted for huge events such as the 2008 Beijing Olympic Games, the World Cup, and WWE. From the smallest event to the world's greatest stages, NovaStar's LED display control systems set the industry standard for excellence.

When founded in 2008, NovaStar was nothing but the unlikely dream of a few university students. Working in two alternating shifts around the clock to try and create their first product, missing holidays and balancing schoolwork, ever focused on the goal of one day becoming one of the premier tech companies in the world. That same year, NovaStar was chosen to provide LED display technology for the 2008 Beijing Olympic Games, beginning a journey that is still going strong.

Today, NovaStar is one of the leading LED display solution providers in the world. Still headquartered in their original hometown of Xi'an China, Nova now has 44 branches located around the world, serving more than 10,000 customers. NovaStar also has over 1000 proprietary intellectual property patents for products in LED display control, cloud computing, and other fields, leading to the receipt of numerous design and innovation awards.

Nova's many products include LED display synchronous

and asynchronous control systems, calibration systems, cloud-based content publishing and management systems, and more. These products are all designed to integrate easily, forming a complete ecosystem for the setup, operation, and maintenance of LED displays.

We believe that the key to success is innovation. Not only technological innovation, but also the finding of new ways to communicate and interact with customers. Innovative ways to increase the functionality of products, while making them even easier to use. How to increase power and speed while not sacrificing stability or security. These are the questions and goals that so many years later continue to keep our engineers up at night.

A Nova is one of the brightest astral bodies in the night sky. At NovaStar, we spend every day trying to live up to that name. From day one, becoming the brightest star in the LED display control industry has been the vision of our founder and the entire Nova team. With NovaStar products now trusted all over the world for huge events from the Rio Games to the World Cup to WWE, the unlikely dream has now become a reality.

NovaStory

## Innovation pushes industry and drives future

Patents related to NovaStar in field account for 90% and are growing at an annual pace of 30%.

### Intellectual Property (up to 2022)

312

Invention Patents

226

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129

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# Controller

## ■ Controller

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## ■ All-in-one Controller

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# MX40 Pro



The MX40 Pro is a flagship 4K LED display controller in the new-generation control system COEX series. This controller offers rich video inputs (HDMI 2.0, DP 1.2 and 12G-SDI) and 20 Ethernet outputs. It can also work with the brand-new software VMP (Vision Management Platform) to provide a better operation and control experience.



## Features

- Color processing**  
 Abundant functions are provided to adjust and correct the video colors, such as Color Replacement, 14CH Color Correction, Color Curve and 3D LUT.
- Dynamic Booster**  
 The frame-by-frame image analysis and dynamic adjustment can significantly improve the display contrast and image details for better visual experience, effectively control and lower the display power consumption, extending the service life of the LED screen. (\*Exclusively supported by A10s Pro)
- Full Grayscale Calibration**  
 Each grayscale of the input source has its own unique calibration coefficients, which can achieve brightness and chroma uniformity in high brightness, medium grayscale, and low grayscale at the same time. (\*Exclusively supported by A10s Pro)
- Pixel level brightness and chroma calibration**  
 Work with NovaStar's high-precision calibration system to calibrate the brightness and chroma of each pixel, effectively eliminating brightness differences and chroma differences, and
- enabling high brightness consistency and chroma consistency.
- HDR**  
 Support HDR10 and comply with the SMPTE ST 2084 standard. Support HLG and comply with the BT.2100 standard.
- Latency**  
 Support low latency. The latency at the sending card is 0 frame (less than 1 ms) and the loading capacity is not reduced. Support additional video delay. Zero to two frames of delay can be added at the sending card.
- 3D**  
 Work with the specified receiving cards, 3D emitter and 3D glasses to bring a fascinating and immersive 3D viewing experience.
- Frame Rate Multiplication**  
 Maximum support 6 times multiplication.
- High Frame Rate**  
 Maximum support 240 HZ. Support 23.98/24/25/29.97/30/47.95 / 48/50/59.94/60/71.93/72/75/100/119.8 8/120/143.86/144/240 Hz.

## Rear Panel

### Inputs

| Port     | Qty | Resolution specification  |
|----------|-----|---|
| HDMI 2.0 | 3   | Up to 4096×2160@60Hz or 8192×1080@60Hz input resolution; HDCP 2.2 compliant, backwards compatible; HDR10 and HLG supported; Support frame rates up to 240 Hz; Max. width: 8192 pixels, max. height: 8192 pixels; Interlaced signal inputs is not supported. |
| DP1.2    | 1   | Up to 4096×2160@60Hz or 8192×1080@60Hz input resolution; HDCP 1.3 compliant; Support frame rates up to 240 Hz; Max. width: 8192 pixels, max. height: 8192 pixels; Interlaced signal inputs is not supported.  |
| 12G-SDI  | 1   | Support ST-2082 (12G), ST-2081 (6G), ST-424 (3G) and ST-292 (HD) standard video inputs; Support 3G-Level A/Level B (DS mode); Up to 4096×2160@60Hz input resolution; Support frame rates up to 60 Hz.   |

### Outputs

| Port      | Qty | Resolution specification   |
|-----------|-----|--|
| EtherCON  | 20  | Support redundancy between Ethernet ports. Max loading capacity per port:<br>· 8bit@60Hz: 650,000 pixels<br>· 10bit@60Hz: 480,000 pixels (available only with the A10s Pro receiving card)<br>· 10/12bit@60Hz: 325,000 pixel |
| 10G OPT   | 4   | · OPT 1 transmits the data of Ethernet ports 1 to 10. OPT 3 is the copy channel of OPT 1.<br>· OPT 2 transmits the data of Ethernet ports 11 to 20. OPT 4 is the copy channel of OPT 2.                                      |
| HDMI 2.0  | 3   | HDMI loop through  |
| 12G-SDI   | 1   | SDI loop through   |
| SPDIF OUT | 1   | A digital audio output (Reserved)  |
| Control   |     | 1G Ethernet, TCP/IP  |
| Power     |     | AC 100~240V-50/60Hz, 2A  |

# MCTRL4K



MCTRL4K is an independent master controller developed by NovaStar with an epoch-making significance. The loading capacity of a single unit is up to 4096×2160@60Hz, which is able to meet the on-site requirements of oversized LED displays. MCTRL4K makes it easier to create stunning visual effects for users.

MCTRL4K also can be used as two independent master controllers, which makes it more flexible to load LED displays.

The design of MCTRL4K is innovative. It allows to configure a display at any time without PC.

Various video inputs such as DP, HDMI, dual-link DVI etc. and outputs of 16-channel Neutrik Gigabit Ethernet ports as well as 4-channel optical fiber ports are supported.



## Features

- HDR10-Optima (High Dynamic Range)**  
 The MCTRL4K controller with A8s or A10s Plus receiving cards offers an excellent solution to precisely parse HDR video sources.
- HLG**  
 HLG is a standard for HDR(High Dynamic Range), which can capture high dynamic range images directly, making the images have more overall detail, a wider range of colors, and look more similar to what is seen by the human eyes. And no metadata is required for real-time transmission.
- HDR** offers viewers increased contrast and luminance ranges, a broader and richer color gamut and an immersive viewing experience.
- Complete video input interfaces:**  
 DP1.2×1, HDMI2.0×1, dual-link DVI×2.
- Supports 16-channel Neutrik Gigabit Ethernet outputs and 4-channel optical fiber outputs and maximum loading capacity of a single unit up to 4096×2160@60Hz maximum width or height up to 7680.**
- Supports two operating modes using Dual-link DVI input: mosaic and multi-card.**
- Innovative design to enable smart configuration without PC which has**
- 3D (Three Dimensional)**  
 MCTRL4K can support 3D function just by adding one NOVA 3D External Emitter EMT200 and updating the program.
- Supports NovaStar's latest pixel-by-pixel calibration technology, the process of which is fast and efficient.**
- Enables white balance calibration and color gamut mapping based on the different features of LEDs on the display to ensure the real restoration of color.**
- Manual adjustment of screen brightness, which makes it much easier and quicker.**
- Multiple controllers are able to be cascaded for cluster control.**
- Supports low latency.**

## Rear Panel

### Inputs

|                       |                          |
|-----------------------|--------------------------|
| <b>DP 1.2</b>         | DP 1.2 connector.        |
| <b>HDMI 2.0</b>       | HDMI 2.0 connector.      |
| <b>DUAL DVI-D1/D2</b> | Dual-link DVI interface. |

### Outputs

|               |  |
|---------------|--|
| <b>1~16</b>   | 16-channel Neutrik Gigabit Ethernet outputs. |
| <b>OPT1~4</b> | 4-channel optical fiber outputs.             |

### Control

|                 |   |
|-----------------|---|
| <b>ETHERNET</b> | Control interface.  |
| <b>USB</b>      | IN: cascade input or connecting to PC for communication.<br>OUT: cascading next unit. |

### GenLock

|             |  |
|-------------|--|
| <b>IN</b>   | Genlock type: Blackburst.<br>Genlock synchronous signal, making sure the pictures on LED display are synchronous with external Genlock source. |
| <b>LOOP</b> | Genlock loop output.   |

### Power supply

|                             |                     |
|-----------------------------|---------------------|
| <b>AC 100-240V ~50/60HZ</b> | AC power interface. |
|-----------------------------|---------------------|

## Specifications

**Input index** Supports special frame rate and achieves (23.98/29.97/47.95/59.94/71.93/119.88) Hz automatic frame rate adaptation.

| Port                 | Qty | Resolution specification   |
|----------------------|-----|--|
| <b>DP</b>            | 1   | DP 1.2 standard.<br>Max. supported resolution:4096×2160@60Hz or 7680×1080@60Hz (downward compatibility).     |
| <b>HDMI</b>          | 1   | HDMI 2.0 standard.<br>Max. supported resolution:4096×2160@60Hz or 7680×1080@60Hz (downward compatibility).   |
| <b>Dual-link DVI</b> | 2   | VESA standard, max. supported resolution:Each Dual-link DVI support 3840×1080@60Hz (downward compatibility). |

### Output index

| Port        | Qty | Resolution specification   |
|-------------|-----|--|
| <b>RJ45</b> | 16  | Neutrik Gigabit Ethernet port.   |
| <b>OPT</b>  | 4   | Optical fiber port, single mode and double fiber, LC port, 1310nm.<br>OPT1 is used for transferring the data of port 1-8.<br>OPT2 is used for transferring the data of port 9-16.<br>OPT3 is the backup channel of OPT1.<br>OPT4 is the backup channel of OPT2.<br>Either Gigabit Ethernet port or optical fiber port can be used at the same time. Two types of ports cannot be used to connect devices simultaneously. |



# MCTRL660 PRO



The MCTRL660 PRO is a professional controller developed by NovaStar. A single MCTRL660 PRO has a loading capacity of up to 1920×1200@60Hz. It allows users to customize resolutions to configure ultra-large screens with ultra-width or ultra-height.

The MCTRL660 PRO is mainly used for the rental and fixed fields, such as concerts, live events, security monitoring centers, Olympic Games and various sports centers.



## Features

- Input connectors: 1×3G-SDI, 1×HDMI 1.4a, 1×single-link DVI.
- Output connectors: 6×Gigabit Ethernet port, 2×10G optical port.
- Loop output connectors: 1×3G-SDI LOOP, 1×HDMI LOOP, 1×DVI LOOP.
- Input of ultra-high color depths, such as 10-bit/12-bit 4:4:4, with input resolutions up to 1920×1080@60Hz, increasing color expression capabilities by 4096 times compared to 8-bit inputs, and presenting images with rich and delicate colors, smoother transitions, as well as clearer details.
- Independent Gamma adjustment of RGB, effectively controlling image non-uniformity under low grayscale and white balance offset to improve image quality.
- Supports low latency.
- Dual working modes: working as sending card and fiber converter.
- One-click backup and recovery, quickly recovering previous screen configurations to deal with sudden on-site failure.
- Image flipping, making stage effect more cool and dazzling.

