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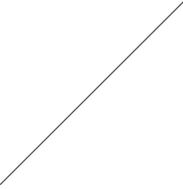
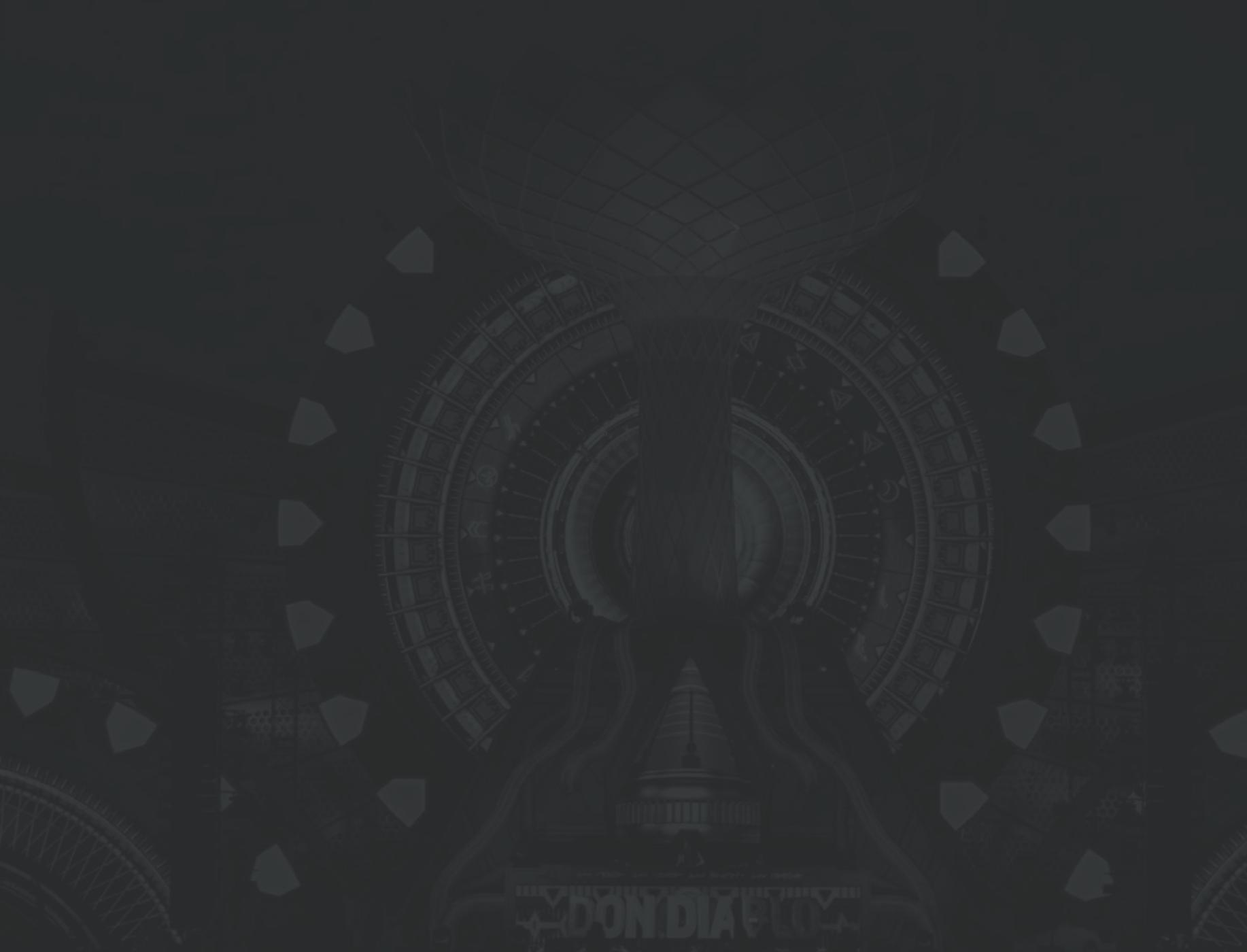
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# The Leading LED Display Service Provider 2021