## Rear Panel

|       | Connector   | Description   |
|-------|-------------|---|
| Input | DVI IN      | Single-link DVI connector. Custom resolutions supported: <ul style="list-style-type: none"> <li>▪ Maximum horizontal resolution: 3840×600@60Hz.</li> <li>▪ Maximum vertical resolution: 600×3840@60Hz.</li> </ul> Supported standard resolutions (See the device menu).               |
|       | DVI LOOP    | DVI loop out.   |
|       | HDMI IN     | HDMI 1.4a compliant. HDCP 1.4 compliant. Custom resolutions supported: <ul style="list-style-type: none"> <li>▪ Maximum horizontal resolution: 3840×600@60Hz.</li> <li>▪ Maximum vertical resolution: 600×3840@60Hz.</li> </ul> Supported standard resolutions (See the device menu). |
|       | HDMI LOOP   | HDMI loop output.   |
|       | 3G-SDI IN   | SMPTE ST 425-1 Level A & B, SMPTE ST 274, ST 296, ST 295 compliant. Supported input resolutions: 1920×1080@60Hz, 1280×720@60Hz. Note: Do not support setting the resolutions for 3G-SDI input sources.  |
|       | 3G-SDI LOOP | SDI loop output.  |



|         | Connector         | Description   |
|---------|-------------------|---|
| Output  | RJ45×6            | Maximum loading capacity of a single output: 650 000 pixels. Support redundancy between Ethernet ports.   |
|         | OPT1<br>OPT2      | 10G optical ports. The loading capacity of a single optical port equals to that of all the 6 Ethernet ports. 2 OPT inputs/outputs: <ul style="list-style-type: none"> <li>▪ The OPT1 works as the primary input or output port, and the 6 Gigabit Ethernet ports work as the corresponding output or input ports.</li> <li>▪ The OPT2 works as the backup input or output port.</li> </ul> In the sending card mode, both OPT ports and 6 Gigabit Ethernet ports work as output ports to output the same image. In the fiber converter mode, when the OPT ports work as the input ports, the 6 Gigabit Ethernet ports work as output ports. Or, when the 6 Gigabit Ethernet ports work as input ports, the OPT port works as output port. |
|         | MONITOR           | HDMI  |
| Control | GENLOCK IN        | Genlock type: Blackburst. Genlock sync signal: Used to ensure synchronization between the LED screen display and external Genlock source.   |
|         | GENLOCK LOOP      | Up to 8 MCTRL660 PRO units can be cascaded.   |
|         | ETHERNET          | connects to PC and supports TCP/IP.   |
|         | USB IN<br>USB OUT | Input port for cascading devices, or connecting to PC. Output port for cascading devices. Up to 8 MCTRL660 PRO units can be cascaded.   |
| Power   | 100 V ~240 V AC.  |   |



# MCTRL700



The MCTRL700 is an LED display controller developed by NovaStar. It supports 1×DVI input, 1×HDMI input, 1×audio input, and 6×Ethernet outputs. The maximum loading capacity of a single MCTRL700 is 1920×1200@60Hz.

The MCTRL700 communicates with PC via Type-B USB port. Multiple MCTRL700 units can be cascaded via UART port.

The MCTRL700 can be mainly used in the rental and fixed applications, such as concerts, live events, security monitoring centers, Olympic Games and various sports centers.



## Features

- 3×Input connectors.
  - 1×SL-DVI (IN-OUT)
  - 1×HDMI 1.3 (IN-OUT)
  - 1×AUDIO
- 6×Gigabit Ethernet outputs.
- 1×Type-B USB control port.
- 2×UART control ports. Used for device cascading. Up to 20 devices can be cascaded.
- Pixel level brightness and chroma calibration. Working with NovaLCT and NovaCLB, the controller supports brightness and chroma calibration on each LED, which can effectively remove color discrepancies and greatly improve LED display brightness and chroma consistency, allowing for better image quality.

## Rear Panel

|       | Connector | Description   |
|-------|-----------|---|
| Input | DVI IN    | 1×SL-DVI input connector. Resolutions up to 1920×1200@60Hz. Custom resolutions supported: <ul style="list-style-type: none"> <li>• Maximum width: 3840 (3840×600@60Hz).</li> <li>• Maximum height: 3840 (548×3840@60Hz).</li> </ul> HDCP 1.4 compliant. DOES NOT support interlaced signal input.   |
|       | HDMI IN   | 1×HDMI 1.3 input connector. Resolutions up to 1920×1200@60Hz. Custom resolutions supported: <ul style="list-style-type: none"> <li>• Maximum width: 3840 (3840×600@60Hz).</li> <li>• Maximum height: 3840 (548×3840@60Hz).</li> </ul> HDCP 1.4 compliant. DOES NOT support interlaced signal input. |
|       | AUDIO     | Audio input connector.  |

CE FC IC

|         | Connector             | Description  |
|---------|-----------------------|--|
| Output  | 1~6                   | 6×RJ45 Gigabit Ethernet ports<br>Capacity per port up to 650,000 pixels.<br>Redundancy between Ethernet ports supported. |
|         | HDMI OUT              | 1×HDMI 1.3 output connector for cascading.   |
|         | DVI OUT               | 1×SL-DVI output connector for cascading.   |
| Control | USB                   | Type-B USB 2.0 port to connect to PC.  |
|         | UART IN/OUT           | Input and output ports to cascade devices. Up to 20 devices can be cascaded.   |
| Power   | AC 100V-240V~50/60Hz. |  |

# MCTRL660



The MCTRL660 is an independent controller of NovaStar. The maximum loading capacity of a single controller is 1920×1200@60Hz. Multiple controllers can be cascaded for uniform control.

The MCTRL660 adopts an innovative architecture to implement smart screen configuration without using a computer, allowing a screen to be configured within 30 seconds. It also allows users to adjust screen brightness manually, which is faster and more convenient.

The MCTRL660 can be mainly used for the rental and fixed fields, such as concerts, live events, security monitoring centers, Olympic Games and various sports centers.



## Features

- 1×DVI input.
- 1×HDMI input.
- 4×Gigabit Ethernet outputs.
- Supports the new generation of NovaStar calibration technology, which is fast and efficient.
- Supports resolutions up to 1920×1200@60Hz.
- Multiple controllers can be cascaded.
- Supports 18-bit grayscale processing and display.
- Manual screen brightness adjustment, which is fast and convenient.
- Quick screen configuration without using a computer.
- Adopts an innovative architecture to implement smart screen configuration, allowing a screen to be configured within 30 seconds and greatly shortening the stage preparation time.
- Adopts NovaStar G4 engine to realize a perfect display image with no flickering or scanning lines, as well as fine quality and good sense of depth.
- Supports a variety of video formats, as described in Figure 2-1.

## Rear Panel

|       | Connector | Description   |
|-------|-----------|---|
| Input | DVI IN    | Single-link DVI input, with a maximum resolution of 1920×1200@60Hz.<br>Custom resolution supported: <ul style="list-style-type: none"> <li>• Resolution limit with maximum width: 3840×600@60Hz.</li> <li>• Resolution limit with maximum height: 800×3840@60Hz.</li> </ul>                 |
|       | AUDIO     | Audio input connector.  |
|       | HDMI IN   | HDMI 1.3 input, with a maximum resolution of 1920×1200@60Hz.<br>HDCP 1.4 compliant.<br>Custom resolution supported: <ul style="list-style-type: none"> <li>• Resolution limit with maximum width: 3840×600@60Hz.</li> <li>• Resolution limit with maximum height: 800×2560@60Hz.</li> </ul> |

|         | Connector             | Description  |
|---------|-----------------------|--|
| Output  | RJ45×4                | 4 × Gigabit Ethernet outputs.<br>Maximum loading capacity of each Ethernet port: 650,000 pixels.<br>Support redundancy between Ethernet ports. |
|         | TO PC                 | Type-B USB port for connecting to PC.  |
| Control | UART IN               | Input port for cascading devices.  |
|         | UART OUT              | Output port for cascading devices. Up to 20 controllers can be cascaded.   |
| Power   | AC 100V~240V-50/60Hz. |  |



# MCTRL600



The MCTRL600 is an independent controller of NovaStar. The maximum loading capacity of a single controller is 1920×1200@60Hz. Multiple controllers can be cascaded via UART port for uniform control.

The MCTRL600 can be mainly used for the rental and fixed fields, such as live events, security monitoring centers and various sports centers.



## Features

- 1×DVI input.
- 1×HDMI 1.3 input.
- 1×audio input .
- 1×light sensor connector.
- Supports resolutions up to 1920×1200@60Hz and downward compatibility.
- 4×RJ45Gigabit Ethernet outputs, each up to 650,000 pixels.
- 1×type-B USB control port.
- UART IN and UART OUT control ports for device cascading.
- Supports the new generation of NovaStar calibration technology, which is fast and efficient.
- Supports a variety of video formats, as described in Figure 2-1.

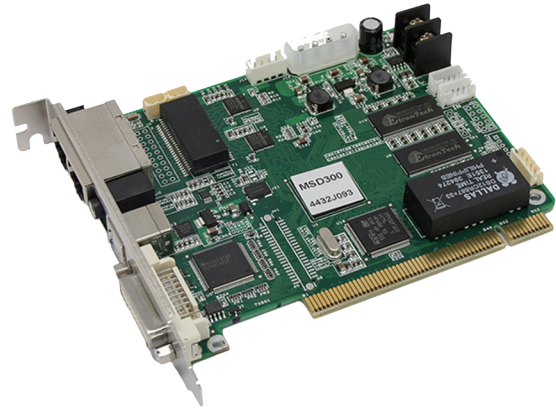
## Rear Panel

|       | Connector | Description  |
|-------|-----------|--|
| Input | DVI IN    | Single-link DVI connector. Resolution up to 1920×1200@60Hz and downward compatible. Custom resolutions supported: <ul style="list-style-type: none"> <li>• Resolution with maximum width: 3840×600@60Hz.</li> <li>• Resolution with maximum height: 800×2560@60Hz.</li> </ul>        |
|       | HDMI IN   | HDMI 1.3 compliant. Resolution up to 1920×1200@60Hz and downward compatible. Custom resolutions supported: <ul style="list-style-type: none"> <li>• Resolution with maximum width: 3840×600@60Hz.</li> <li>• Resolution with maximum height: 800×2560@60Hz.</li> </ul> Support HDCP. |
|       | AUDIO     | Audio input connector.   |

|          | Connector    | Description   |
|----------|--------------|---|
| Output   | RJ45×4       | 4 RJ45 Gigabit Ethernet outputs. Maximum loading capacity of a single Ethernet port: 650,000 pixels. Support redundancy between Ethernet ports. |
| Function | LIGHT SENSOR | Connect to light sensor to monitor ambient brightness to realize automatic screen brightness adjustment.  |
| Control  | USB          | USB control port for connecting to PC.  |
|          | UART IN      | Input port for cascading devices.   |
| Control  | UART OUT     | Output port for cascading devices. Up to 20 controllers can be cascaded.  |
|          | Power        | AC 100V~240V-50/60Hz.   |



# MSD300



The MSD300, one of the M3 series independent controllers of NovaStar, supports video and audio input. After decoding and data processing, videos and audios can be sent to the screen via Ethernet port. A single controller supports resolutions up to 1920×1200@60Hz. It communicates with the computer via USB port, which is convenient to use.

The MSD300 can be mainly used for the rental and fixed fields, such as live events, security monitoring centers and various sports centers.

## Features

- 1 DVI video input.
- 1 audio input.
- 2 Ethernet port outputs.
- USB control interface which is able to be cascaded for uniform control.
- Single sending card supports resolution of 1280×1024, 1024×1200, 1600×848, 1920×712 or 2048×668.
- 1 light sensor interface.

## Rear Panel

|                    | Port   | Number | Resolution Specification |
|--------------------|--------|--------|--------------------------|
| <b>Input Index</b> | DVI IN | 1      | VESA Standard            |

|                            |                                    | MIN      | TYP  | MAX  | UNIT |
|----------------------------|------------------------------------|----------|------|------|------|
| <b>Working environment</b> | Rated voltage                      | 4.5      | 5.0  | 5.5  | V    |
|                            | Rated current                      | 0.52     | 0.55 | 0.57 | A    |
|                            | Temperature of working environment | -20~60 C |      |      |      |
|                            | Humidity of working environment    | 0~95 %   |      |      |      |
|                            | Net weight                         | 108.7 g  |      |      |      |
|                            | USB Cable                          | 1.5 M    |      |      |      |
|                            | DVI Cable                          | 1.5 M    |      |      |      |



# NovaPro UHD Jr



NovaPro UHD Jr is NovaStar's brand new video controller, combining 4K processing and 4K sending into a single all-in-one marvel of technology. With unrivaled processing ability and excellent loading capacity, the NovaPro UHD Jr brings you an amazing viewing experience.



## Features

- 8K×1K / 4K×2K, free scaling to any size with crisp post-scaled image.
- HDR (High Dynamic Range) support. Wide color gamut and high contrast for the ultimate visual experience.
- Real 4K inputs DP 1.2×1, HDMI2.0×1, 12G SDI×2, DVI×4.
- 4×DVI inputs - Support linking together into a single independent 4K×2K / 8K×1K input.
- 16×Neutrik Ethernet ports and 4 optical ports, reaching 10.4 million pixel loading capacity.
- Support flexible layout of 3 layers.
- Genlock, ensuring that multiple linked units maintain synchronization.
- Ultra-low latency, making sure the display matches the live action.
- Supports 3D function with scaling and splicing.
- Works as either sending card or optical converter useful for long-distance transmission.
- Support Capture source image as BKG display.
- Support for V-Can operation software, SmartLCT NovaLCT mapping software.

## Rear Panel

### Input

| Connector | Quantity | Description   |
|-----------|----------|---|
| 12G-SDI   | 2        | Supports input resolution up to 4K×2K@60Hz and downward compatibility. Supports 12G-SDI Loop output.  |
| DP1.2     | 1        | Supports input resolution up to 4K×2K@60Hz and downward compatibility. Supports HDCP1.3.  |
| HDMI2.0   | 1        | Supports input resolution up to 4K×2K@60Hz and downward compatibility. Supports HDCP1.4 and HDCP2.2. Supports HDMI2.0 Loop output.  |
| DVI       | 4        | Four DVI connectors adopt plug-in design for connecting different input cards according to users' needs. HDMI input cards, Dual-link DVI input cards are supported. The default option is DVI input card. |

### Output

| Connector     | Quantity | Description  |
|---------------|----------|--|
| Ethernet port | 16       | 16×Neutrik Gigabit Ethernet output connectors, allowing for a loading capacity of up to 10,400,000 pixels.   |
| OPT 1-4       | 4        | 10G optical connectors.<br>• OPT 1 transmits data of Ethernet ports 1-8.<br>• OPT 2 transmits data of Ethernet ports 9-16.<br>• OPT 3 serves as the hot backup for OPT 1.<br>• OPT 4 serves as the hot backup for OPT 2. |
| HDMI 2.0 LOOP | 1        | HDMI loop output connector. Only 1 level of device cascading supported. EDID management.   |
| 12G-SDI LOOP  | 2        | SDI loop output connectors.  |
| MONITOR       | 1        | HDMI connector for output monitoring. Resolution up to 1920×1080@60Hz.   |

### Control

| Connector       | Quantity | Description   |
|-----------------|----------|---|
| ETHERNET        | 1        | Connect to the PC for communication, or connect to the Web for device control.  |
| USB (Type-B)    | 1        | • Connect to the PC for device control.<br>• Used as the input connector to connect a NovaPro UHD Jr unit for image mosaic. |
| USB (Type-A)    | 1        | Used as the output connector to connect a NovaPro UHD Jr unit for image mosaic.   |
| GENLOCK IN-LOOP | 1        | Connect to a synchronization signal to synchronize all the connected NovaPro UHD Jr units.                                  |
| RS232           | 1        | Connect to the control device.  |



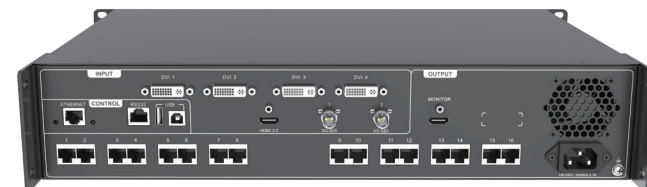
# VX16s



The VX16s is NovaStar's new all-in-one controller that integrates video processing, video control and LED screen configuration into one unit. Together with NovaStar's V-Can video control software, it enables richer image mosaic effects and easier operations.

The VX16s supports a variety of video signals, Ultra HD 4Kx2K@60Hz image processing and sending capabilities, as well as up to 10,400,000 pixels.

Thanks to its powerful image processing and sending capabilities, the VX16s can be widely used in applications such as stage control systems, conferences, events, exhibitions, high-end rental and fine-pitch displays.



## Features

- Industry-standard input connectors
  - 2x3G-SDI
  - 1xHDMI 2.0
  - 4xSL-DVI
- 16 Ethernet output ports load up to 10,400,000 pixels.
- 3 independent layers
  - 1x4Kx2K main layer
  - 2x2Kx1K PIPs (PIP 1 and PIP 2)
  - Adjustable layer priorities
- DVI mosaic
  - Up to 4 DVI inputs can form an independent input source, which is DVI Mosaic.
- Decimal frame rate supported
  - Supported frame rates: 23.98 Hz, 29.97 Hz, 47.95 Hz, 59.94 Hz, 71.93 Hz and 119.88 Hz.
- 3D
  - Supports 3D display effect on the LED screen. The device output capacity will be halved after the 3D function is enabled.
- Personalized image scaling
  - Three scaling options are pixel-to-pixel, full screen and custom scaling.
- Image mosaic
  - Up to 4 devices can be linked to load a super large screen when used together with the video distributor.
- Easy device operation and control through V-Can.
- Up to 10 presets can be saved for future use.
- EDID management
  - Custom EDID and standard EDID supported
- Device backup design
  - In backup mode, when the signal is lost or the Ethernet port fails on the primary device, the backup device will take over the task automatically.

## Rear Panel

### Input

| Connector | Quantity | Description   |
|-----------|----------|---|
| 3G-SDI    | 2        | Max. input resolution: Up to 1920x1080@60Hz. Support for interlaced signal input and deinterlacing processing. DOES NOT support input resolution settings.  |
| DVI       | 4        | Single link DVI connector, with max. input resolution up to 1920x1200@60Hz. Single link DVI connector, with max. input resolution up to 1920x1200@60Hz. Support for custom resolutions. <ul style="list-style-type: none"> <li>• Max. width: 3840 pixels.</li> <li>• Max. height: 3840 pixels.</li> </ul> HDCP 1.4 compliant. DOES NOT support interlaced signal input. |
| HDMI2.0   | 1        | Max. input resolution: Up to 3840x2160@60Hz. Support for custom resolutions. <ul style="list-style-type: none"> <li>• Max. width: 3840 pixels.</li> <li>• Max. height: 3840 pixels.</li> </ul> HDCP 2.2 compliant. EDID 1.4 compliant. DOES NOT support interlaced signal input.  |

### Output

| Connector      | Quantity | Description  |
|----------------|----------|--|
| Ethernet port  | 16       | Gigabit Ethernet output. 16 ports load up to 10,400,000 pixels. <ul style="list-style-type: none"> <li>• Max. width: 16384 pixels.</li> <li>• Max. height: 8192 pixels.</li> </ul> A single port loads up to 650,000 pixels.   |
| MONITOR        | 16       | An HDMI connector for monitoring output. Support for resolution of 1920x1080@60Hz  |
| <b>Control</b> |          |  |
| Connector      | Quantity | Description  |
| ETHERNET       | 1        | Connect to the control PC for communication. Connect to the network.   |
| USB            | 2        | USB 2.0 (Type-B): <ul style="list-style-type: none"> <li>• Connect to the PC for debugging.</li> </ul> USB 2.0 (Type-A): <ul style="list-style-type: none"> <li>• Input connector to link another device.</li> <li>• Output connector to link another device.</li> </ul> |
| RS232          | 1        | Connect to the central control device.   |

RoHS IC CE FC

# VX1000



## Features



The VX1000 is NovaStar's new all-in-one controller that integrates video processing and video control into one box. It features 10 Ethernet ports and supports video controller, fiber converter and Bypass working modes. A VX1000 unit can drive up to 6.5 million pixels, with the maximum output width and height up to 10,240 pixels and 8192 pixels, respectively, which is ideal for ultra-wide and ultra-high LED screen applications.

- Input connectors
  - 1×HDMI 1.4 (IN & LOOP)
  - 1×HDMI 1.4
  - 1×DVI (IN & LOOP)
  - 1×DVI
  - 1×3G-SDI (IN & LOOP)
  - 1×10G optical fiber port (OPT1)
- Output connectors
  - 10×Gigabit Ethernet ports
  - A single device unit drives up to 6.5 million pixels, with a maximum width of 10,240 pixels and a maximum height of 8192 pixels.
  - 2×Fiber outputs
  - OPT 1 copies the output on 10 Ethernet ports.
  - OPT 2 copies or backs up the output on 10 Ethernet ports.
  - 1×HDMI 1.3
  - For monitoring or video output
- Low latency
  - Reduce the delay from the input to receiving card to 20 lines when the low latency function and Bypass mode are both enabled.
- 3×layers
  - Adjustable layer size and position.
  - Adjustable layer priority.
- Output synchronization
  - An internal input source or external Genlock can be used as the sync source to ensure the output images of all cascaded units in sync.
- Easy preset saving and loading
  - Up to 10 user-defined presets supported.
- Load a preset by simply pressing one button.
- Multiple kinds of hot backup
  - Backup between devices.
  - Backup between Ethernet ports.
  - Backup between input sources.
- Mosaic input source supported
  - The mosaic source is composed of several input connectors of the same type.
- Up to 4 units cascaded for image mosaic
- Three working modes
  - Video Controller
  - Fiber Converter
  - Bypass
- 3D function
  - Work with the EMT200 3D emitter and matched 3D glasses to present a 3D visual experience.
- Pixel level brightness and chroma calibration
  - Work with NovaLCT and NovaStar calibration software to support brightness and chroma calibration on each LED, which can effectively remove color discrepancies and greatly improve LED display brightness and chroma consistency, allowing for better image quality.
- Multiple operation modes
  - Control the device as you wish via V-Can, NovaLCT or device front panel knob and buttons.

## Rear Panel

### Input

| Connector      | Quantity | Description   |
|----------------|----------|---|
| 3G-SDI         | 1        | <ul style="list-style-type: none"> <li>• ST-424 (3G), ST-292 (HD) and ST-259 (SD) standard video inputs supported.</li> <li>• Max. input resolution: 1920×1080@60Hz.</li> <li>• Deinterlacing processing supported.</li> <li>• 3G-SDI loop output supported.</li> <li>• DOES NOT support input resolution and bit depth settings.</li> </ul>  |
| HDMI 1.4       | 2        | <ul style="list-style-type: none"> <li>• Max. input resolution: 3840×1080@60Hz or 3840×2160@30Hz.</li> <li>• HDCP 1.4 compliant.</li> <li>• Interlaced signal inputs supported.</li> <li>• Mosaic of two HDMI 1.4 inputs supported.</li> <li>• Custom resolutions supported                             <ul style="list-style-type: none"> <li>- Max. width: 4092 pixels (4092×1136@60Hz).</li> <li>- Max. height: 3981 pixels (1060×3981@60Hz).</li> </ul> </li> <li>• Loop output supported on HDMI 1.4 1.</li> </ul> |
| DVI (HDMI 1.4) | 2        | <ul style="list-style-type: none"> <li>• Max. input resolution: 3840×1080@60Hz or 3840×2160@30Hz.</li> <li>• HDCP 1.4 compliant.</li> <li>• Interlaced signal inputs supported.</li> <li>• Custom resolutions supported.                             <ul style="list-style-type: none"> <li>- Max. width: 4092 pixels (4092×1136@60Hz).</li> <li>- Max. height: 3981 pixels (1060×3981@60Hz).</li> </ul> </li> <li>• Mosaic of two DVI inputs supported.</li> <li>• Loop output supported on DVI 1.</li> </ul>          |

RoHS IC CE FC

### Output

| Connector      | Quantity | Description  |
|----------------|----------|--|
| Ethernet ports | 10       | <ul style="list-style-type: none"> <li>• Gigabit Ethernet ports                             <ul style="list-style-type: none"> <li>- Max. loading capacity: 6.5 million pixels.</li> <li>- Max. width: 10,240 pixels.</li> <li>- Max. height: 8192 pixels.</li> </ul> </li> <li>• Ethernet ports 1 and 2 support audio output. When you use a multifunction card to parse the audio, be sure to connect the card to Ethernet port 1 or 2.</li> </ul> |
| HDMI 1.3       | 1        | <ul style="list-style-type: none"> <li>• For output monitoring, the output resolution is fixed to 1920×1080@60Hz.</li> <li>• For video output, the output resolution is adjustable.</li> </ul>   |

### Optical Fiber Ports

| Connector | Quantity | Description  |
|-----------|----------|--|
| OPT       | 2        | <ul style="list-style-type: none"> <li>• 10G optical fiber ports.</li> <li>• OPT 1: Self-adaptive, either for video input or for output                             <ul style="list-style-type: none"> <li>- When the device is connected with a fiber converter, the port is used as an output connector.</li> <li>- When the device is connected with a video processor, the port is used as an input connector.</li> </ul> </li> <li>- Max. capacity: 1×4K×1K@60Hz or 2×2K×1K@60Hz video inputs.</li> <li>• OPT 2: For output only, with copy and backup modes.</li> <li>• OPT 2 copies or backs up the output on 10 Ethernet ports.</li> </ul> |

### Control Connectors

| Connector       | Quantity | Description   |
|-----------------|----------|---|
| ETHERNET        | 1        | Connect to the control PC or router.  |
| USB             | 2        | <ul style="list-style-type: none"> <li>• USB 2.0 (Type-B):                             <ul style="list-style-type: none"> <li>- Connect to the control PC.</li> </ul> </li> <li>- Input connector for device cascading.</li> <li>• USB 2.0 (Type-A): Output connector for device</li> </ul> |
| GENLOCK IN-LOOP | 1        | <ul style="list-style-type: none"> <li>• Connect to an external sync signal.</li> <li>• Accepts bi-level and tri-level signals.</li> <li>• IN: Accept the sync signal.</li> <li>• LOOP: Loop the sync signal.</li> </ul>  |

Note: Only the main layer can use the mosaic source. When the main layer uses the mosaic source, PIP 1 and 2 cannot be opened.