# 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 2020)

394

Invention Patents

183

Utility Model Patents

94

Appearance Design Patents

6

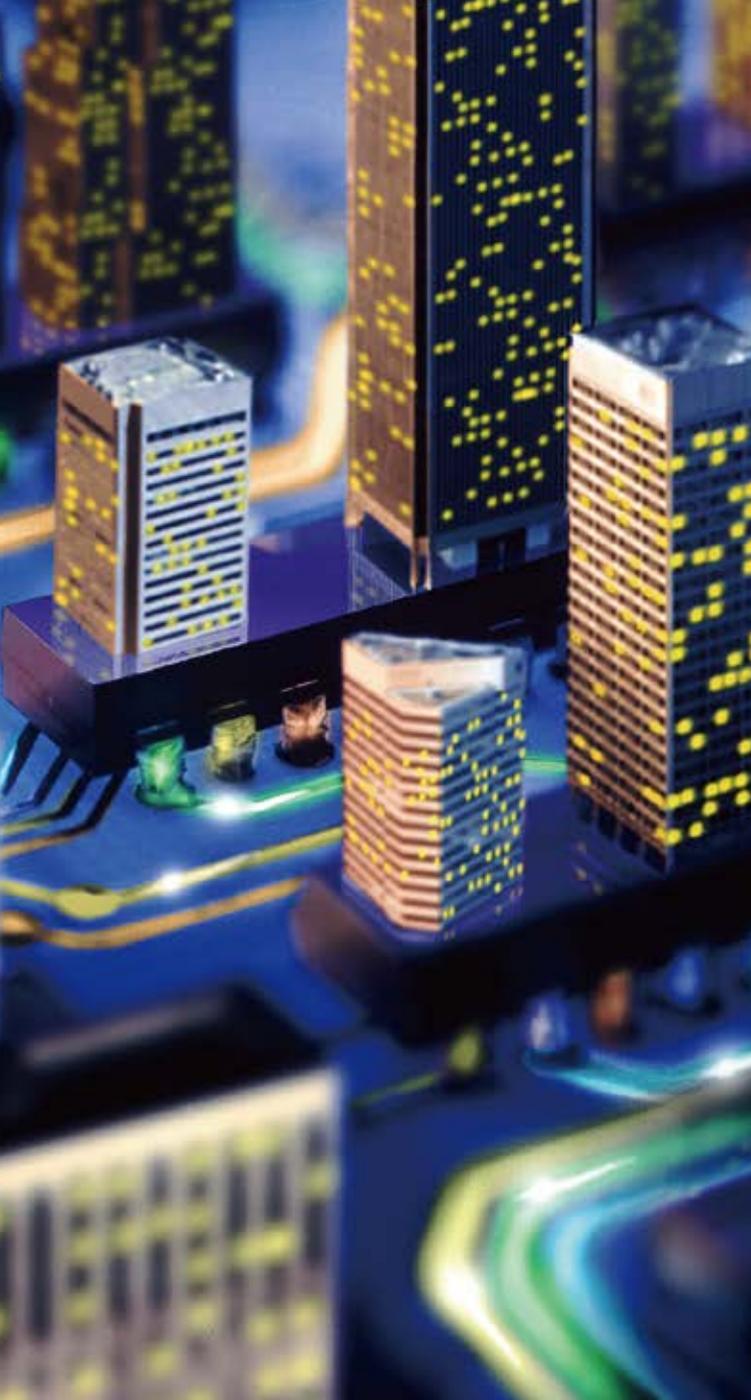
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# Controller

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# 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.**

greatly shortened the time for stage preparation.

## 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. OUT: cascading next unit.

### GenLock

<b>IN</b>	Genlock type: Blackburst. 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.
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## 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. Max. supported resolution:4096×2160@60Hz or 7680×1080@60Hz (downward compatibility).
<b>HDMI</b>	1	HDMI 2.0 standard. 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. OPT1 is used for transferring the data of port 1-8. OPT2 is used for transferring the data of port 9-16. OPT3 is the backup channel of OPT1. OPT4 is the backup channel of OPT2. 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: • Maximum horizontal resolution: 3840×600@60Hz. • Maximum vertical resolution: 600×3840@60Hz. 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: • Maximum horizontal resolution: 3840×600@60Hz. • Maximum vertical resolution: 600×3840@60Hz. 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 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: • The OPT1 works as the primary input or output port, and the 6 Gigabit Ethernet ports work as the corresponding output or input ports. • The OPT2 works as the backup input or output port. 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 Connects to a monitor to monitor the inputs. The output resolution is 1920×1080@60Hz.
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 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 1x DVI input, 1x HDMI input, 1x audio input, and 6x 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 x Input connectors.
  - 1x SL-DVI (IN-OUT)
  - 1x HDMI 1.3 (IN-OUT)
  - 1x AUDIO
- 6x Gigabit Ethernet outputs.
- 1x Type-B USB control port.
- 2x 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	1x 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	1x 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.

	Connector	Description
Output	1~6	6x RJ45 Gigabit Ethernet ports Capacity per port up to 650,000 pixels. Redundancy between Ethernet ports supported.
	HDMI OUT	1x HDMI 1.3 output connector for cascading.
	DVI OUT	1x 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.	