# VX600



The VX600 is NovaStar's new all-in-one controller that integrates video processing and video control into one box. It features 6 Ethernet ports and supports video controller, fiber converter and Bypass working modes. A VX600 unit can drive up to 3.9 million pixels, with the maximum output width and height up to 10,240 pixels and 8192 pixels respectively, which is ideal for ultra-wide and ultra-high LED screens.



## Features

- Input connectors
  - 1×HDMI 1.3 (IN & LOOP)
  - 1×HDMI 1.3
  - 1×DVI (IN & LOOP)
  - 1×3G-SDI (IN & LOOP)
  - 1×10G optical fiber port (OPT1)
- Output connectors
  - 6×Gigabit Ethernet ports
  - A single device unit drives up to 3.9 million pixels, with a maximum width of 10,240 pixels and a maximum height of 8192 pixels
  - 2×Fiber outputs
  - OPT 1 copies the output on 6 Ethernet ports.
  - OPT 2 copies or backs up the output on 6 Ethernet ports.
  - 1×HDMI 1.3
  - For monitoring or video output.
- Low latency
  - Reduce the delay from the input to receiving card to 20 lines when the low latency function and Bypass mode are both enabled
- 3×layers
  - Adjustable layer size and position
  - Adjustable layer priority
- Output synchronization
  - An internal input source or external Genlock can be used as the sync source to ensure the output images of all cascaded units in sync.
- Easy preset saving and loading
  - Up to 10 user-defined presets supported.
  - Load a preset by simply pressing one button
- Multiple kinds of hot backup
  - Backup between devices
  - Backup between Ethernet ports
  - Backup between input sources
- Mosaic input source supported
  - The mosaic source is composed of two sources (2K×1K@60Hz) accessed to the OPT 1
- Up to 4 units cascaded for image mosaic
- Three working modes
  - Video Controller
  - Fiber Converter
  - Bypass

## Rear Panel

### Input

| Connector | Qty | Description  |
|-----------|-----|--|
| 3G-SDI    | 1   | <ul style="list-style-type: none"> <li>• ST-424 (3G), ST-292 (HD) and ST-259 (SD) standard video inputs supported.</li> <li>• Max. input resolution: 1920×1080@60Hz.</li> <li>• Deinterlacing processing supported.</li> <li>• 3G-SDI loop output supported.</li> <li>• DOES NOT support input resolution and bit depth settings.</li> </ul>   |
| HDMI 1.3  | 2   | <ul style="list-style-type: none"> <li>• Max. input resolution: 1920×1200@60Hz.</li> <li>• HDCP 1.4 compliant.</li> <li>• Interlaced signal inputs supported</li> <li>• Custom resolutions supported                             <ul style="list-style-type: none"> <li>- Max. width: 3840 (3840×648@60Hz)</li> <li>- Max. height: 2784 (800×2784@60Hz)</li> <li>- Forced inputs supported: 600×3840@60Hz</li> </ul> </li> <li>• Loop output supported on HDMI 1.3-1</li> </ul>  |
| DVI       | 1   | <ul style="list-style-type: none"> <li>• Max. input resolution: 1920×1200@60Hz.</li> <li>• HDCP 1.4 compliant.</li> <li>• Interlaced signal inputs supported.</li> <li>• Custom resolutions supported.                             <ul style="list-style-type: none"> <li>- Max. width: 3840 (3840×648@60Hz).</li> <li>- Max. height: 2784 (800×2784@60Hz).</li> <li>- Forced inputs supported: 600×3840@60Hz.</li> </ul> </li> <li>• Loop output supported on DVI 1.</li> </ul> |

### Output

| Connector      | Qty | Description   |
|----------------|-----|---|
| Ethernet ports | 6   | <ul style="list-style-type: none"> <li>• Gigabit Ethernet ports                             <ul style="list-style-type: none"> <li>- Max. loading capacity: 3.9 million pixels</li> <li>- Max. width: 10,240 pixels</li> <li>- Max. height: 8192 pixels</li> </ul> </li> <li>• Ethernet ports 1 and 2 support audio output. When you use a multifunction card to parse the audio, be sure to connect the card to Ethernet port 1 or 2.</li> </ul> |
| HDMI 1.3       | 1   | <ul style="list-style-type: none"> <li>• For output monitoring, the output resolution is fixed to 1920×1080@60Hz.</li> <li>• For video output, the output resolution is adjustable.</li> </ul>  |

### Optical Fiber Ports

| Connector | Qty | Description   |
|-----------|-----|---|
| OPT       | 2   | <ul style="list-style-type: none"> <li>• OPT 1: Self-adaptive, either for video input or for output                             <ul style="list-style-type: none"> <li>- When the device is connected with a fiber converter, the port is used as an output connector.</li> <li>- When the device is connected with a video processor, the port is used as an input connector.</li> <li>- Max. capacity: 1×4K×1K@60Hz or 2×2K×1K@60Hz video inputs.</li> </ul> </li> <li>• OPT 2: For output only, with copy and backup modes.</li> <li>• OPT 2 copies or backs up the output on 6 Ethernet ports.</li> </ul> |

### Control Connectors

| Connector       | Qty | Description  |
|-----------------|-----|--|
| ETHERNET        | 1   | Connect to the control PC or router.   |
| USB             | 2   | <ul style="list-style-type: none"> <li>• USB 2.0 (Type-B):                             <ul style="list-style-type: none"> <li>- Connect to the control PC.</li> <li>- Input connector for device cascading.</li> </ul> </li> <li>• USB 2.0 (Type-A): Output connector for device cascading.</li> </ul> |
| GENLOCK IN-LOOP | 1   | <ul style="list-style-type: none"> <li>• Connect to an external sync signal.</li> <li>• IN: Accept the sync signal.</li> <li>• LOOP: Loop the sync signal.</li> </ul>  |





# VX4S-N



The VX4S-N is a professional LED display controller developed by NovaStar. Besides the function of display control, it also features powerful image processing capabilities. With excellent image quality and flexible image control, the VX4S-N greatly meets the needs of the media industry.



## Features

- Industry-standard input connectors.
  - 1×CVBS
  - 1×VGA
  - 1×DVI (IN+LOOP)
  - 1×HDMI 1.3
  - 1×DP
  - 1×3G-SDI (IN+LOOP)
- 4×Gigabit Ethernet outputs, capable of loading up to 2,300,000 pixels.
- Quick screen configuration supported.
  - Computer software for system configuration is not necessary.
- Seamless high-speed switching and fade effect supported, to present professional-quality images.
- Adjustable PIP position and size, free control at will.
- Nova G4 engine adopted, enabling exquisite image display with a good sense of depth, without flickering and scanning lines.
- White balance calibration and color gamut mapping based on different features of LEDs used by screens, to ensure the reproduction of true colors.
- Independent external audio output supported.
- High bit-depth video input: 10-bit and 8-bit.
- Multiple device units connected for image mosaic.
- NovaStar's new-generation pixel level calibration technology adopted, ensuring a fast and efficient calibration process.
- An innovative architecture adopted, allowing for smart screen configuration.
  - The screen debugging can be completed within several minutes, which greatly shortens the preparation time on the stage.

## Rear Panel

| Input     |     |  |
|-----------|-----|--|
| Connector | Qty | Description  |
| 3G-SDI    | 1   | <ul style="list-style-type: none"> <li>• Up to 1920×1080@60Hz input resolution</li> <li>• Support for progressive and interlaced signal inputs</li> <li>• Support for deinterlacing processing</li> <li>• Support for loop through</li> </ul>  |
| AUDIO     | 1   | A connector for connecting the external audio  |
| VGA       | 1   | VESA standard, up to 1920×1200@60Hz input resolution   |
| CVBS      | 1   | A connector for accepting PAL/NTSC standard video inputs   |
| DVI       | 1   | <ul style="list-style-type: none"> <li>• VESA standard, up to 1920×1200@60Hz input resolution</li> <li>• Support for custom resolutions</li> <li>- Max. width: 3840 pixels (3840×652@60Hz)</li> <li>- Max. height: 1920 pixels (1246×1920@60Hz)</li> <li>• HDCP 1.4 compliant</li> <li>• Support for interlaced signal inputs</li> <li>• Support for loop through</li> </ul> |
| HDMI 1.3  | 1   | <ul style="list-style-type: none"> <li>• Up to 1920×1200@60Hz input resolution</li> <li>• Support for custom resolutions</li> <li>- Max. width: 3840 pixels (3840×652@60Hz)</li> <li>- Max. height: 1920 pixels (1246×1920@60Hz)</li> <li>• HDCP 1.4 compliant</li> <li>• Support for interlaced signal inputs</li> </ul>  |
| DP        | 1   | <ul style="list-style-type: none"> <li>• Up to 1920×1200@60Hz input resolution</li> <li>• Support for custom resolutions</li> <li>- Max. width: 3840 pixels (3840×652@60Hz)</li> <li>- Max. height: 1920 pixels (1246×1920@60Hz)</li> <li>• HDCP 1.3 compliant</li> <li>• Support for interlaced signal inputs</li> </ul>  |

## Specifications

| Output        |     |  |
|---------------|-----|--|
| Connector     | Qty | Description  |
| Ethernet port | 4   | <ul style="list-style-type: none"> <li>4 ports load up to 2,300,000 pixels.</li> <li>• Max. width: 3840 pixels</li> <li>• Max. height: 1920 pixels</li> <li>Only Ethernet port 1 can be used for audio output. When the multifunction card is used for audio decoding, the card must be connected to the Ethernet port 1.</li> </ul> |
| DVI OUT       | 1   | A connector for monitoring the output images.  |
| Control       |     |  |
| Connector     | Qty | Description  |
| ETHERNET      | 1   | <ul style="list-style-type: none"> <li>• Connect to the control PC for communication.</li> <li>• Connect to the network.</li> </ul>  |
| USB (Type-B)  | 1   | <ul style="list-style-type: none"> <li>• Connect to the control PC for device control.</li> <li>• Input connector to link another device</li> </ul>  |
| USB (Type-A)  | 1   | Output connector to link another device  |





# Image processing

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|               |    |
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C1



C1, a console specially designed for NovaStar's terminal video processing products, such as J series, is mainly used for live stage control.

The C1 is designed with two LCD screens. One is used for previewing input sources. The other, together with buttons on the panel, is used to configure the layer size, layer position, input source, output resolution, layer border and input source cropping under each preset.

The C1 is also designed with a joystick and T-Bar. The joystick is used to precisely adjust the size and position of layers. The T-Bar supports adjustment of 1024 levels of layer transparency, finely controlling the transition effects of presets and PVW, PGM for switching.

Thanks to the cool lighted buttons, highly sensitive joystick and T-Bar, plus the two LCD screens, the C1 is extremely easy to operate, making live stage control most convenient.



## Features

- Supports two LCD screens, one for monitoring, and the other touch screen for operating. During operating, users can view on one of the LCD screens the input source status, preview status and status of output on LED display, so that the overall situation is under control.
- Supports control of NovaStar video splicing processors.
- Supports screen mosaic, easy mosaic, output image quality adjustment, BKG settings, EDID settings, test patterns, and switching from normal display to blackout with one button press.
- Supports up to 32 presets.
- Supports preset copying, use of preset templates, preset customizing, saving of custom presets, preset data cleanup, lockup of preset area on C1 operation panel.
- Supports layer editing, layer image quality adjustment, layer border settings, and layer freezing.
- Supports settings of the layer size and position through the joystick and buttons.
- Supports Aux configuration.
- Supports input source cropping.
- Allows for operations, such as FTB, freeze or Take operation, to multiple seamless switchers.
- Supports remote or live control of terminal video processors through RJ45.



## Specifications

| Port and Button | Quantity | Description   |
|-----------------|----------|---|
| Ethernet (RJ45) | 1        | A port to remotely control the terminal through network.  |
| USB             | 1        | Used to update program, or connect to the upper computer.   |
| U-DISK          | 1        | Connects to a USB drive to import USB files.  |
| Monitor         | 1        | IN: An HDMI preview connector that connects to the HDMI preview connector of a terminal.<br>LOOP: An HDMI loop output connector which can display the preview display of a terminal on other display devices. |
| RS232           | 1        | A control connector that connects to the upper computer.  |
| Reset button    | 1        | A pinhole reset button used to reset and restart the C1.  |



J6



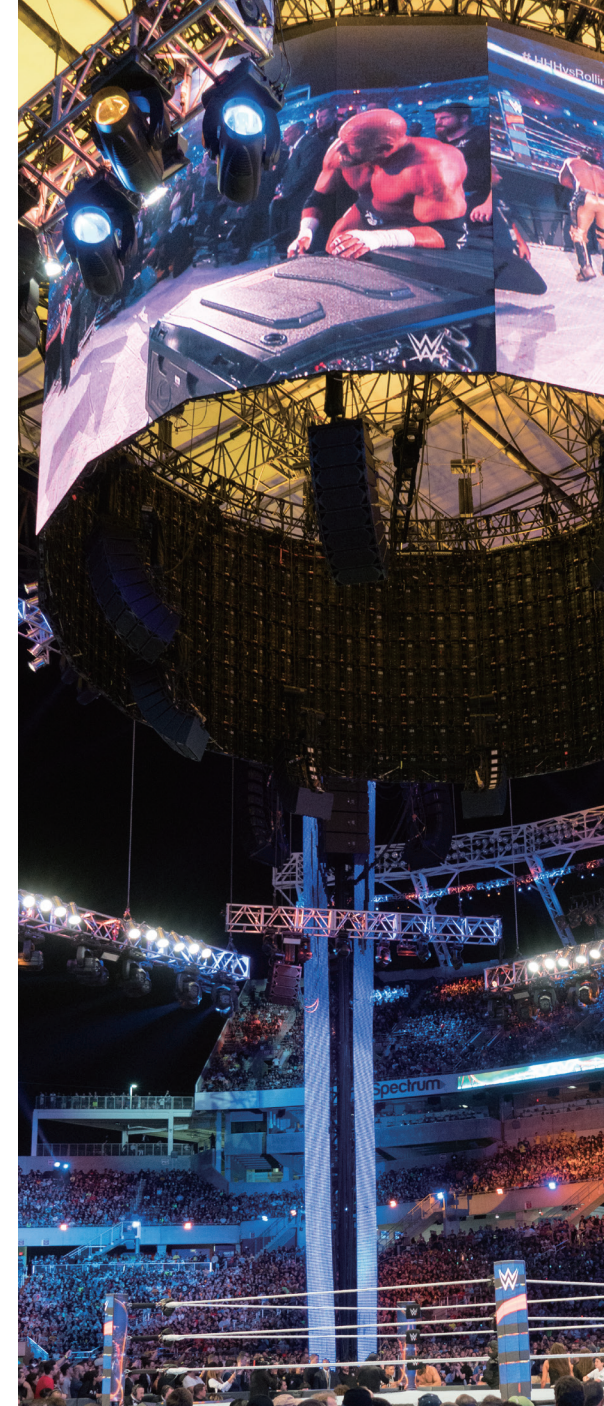
Developed by NovaStar, J6 is high-performance multi-screen splicing processor featuring enhanced image processing. Based on a powerful FPGA processing platform, J6 supports quick seamless switch of any input source and supports transition effects such as fade, etc., allowing you to experience more flexible screen layouts.

In addition, J6 can work with the new smart management software V-Can to enable more screen splicing effects and better satisfy your needs.



## Features

- Supports a wide range of video inputs divided into 4 groups with 8 interfaces, including 1×DVI/HDMI/SDI(allowing you to choose any one of these 3 interfaces), HDMI 1.4/DP1.1(allowing you to choose any one of these interfaces).
- Input resolution of Input A supports 4K×2K@30Hz. Other inputs support 1920×1080@60Hz which are downward compatible.
- Supports 5 output channels, including 4 groups with 8 interfaces of DVI splicing output and one HDMI preview output.
- The preview interface supports preview of 8 video input signals, and supports overlapping display of information like input resolution, frame rate, etc.
- Output resolution can be set. Splicing width of 4 channels can be up to 15360×600.
- Capable of displaying 6 windows simultaneously at most and the maximum resolution of each window is up to 15360×600@60Hz.
- Window position, size, etc. are adjustable allowing to add borders to the windows and set border width, color, etc.
- Capable of creating 32 presets which are saved as templates and can be used directly and easily.
- Provides dozens of input source transition effects to enhance and present demo images with professional quality.
- An intuitive color LCD on the front panel and clear button indicator lights simplify the system control operations.
- Supports Genlock synchronization, allowing you to choose any input source or external synchronous signal to achieve frame lock output.



## Specifications

### Inputs

| Port  | Qty | Specifications   |
|---|-----|--|
| HDMI1.4/DP1.1<br>(Choose one from these inputs)       | 1   | Supports 4K×2K@30Hz, 2560×1600@60Hz (downward compatible).                                 |
| HDMI/DVI(DVI-D)/SDI<br>(Choose one from these inputs) | 4   | VESA standard. 1920×1080@60Hz(downward compatible).  |
| HDMI/SDI<br>(Choose one from these inputs)            | 1   | VESA standard. 1920×1080@60Hz(downward compatible).  |
| 3G-SDI  | 2   | Input resolution up to 1920×1080@60Hz and downward compatible Supports 3G-SDI loop output. |

### Outputs

| Port         | Qty                      | Specifications  |
|--------------|--------------------------|---|
| DVI(DVI-D)   | 4 groups<br>(8 channels) | Maximum supported resolution of each interface: 1080p (DualLink output is available for DVI1 and DVI3DualLink). |
| HDMI(Type A) | 1                        | Supported output resolution: 1920×1080@60Hz.  |

### Control

| Port           | Qty | Specifications                                   |
|----------------|-----|--|
| ETHERNET(RJ45) | 1   | Control interface.                               |
| USB(Type-B)    | 1   | Control interface for connecting upper computer. |
| USB(Type-A)    | 1   | Interface for cascading more J6 units.           |

# N9



N9 is a high-performance multi-screen video switcher independently developed by NovaStar. Using high-performance video processing technologies, the N9 is capable of processing and outputting ultra-high quality images. The N9 also features powerful video signal receiving capability. It can support 9 inputs and 4 DVI outputs at the same time. A single N9 can load up to an 8KK screen, and multiple N9 units can be cascaded for output.

The N9 can work with NovaStar's Event console C1 and make the operation of N9 on stage more convenient.

What's more, it can work with the new smart management software V-Can to enable more screen mosaic effects and better satisfy your needs.

Thanks to the powerful capabilities of receiving and processing a variety of video signals, the N9 can be widely applied in various scenarios, such as intermediate and high-end rental, stage control, media centers, big conference sites, exhibition sites and concert control centers.



## Features

- Supports 9 inputs: 1×DP1.2 with the resolution up to 3840×2160@60Hz, 1×SDI with the resolution up to 1920×1080@60Hz, DP1.1 and 6 inputs with the resolution up to 1920×1080@60Hz.
- Supports 4 DVI mosaic outputs, 4 DVI backup outputs, 1 HDMI preview output, and 2 Aux outputs.
- Supports up to 7 layers. The maximum resolution of each layer can reach 3840×2160, 7680×1080, or 1920×4320.
- Supports BKG settings. The BKG can be uploaded from the upper computer, or from the display screenshots.
- Supports quick and custom mosaic.
- The output resolution can be set. The mosaic width of 4 outputs can be up to 15360×600.
- Supports 2 Aux outputs.
- The preview connector supports previewing of inputs, PVW and PGM.
- A total of 32 user presets can be created and saved as templates. The templates can be used directly and conveniently.
- Provides various transition effects.
- Features an intuitive LCD screen and clear button indicator prompt on the front panel, simplifying system control and operation.
- Supports Genlock synchronization and synchronization with any input source.

## Rear Panel

### Inputs

|                |  |
|----------------|--|
| <b>INPUT-1</b> | DP1.1, 3840×1080@60Hz and downward compatible.   |
| <b>INPUT-2</b> | HDMI1.3, 1920×1080@60Hz and downward compatible. These connectors can be replaced DVI, SDI, HDMI connectors based on user requirement to accept different video sources. |
| <b>INPUT-3</b> |  |
| <b>INPUT-4</b> | DVI1, VESA standard compliant, 1920×1080@60Hz and downward compatible.   |
| <b>INPUT-5</b> | DVI2, VESA standard compliant, 1920×1080@60Hz and downward compatible.   |
| <b>INPUT-6</b> | DVI3, VESA standard compliant, 1920×1080@60Hz and downward compatible.   |
| <b>INPUT-7</b> | DVI4, VESA standard compliant, 1920×1080@60Hz and downward compatible.   |
| <b>INPUT-8</b> | DP1.2, 3840×2160@60Hz and downward compatible.   |
| <b>INPUT-9</b> | SDI, 1920×1080@60Hz and downward compatible.   |
|                | SDI LOOP.  |

### Outputs

|                        |   |
|------------------------|---|
| <b>HDMI</b>            | MVR output, capable of previewing of 9 input sources, PVW and PGM.                  |
| <b>DVI1</b>            | DVI1 output. If the output mode is set to Duallink, this connector is DuallinkOut1. |
| <b>DVI2</b>            | DVI2 output. If the output mode is set to Duallink, this connector is invalid.      |
| <b>DVI3</b>            | DVI3 output. If the output mode is set to Duallink, this connector is DuallinkOut2. |
| <b>DVI4</b>            | DVI4 output. If the output mode is set to Duallink, this connector is invalid.      |
| <b>HDMI1/HDMI2</b>     | 2 Aux outputs.  |
| <b>Control</b>         |   |
| <b>ETHERNET (RJ45)</b> | A control connector.  |
| <b>USB (Type-B)</b>    | Connects to the upper computer.   |
| <b>USB (Type-A)</b>    | Cascades N9 units.  |
| <b>Genlock-Loop</b>    | Connects to a synchronization signal to synchronize cascaded units.                 |

CE RoHS FC IC

# HDR Master 4K



HDR Master 4K is an HDR video generator, image quality optimizer, and 4K video processor. It is capable of converting SDR video into HDR video output, allowing for a more realistic and lifelike image. When the LED display doesn't support HDR, it can provide an overall improvement to image quality using "Image Enhancement" functionality.



## Features

- 4K HDR full-link HDR solution**  
 Support for conversion of SDR video source into HDR, providing a more vivid and stunning visual experience.  
  
 Can provide a full-link HDR solution by pairing a MCTRL4K and A8s-N receiving card.  
  
 The output load can up to 8K by splicing 4 devices.
- Detailed Image for a stunning visual experience**  
 Automatic image noise correction, allowing for a more beautiful image.  
  
 All-new Black Level adjustment, providing more detail in dark parts of the image.  
  
 Flexible adjustment for Contrast Gain and Low Grayscale Gain, avoiding overexposure in bright areas and grayscale loss in low brightness.
- Image enhancement without reducing loading capacity by 50%**  
 When the LED display doesn't support HDR, brightness and color gamut can also be optimized using "Image Enhancement" functionality, allowing any screen to easily achieve an HDR-like display effects.
- Free conversion within signal type and ports**  
 Can easily convert between SDR, HDR10, and HLG signals, allowing for easy signal management.  
  
 12G-SDI, 3G-SDI, and HDMI 2.0 ports can also be freely converted, allowing for integration with a variety of equipment.

## Rear Panel

| Inputs    |     |  |
|-----------|-----|--|
| Connector | Qty | Description  |
| HDMI 2.0  | 1   | Up to 4K×2K@60Hz or 8K×1K@60Hz input resolution; 1080i/576i/480i deinterlacing; HDCP 2.2 and HDCP 1.4 compliant; HDR10 and HLG supported; Max. width: 8192 pixels, max. height: 4000 pixels.                                 |
| DP 1.2    | 1   | Up to 4K×2K@60Hz or 8K×1K@60Hz input resolution; 1080i/576i/480i deinterlacing; HDCP 1.3 compliant; Max. width: 8192 pixels, max. height: 4000 pixels.   |
| 12G-SDI   | 4   | Supports ST-2082-1 (12G), ST-2081-1 (6G), ST-424 (3G), ST-292 (HD) and SMPTE 259 (SD); Up to 4K×2K@60Hz input resolution; 1080i/576i/480i deinterlacing; For 3G-SDI, HD-SDI or SD-SDI inputs, SDI mosaic input is supported. |

| Outputs                                 |                        |     |  |
|---|------------------------|-----|--|
|   | Connector              | Qty | Description  |
| <b>1×HDMI2.0+4×Fiber Output Card</b>    | HDMI 2.0               | 1   | HDR10 and HLG supported; Up to 4K×2K@60Hz output resolution; Max. width: 8192 pixels, max. height: 4000 pixels.  |
|   | 10G optical fiber port | 4   | OPT 1 and OPT 2 copy the output on HDMI 2.0; OPT 3 copies the output on OPT 1; OPT 4 copies the output on OPT 2. |
| <b>4×12G SDI+1×HDMI2.0 Process Card</b> | HDMI 2.0               | 1   | HDR10 and HLG supported; Up to 4K×2K@60Hz output resolution; Max. width: 8192 pixels, max. height: 4000 pixels.  |
|   | 12G-SDI                | 4   | Up to 4K×2K@60Hz output resolution on each connector; For 3G-SDI, HD-SDI or SD-SDI outputs, SDI mosaic output.   |



# H Series

H Series Video Splicing Processor

45

# H Series Video Splicing Processor



H Series is NovaStar's flagship all-in-one video splicing processor, designed specifically for fine-pitch LED applications. H Series utilizes a full hardware slot structure with high-performance FPGA processing and ultra-speed Crosspoint matrix switching technology, providing powerful signal processing capabilities. It is the first All-in-One splicer and controller in the industry, which greatly simplifies system integration. H Series features true 4K video processing. With the leading image processing technology in the industry, it can give you an astonishing visual effect, truly making it the perfect solution for fine-pitch LED applications.