CE FC IC

# MCTRL660



## Features

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.

- 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. Custom resolution supported: • Resolution limit with maximum width: 3840×600@60Hz. • Resolution limit with maximum height: 800×3840@60Hz.
	AUDIO	Audio input connector.
	HDMI IN	HDMI 1.3 input, with a maximum resolution of 1920×1200@60Hz. HDCP 1.4 compliant. Custom resolution supported: • Resolution limit with maximum width: 3840×600@60Hz. • Resolution limit with maximum height: 800×2560@60Hz.

	Connector	Description
Output	RJ45×4	4 × Gigabit Ethernet outputs. Maximum loading capacity of each Ethernet port: 650,000 pixels. Support redundancy between Ethernet ports.
Control	TO PC	Type-B USB port for connecting to PC.
	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: • Resolution with maximum width: 3840×600@60Hz. • Resolution with maximum height: 800×2560@60Hz.
	HDMI IN	HDMI 1.3 compliant. Resolution up to 1920×1200@60Hz and downward compatible. Custom resolutions supported: • Resolution with maximum width: 3840×600@60Hz. • Resolution with maximum height: 800×2560@60Hz. 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.
	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 X 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	
Input Index	DVI IN	1	VESA Standard	

		MIN	TYP	MAX	UNIT
Working environment	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



## Features

- A variety of input connectors: 4×12G-SDI connectors with loop output functions, 1×HDMI 2.0 with loop output functions, and 1×DP 1.2.
- 1×replaceable input card with four connectors.
- The input card can be DVI or HDMI.
- 16×Neutrik Ethernet ports and 4×optical fiber output connectors.
- The loading capacity can be up to 8.8 million pixels.
- 6×layers, 1×OSD, 1×LOGO, and 1×BKG.
- 2×layers up to 4K×2K, 4×layers up to 2K×1K.
- Layers can be scaled.
- OSD supports cropping, transparency adjustment, adding dynamic/static images and position adjustment.
- Layer transparency adjustment, irregular layers, layer mask, and layer overlapping and layer flipping supported.
- Layer priority adjustment by z-order.
- Up to 8K display width or height of a single device.
- MultiViewer monitoring settings, including monitoring of input sources, PVW, PGM, or mixed preview.
- 16 × Neutrik Ethernet outputs, 4×10G fiber optical outputs with copy and hot backup modes.
- Quick and advanced screen configurations.
- With the built-in smart platform Master VI, LED screen configuration, layer configuration and video playback can be easily performed via the connected mouse, keyboard and monitor.
- HDR function to make images finer and smoother.
- Powerful image processing capability to realize low latency from input to output.
- Remote data transmission via a Gigabit Ethernet port or fiber optical connector.

The NovaPro UHD is a new all-in-one controller developed by NovaStar. By integrating video processing, video control and LED screen configuration functions into one controller, this product is capable of receiving a variety of video signals, processing and sending images of resolutions up to ultra HD 4K×2K@60Hz and 8K×1K@60Hz, and provides a loading capacity of 10.4 million pixels.

With the built-in Master VI smart platform, the NovaPro UHD supports layer creation, property settings, and screen configuration via simple mouse, keyboard, and monitor operations.

The NovaPro UHD supports sending of processed video to LED display through Neutrik Ethernet port or fiber optical connectors. With powerful video processing and sending capabilities, this product is well suited for high-end rental applications, stage control systems, and fine-pitch LED displays.

## Rear Panel

### Input

Connector	Quantity	Description
12G-SDI	4	Input resolution up to 4K×2K@60Hz and downward compatible. Supports 12G-SDI loop output.
DP1.2	1	Input resolution up to 4K×2K@60Hz (8K×1K@60Hz) and downward compatible. Supports HDCP 1.3.
HDMI2.0	1	Input resolution up to 4K×2K@60Hz (8K×1K@60Hz) and downward compatible Supports HDCP 1.4 and HDCP 2.2. Supports HDMI 2.0 loop output.
HDMI 1.3	4	4×HDMI 1.3, each with resolution up to 1920×1080@60Hz. The HDMI input card can be changed to D_4×DVI input card and D_4×DP 1.1 input card.

### Output

Connector	Quantity	Description
Ethernet port	16	16×Neutrik Ethernet output ports. <ul style="list-style-type: none"> <li>• Maximum loading capacity: 8.8 million pixels.</li> <li>• Maximum width: 8192 pixels.</li> <li>• Maximum height: 8192 pixels.</li> </ul>
OPT 1- 4	4	4×10G fiber optical output connectors with backup and redundancy modes. <ul style="list-style-type: none"> <li>• OPT 1 transmits data of Ethernet ports 1-8.</li> <li>• OPT 2 transmits data of Ethernet ports 9-16.</li> <li>• OPT 3 is the copy/hot backup channel for OPT 1 or Ethernet ports 1-8.</li> <li>• OPT 4 is the copy/hot backup channel for OPT 2 or Ethernet ports 9-16.</li> </ul>
MVR	1	HDMI 1.3 connector, used as monitoring connector of Multiviewer to monitor input source, PVM, PGM or perform mixed preview.
AUX	1	HDMI 1.3 connector, used as auxiliary output connector for connecting an auxiliary device, such as a teleprompter.

### Control

Connector	Quantity	Description
Ethernet	1	For PC communication or network connection.
USB	1	• USB-B: Connect to the PC for device debugging. • USB-A: A reserved port.
GENLOCK IN-LOOP	1	Connect a synchronization signal source to synchronize the cascaded devices.
USB	1	• Insert a USB drive to perform system update. • Connect a mouse or keyboard.
CONTROL GUI	1	Connect to a monitor for human-machine interaction.



# 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. • OPT 1 transmits data of Ethernet ports 1-8. • OPT 2 transmits data of Ethernet ports 9-16. • OPT 3 serves as the hot backup for OPT 1. • 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. • 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 4K×2K@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
  - 2x 3G-SDI
  - 1x HDMI 2.0
  - 4x SL-DVI
- 16 Ethernet output ports load up to 10,400,000 pixels.
- 3 independent layers
  - 1x 4K×2K main layer
  - 2x 2K×1K 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 1920×1080@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 1920×1200@60Hz. Single link DVI connector, with max. input resolution up to 1920×1200@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 3840×2160@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 1920×1080@60Hz
Control		
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.

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# VX6s



## Features

The VX6s is an all-in-one video controller that integrates sending card functions with video processing. Designed with powerful video processing capability, it supports 7 inputs and 6 Gigabit Ethernet outputs.

Based on the powerful FPGA processing platform, the VX6s supports multiple transition effects, such as quick seamless switching and fade, providing flexible display controlling and outstanding video presentations.

- Features 7 input connectors: 2×3G-SDI, 2×HDMI 1.3, 2×DVI+DVI LOOP and 1×USB playback.
- Supports 3×window.
- Supports quick and advanced screen configurations.
- Switches the PVW to PGM by pressing only the TAKE button in the switcher.
- Supports adjustment of input resolutions.
- Supports device redundancy settings.
- The maximum loading capacity of video output is 3.9 million pixels. Multiple VX6s units can be cascaded.
- Supports auto fit function of windows.
- The maximum video output width is 4096 pixels.
- A total of 16 user presets can be created and saved as templates. The templates can be used directly and conveniently.
- Any HDMI or DVI input source can be used as the synchronization signal to achieve vertical synchronization of output.
- Features an intuitive OLED screen and clear button indicator prompt in the front panel, simplifying system control and operation.

## Rear Panel

### Input

Connector	Qty	Description
<b>3G-SDI</b>	2	Supports input resolutions up to 1920×1080@60Hz and downward compatibility.
<b>USB</b>	2	Connects to a USB flash drive to play video or picture files stored in the drive. Connects to a mouse.
<b>DVI</b>	2	VESA standard. Supports input resolutions up to 1920×1200@60Hz and downward compatibility. Supports HDCP.
<b>DVI LOOP</b>	1	DVI loop output connector.
<b>HDMI</b>	2	Supports input resolutions up to 1920×1200@60Hz and downward compatibility. Supports HDCP.

### Output

Connector	Qty	Description
<b>Ethernet</b>	6	6 Ethernet outputs.
<b>Control</b>		
Connector	Qty	Description
<b>Ethernet</b>	1	Connects to the PC for communication, or to the network.
<b>USB (Type-B)</b>	1	Connects to the PC for device control. Used as the input connector for cascading devices.
<b>USB (Type-A)</b>	1	Used as the output connector for cascading devices.



# 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





# Video Processor

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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 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.
- 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.