## Features

### Modular and plug-in design, for flexible configuration

- A single LED 4K sending card loads up to 10,400,000 pixels.
- A single LED 4K sending card provides two OPT output ports, allowing for ultra-long distance transmission and simplified system connection.
- Multi-capacity configuration on a single card slot.
  - 4×1920×1080@60Hz
  - 2×3840×1080@60Hz
  - 1×4096×2160@60Hz

- Simple screen configuration using a single card and connector.
- Online status monitoring of all input and output cards.
- Hot-swappable input and output cards.
- Up to 3840×2160@30Hz IP camera inputs and input mosaic.

### Multi-screen management, for centralized control

- Each screen can have its own output resolution.

- Output mosaic.  
Adopts the frame synchronization technology, which ensures all the output connectors output the image synchronously, and the image is complete and played smoothly, without any stuck, frame loss, tearing or piecing.

- Irregular screen configuration.  
Supports irregular rectangle mosaic without any limitations.

- Input source grouping management.

### Web-page control, easy, friendly and convenient

- Web control.  
Real-time response and 1000M/100M self-adaptive network control, allowing for multi-user collaboration.
- Monitoring of inputs and outputs on Web page.
- Firmware update on Web page.
- APP control on pad device.

### Status monitoring and redundant power supply, for better stability and reliability

- Self-test for fault detection.
- Auto monitoring and alarms  
Supports hardware monitoring, such as fan rotation speed, module temperature and voltage, running status, and sends fault alarms if necessary.

- Supports an optional power supply for higher system reliability.

### Diverse display possibilities, for richer visual experience

- Multi-layer display.  
A single card supports 16×2K layers, 8×DL layers or 4×4K layers.  
All layers support cross-connector output and the layer quantity is not reduced for cross-connector output.
- High-definition scrolling text.  
Customize the scrolling text content, such as slogans or notification messages, and set the text style, scrolling direction and speed.
- Up to 2,000 presets.  
Fade effect and seamless switching supported, less than 60ms preset switching duration.
- Scheduled playback of preset playlist.  
Set whether to add the presets to playlist, which is ideal for monitoring, exhibitions, presentations, and other applications.

- OSD settings on a single screen and adjustable OSD transparency.
- BKG settings.  
BKG images do not occupy the layer resources. The max. width and height of a BKG image is up to 15K and 8K respectively.
- Channel logo management.  
Set a text or image logo for identifying the input source.
- Input source cropping and renaming after cropping.  
Crop any input source image and form a new input source after cropping.
- HDR and 10-bit video processing, allowing for a more exquisite and clear image.
- Color adjustment.  
Input, output and layer color adjustable, including the brightness, contrast, saturation, hue and Gamma.
- Eye saver mode.  
Display the image in a warmer but less bright way to relieve eye strain.
- 3D function.  
Work with NovaStar's 3D emitter – EMT200 to enjoy the 3D visual effect.



## Specifications



| Model                                       | H2                               | H5                | H9                | H15   | H20                              |
|---|----------------------------------|-------------------|-------------------|---|----------------------------------|
| Chassis                                     | 2U                               | 5U                | 9U                | 15U   | 20U                              |
| Max, Loading Capacity (LED 4K sending card) | 26million pixels                 | 39 million pixels | 65 million pixels | 130 million pixels / 208 million pixels(Enhanced)                           | 260 million pixels               |
| Max, Input Cards                            | 4                                | 10                | 15                | 30  | 40                               |
| Max, Output Cards                           | 2                                | 3                 | 5 / 10 (Enhanced) | 10 / 16 (Enhanced)  | 20                               |
| Irregular screen configuration              | √                                | √                 | √                 | √   | √                                |
| Max, Layers                                 | A single card supports 16 layers |                   |                   | A single card supports 16 layers on H15, supports 10 layers on H15 Enhanced | A single card supports 16 layers |
| Max, Presets                                | 2000                             | 2000              | 2000              | 2000  | 2000                             |
| 10bit, HDR, 3D                              | √                                | √                 | √                 | √   | √                                |
| Redundant Power (optional)                  | -                                | √                 | √                 | √   | √                                |

### Allows for flexible configuration of input cards

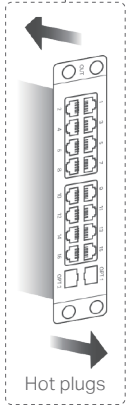
| Name  | Description                                |
|---|--|
| H_4xDVI input card                                      | DVI×4                                      |
| H_4xHDMI input card                                     | HDMI1.3×2+HDMI1.4×2                        |
| H_1xHDMI2.0+1xDP1.2 input card                          | HDMI2.0×1+DP1.2×1                          |
| H_1xHDMI2.0 input card                                  | HDMI 2.0×1                                 |
| H_2xHDMI2.0 input card (*Only for H15 and H15 Enhanced) | HDMI2.0×2 (*Only for H15 and H15 Enhanced) |
| H_2xRJ45 IP input card                                  | RJ45 Gigabit Ethernet ports×2              |
| H_4x3G SDI input card                                   | 3G-SDI×4                                   |
| H_1x12G-SDI input card                                  | 12G-SDI IN×1, 12G-SDI LOOP×1               |
| H_2xCVBS+2xVGA input card                               | CVBS×2+VGA×2                               |
| H_4xVGA input card                                      | VGA×4                                      |
| H_2xDP1.1 input card                                    | DP1.1×2                                    |

### Allows for flexible configuration of output cards

| Name                            | Description                                    |
|---------------------------------|--|
| H_16xRJ45+2xfiber sending card  | RJ45 Gigabit Ethernet outputs×16+OPT outputs×2 |
| H_20xRJ45 sending card          | RJ45 Gigabit Ethernet outputs×20               |
| H_2xRJ45+1xHDMI1.3 preview card | RJ45 Gigabit Ethernet outputs×2+HDMI1.3×1      |



Dual power (optional)



Hot plugs





# Multimedia Player

---

|         |    |
|---------|----|
| Taurus  | 51 |
| MBOX600 | 53 |
| TCB300  | 55 |

# Taurus Multimedia Player



Taurus series products are NovaStar's second generation of multimedia players dedicated to full-color LED displays.

Taurus series products can be widely used in LED commercial display field, such as bar screen, chain store screen, advertising machine, mirror screen, retail store screen, door head screen, on board screen and the screen requiring no PC.



## Features

- Self-connects to optimal signal, eliminating drop-outs.
- Real-time watchdog software, averting trouble before it appears.
- Remote emergency connection, allowing you to respond to issues at a moment's notice.
- Multiple redundant backup, for ultimate stability.
- Integrated sending and control, with no need for a PC, keeping operation simple.
- Supports cloud publishing and monitoring. No need to be on-site to manage your displays.
- Synchronous and asynchronous modes, with scheduled or free switching to meet the needs of any scenario.
- Support for control via PC, mobile, pad, and other smart devices.



| Product name          |                        | TB30   | TB50   | TB60   |
|-----------------------|------------------------|--|--|--|
| Basic Parameter       | CPU                    | 4 Core A55 Processor/1.8GHz  | 4 Core A55 Processor/1.8GHz  | 4 Core A55 Processor/1.8GHz  |
|                       | Storage                | 1GB+16GB   | 1GB+16GB   | 1GB+16GB   |
|                       | Decode Ability         | 4K 60fps   | 4K 60fps   | 4K 60fps   |
|                       | Operation system       | Android 11   | Android 11   | Android 11   |
| Loading Capacity      | Max Capacity           | 0.65 million pixels  | 1.3 million pixels   | 2.3 million pixels   |
|                       | Max Width/Max High     | 4096(Max Width),4096(Max High)   | 4096(Max Width),4096(Max High)   | 4096(Max Width),4096(Max High)   |
|                       | LED Output port RJ45   | 1 Main 1 Backup  | 2 Main   | 4 Main   |
| Main Function         | Sync Mode              | NTP,GPS  | NTP,GPS  | NTP,GPS  |
|                       | Dual Mode Switch       | /  | Support  | Support  |
|                       | Remotely Control Power | Need Connect Multifunction Card  | Need Connect Multifunction Card  | Need Connect Multifunction Card  |
|                       | Sensor                 | Two aviation plug  | Two aviation plug  | Two aviation plug  |
| Network Communication | LAN                    | 1000 Mbps  | 1000 Mbps  | 1000 Mbps  |
|                       | WiFi                   | 2.4G Switchable AP&STA   | 2.4G Switchable AP&STA   | 2.4G Switchable AP&STA   |
|                       | 4G                     | Support(Optional)  | Support(Optional)  | Support(Optional)  |
| Appearance Material   |                        | Metal Case   | Metal Case   | Metal Case   |
| Power Port            |                        | AC 100~240V  | AC 100~240V  | AC 100~240V  |
| Certification         |                        | CE EMC、LVD、ROHS、FCC、FCC ID、IC、RED、UKCA、UL、RCM、PSE、FAC、PSB、KC、MIC、CB、NBTC | CE EMC、LVD、ROHS、FCC、FCC ID、IC、RED、UKCA、UL、RCM、PSE、FAC、PSB、KC、MIC、CB、NBTC | CE EMC、LVD、ROHS、FCC、FCC ID、IC、RED、UKCA、UL、RCM、PSE、FAC、PSB、KC、MIC、CB、NBTC |

# MBOX600



## Features

The MBOX600 is an independent sending device from NovaStar, featuring big loading capacity. It is applicable to the scenarios where no PC is used to control LED displays, for example, outdoor fixed displays.

- Loading capacity up to 2,300,000 pixels with a maximum width of 3840 pixels and maximum height of 2560 pixels.
- Supported common resolutions: 1440×900, 1920×1080, 1920×1200, 2048×1152, and 2560×960.
- Uses Intel processor.
- Automatic power-on.
- 4×USB 2.0 ports and 2×USB 3.0 ports.
- 1×HDMI output.
- 1×Audio output.
- 1×Wi-Fi antenna connector.
- 1×Gigabit Ethernet port

## MBOX600 Parameter comparison

|                                   | MBOX600 (3U4A3)   | MBOX600 (7U4A3)                | MBOX600 (7U8A4)            |
|-----------------------------------|---|--------------------------------|----------------------------|
| <b>CPU</b>                        | Intel Celeron 3855U 1.6GHz  | Intel Core I5-7200U 2.5GHz     | Intel Core I5-7200U 2.5GHz |
| <b>Graphic</b>                    | HD510   | HD620                          | HD620                      |
| <b>Memory</b>                     | 4G  | 4G                             | 8G                         |
| <b>Hard Drive</b>                 | 128G SSD  | 128G SSD                       | 256G SSD                   |
| <b>System</b>                     | Linux/Windows10 IOT Enterprise  | Linux/Windows10 IOT Enterprise | Windows10 IOT Enterprise   |
| <b>Loading Capacity</b>           | 2.3 million   | 2.3 million                    | 2.3 million                |
| <b>WIFI/4G</b>                    | √ (WiFi standard, 4G optional)  |                                |                            |
| <b>Front Panel Interface</b>      | 4×USB2.0, H.LED、P.LED、 RUN、 SYS light, 1×Power switch, 1×SIM card slot  |                                |                            |
| <b>Back Panel Interface</b>       | 4×LED Output (built-in send card function), 1×Ethernet port, 1×HDMI, 2×USB3.0, 1×Audio output, 1×Light sensor, 1×Temperature sensor, 1×WIFI antenna, 1×4G antenna, 1×Power input (12V DC) |                                |                            |
| <b>Storage Temp</b>               | -40 C ~ 80 C  |                                |                            |
| <b>Operating Temp</b>             | -20 C ~ 60 C  |                                |                            |
| <b>Operating Humidity</b>         | 0RH~80%RH, No condensation  |                                |                            |
| <b>Size (length×width×height)</b> | 285.0mm×135.2mm×46.5mm  |                                |                            |

# TCB300



The TCB300 is an LCD multimedia player from NovaStar, which is used for LCD displays in the fields such as advertising media, digital signage and commercial display.

In addition to solution publishing and screen control via PC, mobile phones and LAN, the comprehensive control plans also support remote centralized publishing and monitoring.



## Features

- **Powerful Processing Capability**

1.2 GHz four-core processor.  
Support for up to 1080P video hardware decoding.  
1 GB operating memory.  
32 GB on-board internal storage space with 28 GB available for users.