## 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. 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



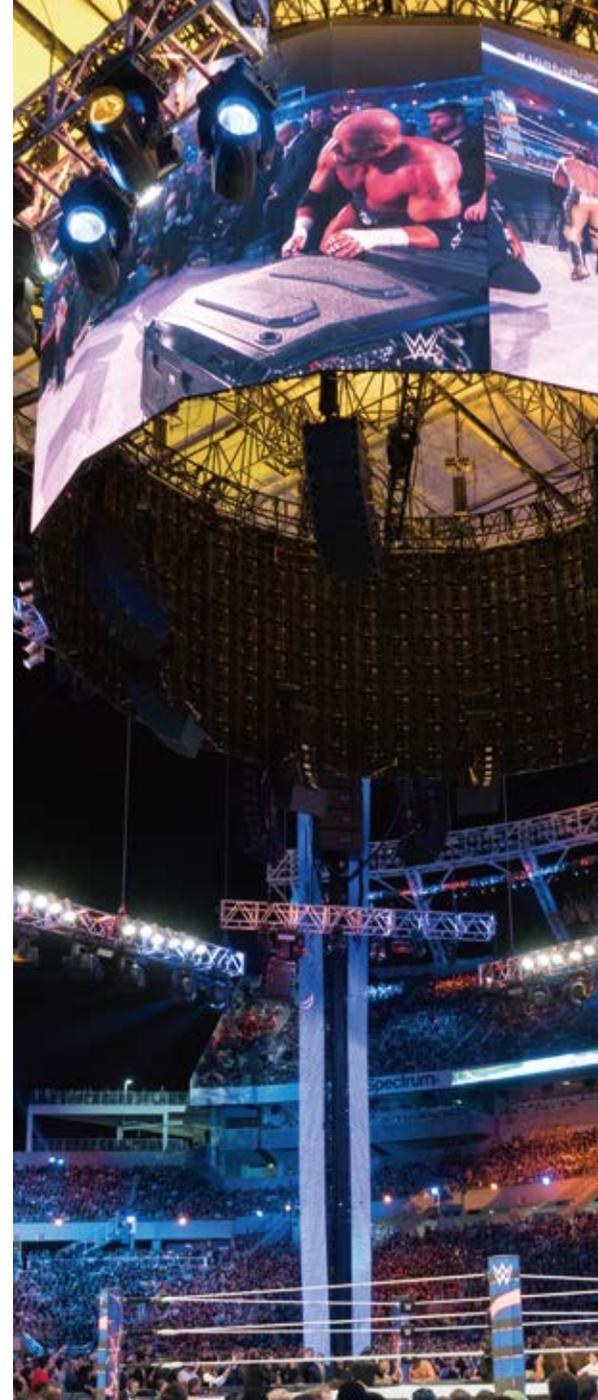
Developed by NovaStar, J6 is high-performance multi-screen splicing processor featuring enhanced image processing. Based on a powerful FPGA processing platform, J6 supports quick seamless switch of any input source and supports transition effects such as fade, etc., allowing you to experience more flexible 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
<b>HDMI1.4/DP1.1 (Choose one from these inputs)</b>	1	Supports 4K×2K@30Hz, 2560×1600@60Hz (downward compatible).
<b>HDMI/DVI(DVI-D)/SDI (Choose one from these inputs)</b>	4	VESA standard. 1920×1080@60Hz(downward compatible).
<b>HDMI/SDI (Choose one from these inputs)</b>	1	VESA standard. 1920×1080@60Hz(downward compatible).
<b>3G-SDI</b>	2	Input resolution up to 1920×1080@60Hz and downward compatible Supports 3G-SDI loop output.
Outputs		
Port	Qty	Specifications
<b>DVI(DVI-D)</b>	4 groups (8 channels)	Maximum supported resolution of each interface: 1080p (DualLink output is available for DVI1 and DVI3DualLink).
<b>HDMI(Type A)</b>	1	Supported output resolution: 1920×1080@60Hz.
Control		
Port	Qty	Specifications
<b>ETHERNET(RJ45)</b>	1	Control interface.
<b>USB(Type-B)</b>	1	Control interface for connecting upper computer.
<b>USB(Type-A)</b>	1	Interface for cascading more J6 units.

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# 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.

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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.
Control	
<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.

# HDR Master 4K



HDR Master 4K is an HDR video source generator that can transform SDR into an HDR10 video source, providing greater brightness range, richer colors and more details by using Novastar's AI dynamic range extension technology.



## Features

- AI dynamic range extension technology.**  
 Transforms SDR into HDR10.
  - Expands dynamic range intelligently: higher contrast and higher brightness.
  - Expands color gamut intelligently: bluer sky, greener grass, brighter flowers.
  - Increases bit depth from 8bit to 10bit: more details in dark parts, smoother grayscale.
  - Intelligent facial processing makes human faces more natural and realistic on LED screen.
- High quality video scaling brilliance in every pixel.**  
 The content-adaptive scaling engine employs Novastar HQ(high quality) scaling algorithm which prevents the problem of data loss and edge errors caused by zooming out and edge jaggedness and blurring problems caused by zooming in. And it also allows the image to be restored to its original likeness.
- Flexible choice that meets utterly demanding.**  
 HDR Master supports flexible interface choices, includes: one swappable input card: DP1.2×1, HDMI2.0×1, 12G-SDI×4 and two swappable output cards: one contains HDMI2.0×1, 10G optical fiber×4 and one contains HDMI2.0×1, 12G-SDI×4.
- Ingenious design for creating Intelligent visual experience.**  
 The front LCD panel enables real-time preview and RGB Parade which can be further customized into your own setting. It can meet most of your professional requirements.

## 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
1×HDMI2.0+ 4×Fiber Output Card	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.
4×12G SDI+ 1×HDMI2.0 Process Card	Connector	Qty	Description
	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.



# Video Splicing Processor

H Series Video Splicing Processor

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# 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.
  - 4x 1920×1080@60Hz
  - 2x 3840×1080@60Hz
  - 1x 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 16x 2K layers, 8x DL layers or 4x 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
Chassis	2U	5U	9U	15U
Max. Loading Capacity (LED 4K sending card)	26million pixels	39 million pixels	65 million pixels	130 million pixels
Max. Input Cards	4	10	15	30
Max. Output Cards	2	3	5	10
Irregular screen configuration	√	√	√	√
Max. Layers	A single card supports 16 layers			
Max. Presets	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_4×HDMI input card	HDMI1.3×2+HDMI1.4×2
H_1×HDMI2.0+1×DP1.2 input card	HDMI2.0×1+DP1.2×1
H_2×RJ45 IP input card	RJ45 Gigabit Ethernet ports×2
H_4×3G SDI input card	3G-SDI×4
H_2×CVBS+2×VGA input card	CVBA×2+VGA×2
H_4×VGA input card	VGA×4
H_2×DP1.1 input card	DP1.1×2
H_STD I/O card	COM×2、ETHERNET×1、I/O×3、RELAY OUT×3、IR OUT×3

### Allows for flexible configuration of output cards

Name	Description
H_16×RJ45+2×fiber sending card	RJ45 Gigabit Ethernet outputs×16+OPT outputs×2
H_2×RJ45+1×HDMI1.3 preview card	RJ45 Gigabit Ethernet outputs×2+HDMI1.3×1
H_20×RJ45 sending card	RJ45 Gigabit Ethernet outputs×20





# Multimedia Player

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# Taurus Multimedia Player



## Features

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.

- 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	TB3	TB6	TB8
<b>Loading capacity</b>	650,000	1,300,000	2,300,000
<b>Processing</b>	8 Cores 2GB RAM+8GB ROM	8 Cores 2GB RAM+8GB ROM	8 Cores 2GB RAM+8GB ROM
<b>Wifi capability</b>	Dual WiFi	Dual WiFi	Dual WiFi
<b>4G capability</b>	Optional	Optional	Optional
<b>Redundant backup</b>	✓	✓	✓
<b>Synchronous / asynchronous switching</b>	×	✓	✓
<b>Screen splicing</b>	×	✓	✓
<b>Certified</b>	✓	✓	✓
<b>Suitable applications</b>	Advertisement screens Small fixed installations Transparent screens Pole screens Mirrored screens On board screens Particular stages	Indoor fixed installations Chain stores Hotels Movie theaters Transparent screens Mirrored screens Advertisement screens	Large fixed installations

Note: Total memory 8GB, 4GB available to user



# 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 1 × Wi-Fi antenna 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	