- **Comprehensive control plans**

The TCB300 provides comprehensive control plans:  
Solution publishing and screen control via PC.  
Solution publishing and screen control via LAN.  
Solution publishing and screen control via mobile phone.  
Clustered remote solution publishing and screen control.  
Clustered remote monitoring.

- **Wi-Fi AP Connection**

The TCB300 has permanent Wi-Fi AP. The default SSID is "AP + the last

8 digits of the SN", for example, "AP10000033", and the default password is "12345678". The TCB300 requires no wiring and users can manage the displays at any time by connecting to the TCB300 via mobile phone, Pad or PC. Wi-Fi AP signal strength is related to the transmit distance and environment. Users can change the Wi-Fi antenna as required.

- **4G Module**

The TCB300 is designed with 4G module. You can connect to the Internet via 4G network after turning on mobile data network in the client software ViPlex. Wired network is prior to 4G network. When both of the networks are available, the TCB300 will choose signals automatically according to the priority.

## Rear Panel

|                               |                               |  |
|-------------------------------|-------------------------------|--|
| <b>Electrical Parameters</b>  | Input voltage                 | 5 V DC   |
|                               | Maximum power consumption     | 15 W   |
| <b>Storage Space</b>          | Operating memory              | 1 GB   |
|                               | Internal storage space        | 32 GB on-board with 28 GB available for users                |
| <b>Storage Environment</b>    | Temperature                   | -40°C–80°C   |
|                               | Humidity                      | 0% RH–80% RH, non-condensing                                 |
| <b>Operating Environment</b>  | Temperature                   | -20°C–60°C   |
|                               | Humidity                      | 0% RH–80% RH, non-condensing                                 |
| <b>Packing Information</b>    | Dimensions (H×W×D)            | 335 mm × 190 mm × 62 mm                                      |
|                               | List                          | 1 × TCB300<br>1 × Wi-Fi antenna<br>1 × Power adapter (5V 3A) |
| <b>Dimensions (H × W × D)</b> | 196.0 mm × 115.5 mm × 34.0 mm |  |
| <b>Net Weight</b>             | 266.2 g                       |  |



# Receiving Cards

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|              |    |
|--------------|----|
| ARMOR Series | 59 |
| MRV Series   | 63 |

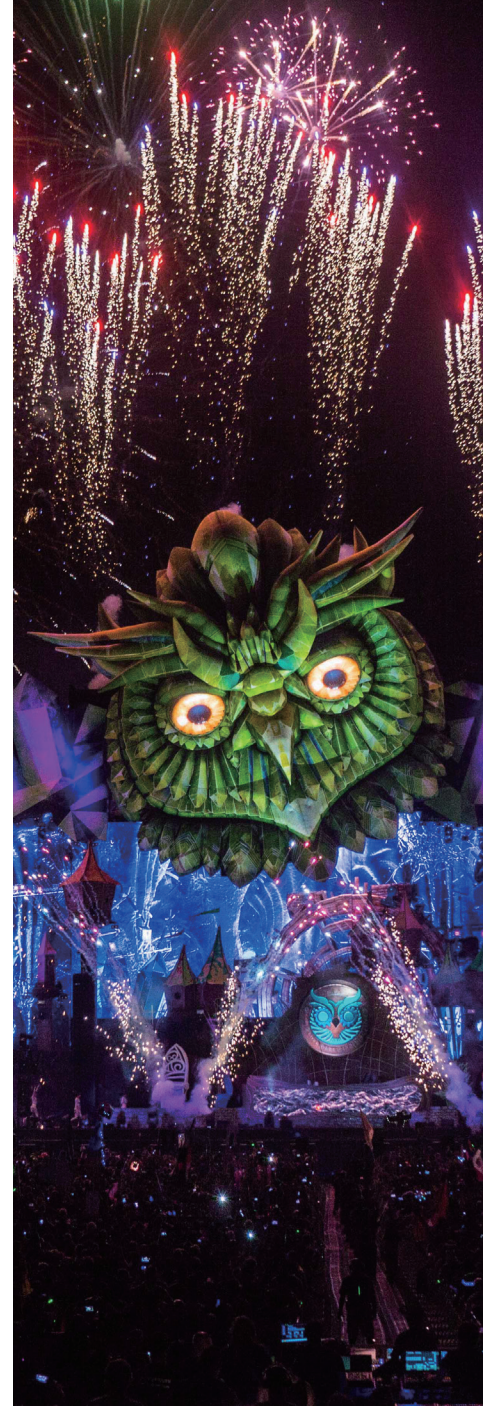
# ARMOR



## Receiving Card of Armor Series

Highly improving the image quality on the display

High-end mini receiving card of NovaStar Armor series, featuring a small size and full-function, supports 22bit+, Precise Grayscale and Color Management, the latest LED Image Booster technologies from NovaStar. Highly Improving image quality through the optimization of every pixel, creating an eye-pleasing presentation, and therefore more valuable.



## Features

- **22bit+**  
64 times dynamic contrast improvement, with 0.002nits precision control of brightness, providing a fine and vivid display image even in low brightness conditions.  
(A8s-N, A10s Plus-N, A10s Pro)
- **Precise Grayscale**  
Precise Grayscale for driver IC using professional optical instruments allows for a more accurate, and natural image, improving color casting in low brightness conditions.  
(A8s-N, A10s Plus-N, A10s Pro)
- **Color Management**  
Allows for a perfect match between the display's color gamut and that of the source video. This eliminates color deviation, especially the common issue with reddish skin color. This adherence to the original intended color allows the natural beauty of the original source video to shine.  
(A5sPlus, A7s Plus, A8s-N, A10s Plus-N, A10s Pro)
- **HDR10-Optima & HLG**  
Support HDR10-Optima & HLG, highly restore visual effects, and show stunning visual effects through subtle performance.  
(A8s-N, A10s Plus-N, A10s Pro)
- **ClearView**  
Adjust the texture, size and contrast in different areas of images based on characteristics of the human visual system to make the image details more vivid and realistic.  
(A8s-N, A10s Plus-N, A10s Pro)
- **Low Latency**  
Reduce the frame latency of the video source on the receiving card end to 1 frame (for the module that the RAM is built within the driver IC).  
(A7s Plus, A8s-N, A10s Plus-N, Supported by dedicated firmware)
- **LVDS Transmission**  
Use the transmission mode of low-voltage differential signaling (LVDS), realizing less data cables between the receiving card's HUB board and module, longer transmission distance, higher signal transmission quality, better EMC effect and more stable image output.  
(A5s Plus, A7s Plus, A8s-N, A10s Plus-N, A10s Pro Supported by dedicated firmware)
- **Mapping**  
Display the receiving card ID and Ethernet port information on the cabinet. The user could get the receiving card's location and wiring route, which makes debugging extremely convenient.  
(A5s Plus, A7s Plus, A8s-N, A10s Plus-N, A10s Pro)
- **Free Screen Rotation**  
Working with the MCTRL R5, the receiving cards support screen rotation at any angles, displaying plentiful and more creative images.  
(A8s-N, A10s Plus-N, A10s Pro)
- **Automatic Calibration**  
After a module has been replaced, the receiving card can automatically read the new module ID and calibration coefficients, and save them to the Flash of the receiving card.  
(A5s Plus, A7s Plus, A8s-N, A10s Plus-N, A10s Pro)

CE (Class B) RoHS

(For detailed function comparison, please see next page.)

# ARMOR



A5s Plus



A7s Plus



A8s-N



A10s Plus-N



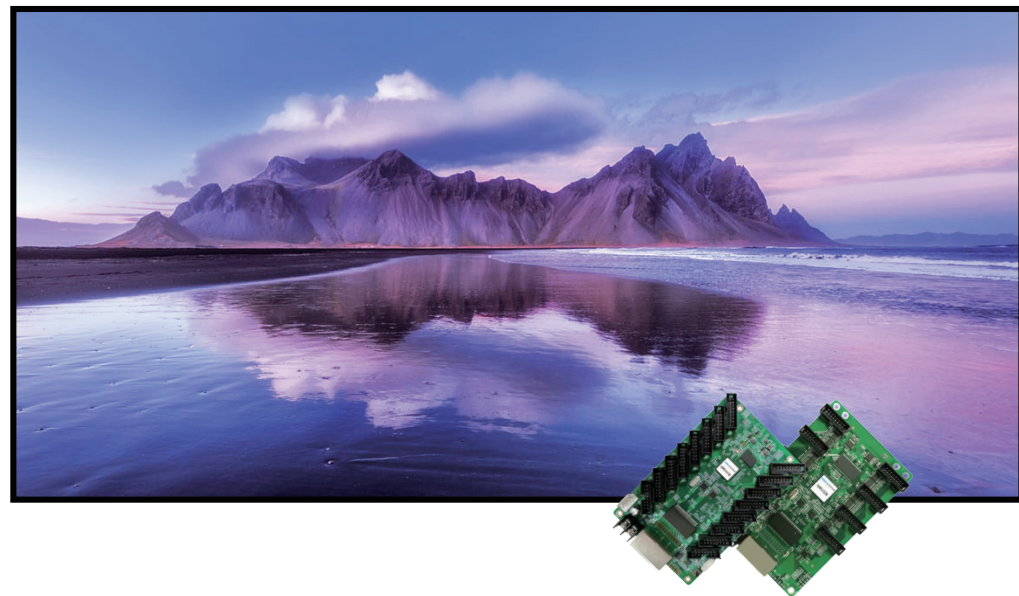
A10s Pro

| Product Model  | A5s plus                 | A7s plus                 | A8s-N                    | A10S Plus-N              | A10s Pro                 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>Data Group</b>  | Parallel 32<br>Serial 64 | Parallel 32<br>Serial 64 | Parallel 32<br>Serial 64 | Parallel 32<br>Serial 64 | Parallel 32<br>Serial 64 |
| <b>MAX Loading Capacity(2D)</b>                          | 512×384                  | 512×512                  | 512×384                  | 512×512(PWM IC)          | 512×512(PWM IC)          |
| <b>MAX Capacity (3D)<br/>(Under 16 Data Groups Mode)</b> | 512×192                  | 512×256                  | 384×256                  | 512×256                  | 512×256                  |
| <b>Chroma/Brightness Calibration</b>                     | √                        | √                        | √                        | √                        | √                        |
| <b>Power/Voltage Monitor</b>                             | √                        | √                        | √                        | √                        | √                        |
| <b>RCFGX file Read</b>                                   | √                        | √                        | √                        | √                        | √                        |
| <b>Firmware Read</b>                                     | √                        | √                        | √                        | √                        | √                        |
| <b>LCD</b>   | √                        | √                        | √                        | √                        | √                        |
| <b>bit lrror detection</b>                               | √                        | √                        | √                        | √                        | √                        |
| <b>Prestore Pattern</b>                                  | √                        | √                        | √                        | √                        | √                        |
| <b>Nosending Mode</b>                                    | ×                        | ×                        | ×                        | ×                        | ×                        |
| <b>Calibration Data Backup</b>                           | ×                        | ×                        | √                        | √                        | √                        |

| Product Model  | A5s plus | A7s plus | A8s-N | A10S Plus-N | A10S Pro          |
|--|----------|----------|-------|-------------|-------------------|
| <b>Module Flash</b>  | √        | √        | √     | √           | √                 |
| <b>RCFGX File Backup</b>   | √        | √        | √     | √           | √                 |
| <b>Double power Backup</b>   | √        | √        | √     | √           | √                 |
| <b>Double RV Backup</b>  | √        | √        | √     | √           | √                 |
| <b>Smart Module</b>  | √        | √        | √     | √           | √                 |
| <b>EMC Optimization</b>  | √        | √        | √     | √           | √                 |
| <b>Maping</b>  | √        | √        | √     | √           | √                 |
| <b>18bit+</b>  | √        | √        | √     | √           | ×                 |
| <b>Color Managerment</b>   | √        | √        | √     | √           | √                 |
| <b>Module ID</b>   | √        | √        | √     | √           | √                 |
| <b>Color engine<br/>(22bit+/Color Management<br/>/Precise Grayscale)</b> | ×        | ×        | √     | √           | √                 |
| <b>RGB Gamma Adjustment</b>  | √        | √        | √     | √           | √                 |
| <b>Any Angle Rotate</b>  | ×        | ×        | √     | √           | √                 |
| <b>Temperature and Humidity<br/>Detect Interface</b>                     | √        | √        | √     | √           | √                 |
| <b>Smog Monitor Interface</b>  | √        | √        | √     | √           | √                 |
| <b>Fans and Power Detect Interface</b>                                   | √        | √        | √     | √           | √                 |
| <b>Cabinet's Door Detect Interface</b>                                   | √        | √        | √     | √           | √                 |
| <b>Low Latency</b>   | ×        | √        | √     | √           | √                 |
| <b>HDR10&amp;HLG</b>   | ×        | ×        | √     | √           | √                 |
| <b>Monitor Card</b>  | ×        | ×        | ×     | ×           | ×                 |
| <b>Full-Grayscale Calibration</b>  | ×        | ×        | ×     | ×           | √ (with MX40 Pro) |
| <b>Dynamic Booster</b>   | ×        | ×        | ×     | ×           | √ (with MX40 Pro) |



# MRV



## MRV Series Receiving Cards

The MRV series are general receiving cards that support up to 1/64 scan. With various highlights such as 12-bit precision pixel level brightness and chroma calibration, the MRV series can greatly improve the display effect and user experience. Thanks to its EMC compliant hardware design, the MRV series have improved electromagnetic compatibility and is suitable to many applications.