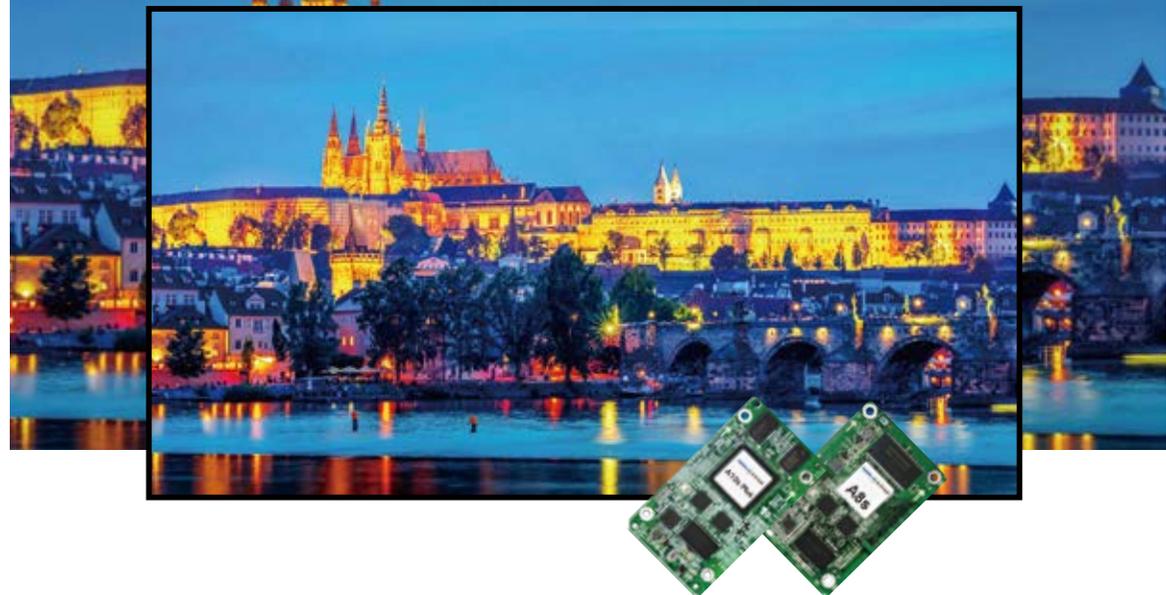


# Receiving Cards

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ARMOR Series	57
MRV Series	61

# ARMOR



## Receiving Card of Armor Series

Highly improving the image quality on the display

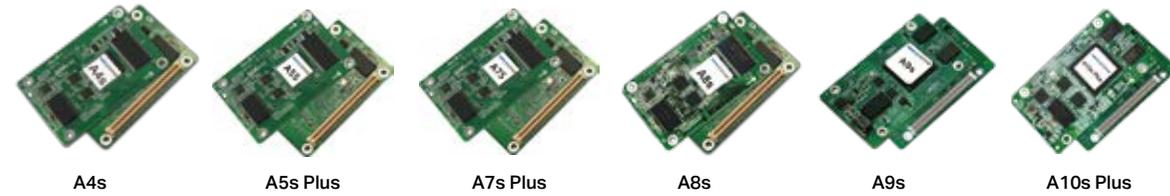
High-end mini receiving card of NovaStar Armor series, featuring a small size and full-function, supports 22bit+, Precise Grayscale and Color Management, the latest LED Image Booster technologies from NovaStar. Highly Improving image quality through the optimization of every pixel, creating an eye-pleasing 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, A10s Plus)
- **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, A10s Plus)
- **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, A10s Plus)
- **HDR10-Optima & HLG**  
Support HDR10-Optima & HLG, highly restore visual effects, and show stunning visual effects through subtle performance.  
(A8s, A10s Plus)
- **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, A10s Plus)
- **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).  
(A5s Plus, A8s, A10s Plus, 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.  
(A4s, A5s Plus, A7s Plus, A8s, A9s, A10s Plus, 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.  
(A4s, A5s Plus, A7s Plus, A8s, A9s, A10s Plus)
- **Free Screen Rotation**  
Working with the MCTRL R5, the receiving cards support screen rotation at any angles, displaying plentiful and more creative images.  
(A8s, A10s Plus)
- **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, A9s, A10s Plus)

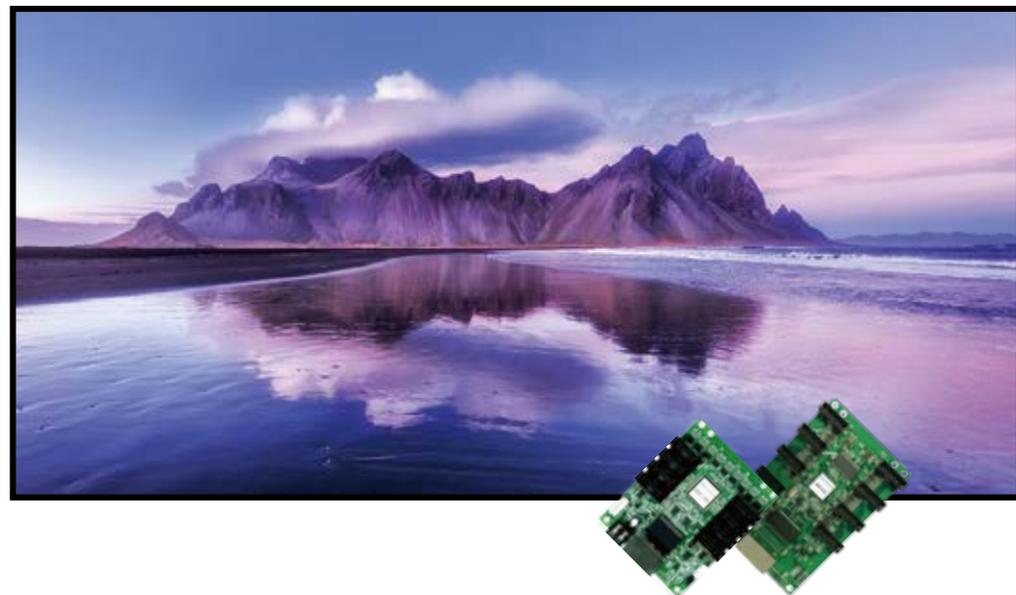
# ARMOR



Product Model	A4s	A5s Plus	A7s Plus	A8s	A9s	A10s Plus
Resolution (PWM IC)	256×256	512×384	512×512	512×384	512×512	512×512
RGB Parallel Data Group	24	32	32	32	32	32
Serial Data Group	64	64	64	64	64	64
MOM (Memory on module)	✓	✓	✓	✓	✓	✓
Smart Module	✓	✓	✓	✓	✓	✓
Receiving Card Backup	-	✓	✓	✓	✓	✓
Power Supply Backup	✓	✓	✓	✓	✓	✓
Loop Backup	✓	✓	✓	✓	✓	✓
Cabinet Monitoring LCD	✓	✓	✓	✓	✓	✓
Temperature Monitoring	✓	✓	✓	✓	✓	✓
Power Supply Monitoring	✓	✓	✓	✓	✓	✓
Monitoring of Ethernet cable communication status (Supported by dedicated firmware)	✓	✓	✓	✓	✓	✓
CE-EMC Class B	✓	✓	✓	✓	✓	✓
RoHs	✓	✓	✓	✓	✓	✓

Product Model	A4s	A5s Plus	A7s Plus	A8s	A9s	A10s Plus
<b>Maintenance Function</b>						
Firmware Copy	✓	✓	✓	✓	✓	✓
RCFG Restore and Read	✓	✓	✓	✓	✓	✓
<b>Calibration Function</b>						
Pixel level color and brightness calibration	✓	✓	✓	✓	✓	✓
Quick seam correction	✓	✓	✓	✓	✓	✓
One-Click Apply Calibration Coefficient in MOM	✓	✓	✓	✓	✓	✓
Calibration Coefficient Backup	-	✓	✓	✓	✓	✓
Auto Calibration	-	✓	✓	✓	✓	✓
<b>Performance Enhancements</b>						
Prestored Picture	✓	✓	✓	✓	✓	✓
Rotation per 90°	✓	✓	✓	✓	✓	✓
EMC Optimizing	✓	✓	✓	✓	✓	✓
LVDS Transmission	✓	✓	✓	✓	✓	✓
3D function	✓	✓	✓	✓	✓	✓
Mapping	✓	✓	✓	✓	✓	✓
LED Image Booster	18bit+	-	✓	✓	-	✓
	22bit+	-	-	-	✓	-
	Color Management	-	✓	✓	✓	-
	Precise Grayscale	-	-	-	✓	-
HDR10-Optima & HLG	-	-	-	✓	-	✓
Clear View	-	-	-	✓	-	✓
Free Rotation (with R5)	-	-	-	✓	-	✓
Low Latency	-	✓	-	✓	-	✓

# 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.

# MRV



Products Name	MRV208	MRV328	MRV266
Connector type	HUB75		HUB320
Capacity	256X256	256X256	512X256
RGB data group	16	16	24
Temperature、Voltage&Lan cable communication monitor	✓	✓	✓
Pre-saved screen Settings	✓	✓	✓
<b>Enhance display effect</b>			
Point to Point calibration	✓	✓	✓
Display 90° multiple rotating ( One key )	-	-	-
18Bit+	-	-	-
ClearView	-	-	-
Any angle rotation ( with R5 )	-	-	-
HDR10 ( with 4K )	-	-	-

<b>Enhance maintainability</b>			
Support smart module	-	-	-
Module auto calibration	-	-	-
Mapping	✓	-	✓
Module flash management	-	-	-
5pin LCD module	✓	✓	✓
One botton apply calibration coefficient to module flash	-	-	-
<b>Enhance hardware reliability</b>			
Dual card backup	-	-	-
Dual power backup	-	-	-
Hot back	✓	✓	✓
<b>Enhance software reliability</b>			
Firmware read	✓	-	✓
Calibration coefficient dual backup and recover	-	-	-
Receiving card parameter backup	✓	-	✓



## Accessories

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Fiber Converter CVT10-S / CVT10-M	67
Fiber Converter CVT4K-S / CVT 4K-M	67
Ambient Brightness Sensor NS060	68
Multifunction Card MFN300	68



### 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.
  - Fiber in and Ethernet 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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