## Features

### Improvements to Display Effect

- Pixel level brightness and chroma calibration  
Working with NovaLCT and NovaCLB, the receiving card supports 12-bit precision brightness and chroma calibration on each LED, which can effectively remove color discrepancies and greatly improve LED display brightness and chroma consistency, allowing for better image quality.
- Quick seam correction.  
Working with NovaLCT, the receiving card supports quick adjustment of bright and dark lines caused by splicing of cabinets and modules. This function is easy to use and the adjustment takes effect immediately.
- 3D function.  
When the receiving card works with the independent controller which supports 3D function, users can enable the 3D function in NovaLCT or on operation panel of the controller, and set 3D parameters to allow for 3D display effects.

### Improvements to Maintainability

- Mapping function.  
After the Mapping function is enabled in NovaLCT, each of the target cabinets will display the receiving card number and Ethernet port information, allowing users to easily obtain the location and wiring route of receiving cards.

- Voltage and temperature monitoring.  
The voltage and temperature of the receiving card can be monitored without using peripherals. The monitoring data can be checked in NovaLCT.
- Cabinet LCD.  
The receiving card supports the LCD connected to the cabinet. The LCD can display temperature, voltage, single operating time and total operating time of the receiving card.
- Bit error rate monitoring.  
The receiving card can work with NovaLCT (V5.2.0 or later) to monitor the network communication quality between sending device and receiving card, or between receiving cards, and record the number of erroneous packets to help troubleshoot network communication problems.

### Improvements to Reliability

- Status monitoring.  
The receiving card supports Temperature, Voltage & Lan cable communication status monitoring.
- Hot backup.  
The receiving card can improve the reliability for cascading of receiving cards through main and backup redundant mechanism. If either main or backup cascading lines fail, the other will begin to work to ensure uninterrupted operation of the display.
- Receiving card parameter backup.  
Two copies of application programs are saved in the receiving card at the factory to avoid the problem that the receiving card may get stuck due to program update exception.

CE (Class A) RoHS

(For detailed function comparison, please see next page.)

# MRV



MRV328



MRV336



MRV416

| Product Model                                    | MRV328      | MRV336      | MRV416      |
|--|-------------|-------------|-------------|
| Data Group                                       | Parallel 16 | Parallel 16 | Parallel 16 |
| MAX Loading Capacity(2D)                         | 256×256     | 256×256     | 512×384     |
| MAX Capacity (3D)<br>(Under 16 Data Groups Mode) | 256×256     | 128×256     | 384×256     |
| Output Interface                                 | HUB75×8     | HUB75×12    | HUB75×16    |
| Chroma/Brightness Calibration                    | √           | √           | √           |
| Power/Voltage Monitor                            | √           | √           | √           |
| RCFGX file Read                                  | √           | √           | √           |
| Firmware Read                                    | ×           | ×           | √           |
| LCD  | √           | √           | √           |
| Bit Error detection                              | Custom      | Custom      | √           |

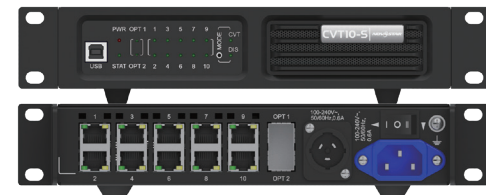
| Product Model           | MRV328 | MRV336 | MRV416 |
|-------------------------|--------|--------|--------|
| Prestore Pattern        | √      | √      | √      |
| Nosending Mode          | √      | √      | ×      |
| Calibration Data Backup | ×      | ×      | ×      |
| Module Flash            | ×      | ×      | ×      |
| RCFGX File Backup       | ×      | ×      | √      |
| Double power Backup     | ×      | ×      | ×      |
| Double RV Backup        | ×      | ×      | ×      |
| Smart Module            | ×      | ×      | ×      |
| Mapping                 | ×      | ×      | √      |
| 18bit+                  | ×      | ×      | ×      |
| RGB Gamma Adjustment    | ×      | ×      | √      |
| Any Angle Rotate        | ×      | ×      | ×      |
| HDR10&HLG               | ×      | ×      | ×      |



## Accessories

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|                                    |    |
|------------------------------------|----|
| Fiber Converter CVT10-S / CVT10-M  | 69 |
| Fiber Converter CVT4K-S / CVT 4K-M | 70 |
| Ambient Brightness Sensor NS060    | 71 |
| Multifunction Card MFN300          | 72 |



## Fiber Converter CVT10-S / CVT10-M

- 2×optical ports with hot-swappable optical modules installed at the factory, bandwidth of each up to 10 Gbit/s.
- 10×Gigabit Ethernet ports, bandwidth of each up to 1 Gbit/s.

– Fiber in and Ethernet out.

If the input device has 8 or 16 Ethernet ports, the first 8 Ethernet ports of the CVT10 are available.

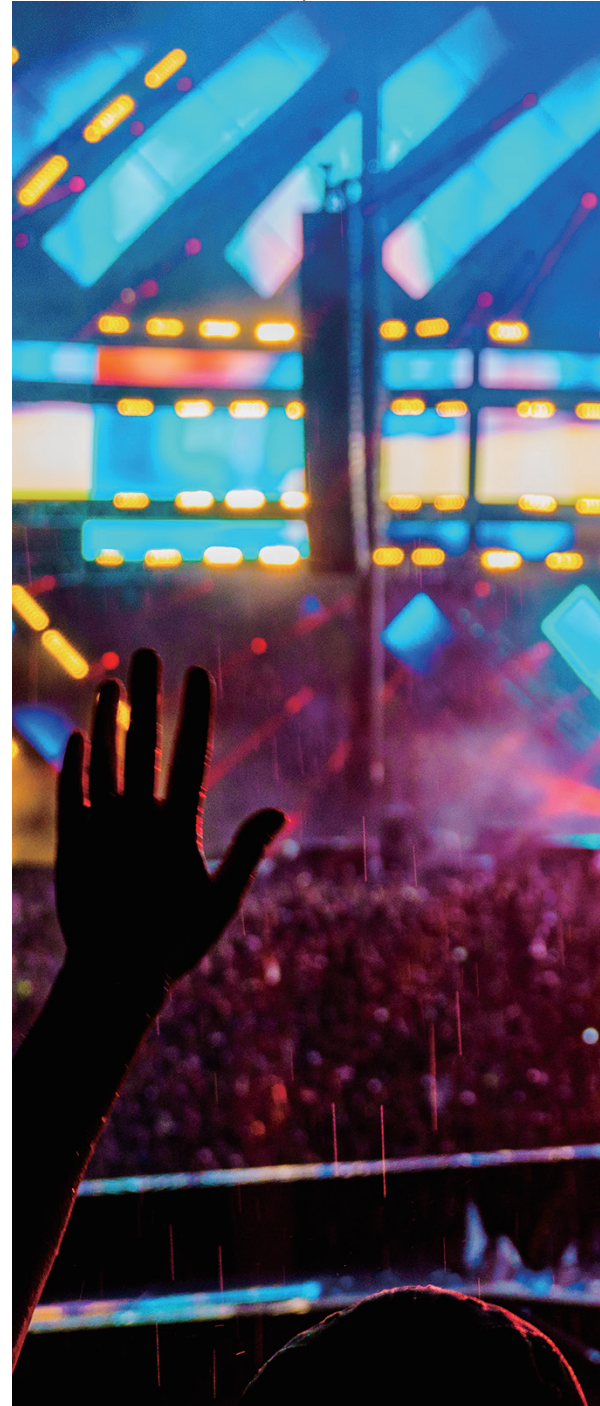
If the input device has 10 or 20 Ethernet ports, all the 10 Ethernet ports of the CVT10 are available. If

Ethernet ports 9 and 10 are found unavailable, they will be available after upgrading in the future.

– Ethernet in and fiber out.

All the 10 Ethernet ports of the CVT10 are available.

- 2 types of power connectors, including a 3-pin power socket and a PowerCON socket.
- 1×type-B USB control port.



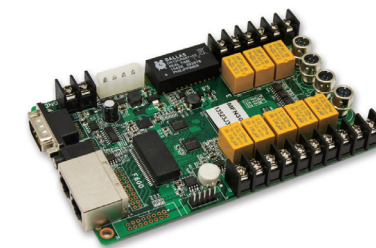
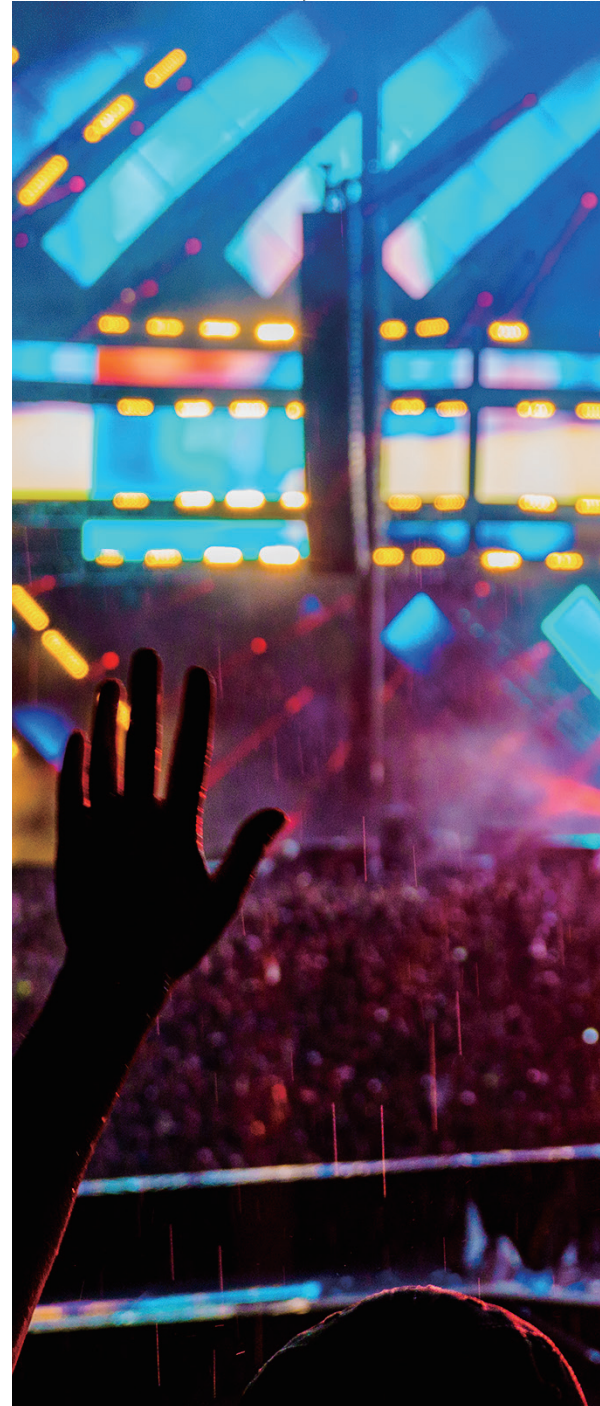
## Fiber Converter CVT4K-S / CVT 4K-M

- Supports 16-channel Neutrik Ethernet outputs.
- Supports 4-channel optical fiber interfaces(10G fiber adapter). Two of them are master input/output channels and the other two are backups.
- Supports two types of power interfaces (3-pin power socket and PowerCON) with dual-power redundancy backup.
- With various indicator lights on the front panel, each status can be showed clearly.
- AC 100-240V~50/60HZ.
- No need to install the drivers.
- Transmission distance of CVT 4K-S is 10km, Transmission distance of CVT 4K-M is 300m.
- Certification: EMC、LVD、RoHS、FCC、UL/CUL、CB、EAC、IC.



### Ambient Brightness Sensor NS060

- Ambient brightness detect, 256 levels of auto brightness adjustment.
- Sending card (MSD300, MCTRL300, MCTRL600), PSD100 or multi-function card (MFN300) supported.
- 5m standard cable, 100 meters extend.
- With protection from dust ingress and water jet, it can be used in an outside setting.
- Certification: CE, RoHS.



### Multifunction Card MFN300

- 8 power switch management.
- 4 light sensor/ambient temperature sensor interface.
- Auto power control of fan/air condition/LED display based temperature.
- Audio output integrated.
- Certification: CE, RoHS.

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