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 500 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.

Innovation pushes industry and drives future

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

Patents (up to 2018)

605

Patent for Invention

418

Utility Model

75

PCT

11

Appearance Patent

101

Intellectual Property Rights (up to 2018)

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Trademark

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<td></td>
<td></td>
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</tr>
<tr>
<td>S1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Always on the leading edge of LED technology, NovaStar controllers are fast, sleek, and powerful.

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NovaPro UHD

Features

- Supports various input connectors, including 4 × 12G-SDI connectors with loop output functions, 1 × DP1.2 connector, and 1 × USB playback port.
- Supports 1 × replaceable input card with four connectors. The input card can be DVI, HDMI or VGA.
- Supports 8 × layers, 1 × OSD and 1 × LOGO, and the BKG is settable.
- Supports up to 2 × layers with the resolution of 4K x 2K@60HZ and 6 × layers with the resolution of 1920×1080@60HZ.
- OSD supports 4K-VR, cropping, transparency adjustment, dynamic and static images and texts, and can be placed at any position.
- Layers support transparency adjustment, irregular layers, layer mask, brightness and color keying, and layer overlapping and flipping.
- The maximum supported display width or height of a single device is up to 8K.
- Supports playing the solutions stored in USB drive.
- Supports MultiViewer monitoring settings, including preview of input sources, PVW, PGM, or mixed preview.
- Supports sending the preview content to PC for display support web control via PC, pad or phone through a wireless or wired network.
- Supports 16 × Neutrik Ethernet outputs, 4 × 10G fiber optical outputs with copy and redundancy modes.
- With the built-in smart platform Master VI, layer and screen configurations can be easily performed by using an external mouse, keyboard and monitor.

NovaPro UHD is a new all-in controller developed by novastar, by integrated video processor, Switcher, 4k sending card and control software, this product is capable of receiving various video signals, processing and sending images of the resolution up to ultra HD 4K×2K@60Hz.

NovaPro UHD is equipped with the mainstream 4K connectors in the market, and has been added some new functions, such as video transition effects. With the SMART LCT +VCAN +PLAYER, NovaPro UHD supports layer creation, property setting and screen configuration by simple mouse, keyboard or monitor operations. Whenever a mobile phone or PAD device is available, everything is under control.

NovaPro UHD supports sending the processed video to LED display through Neutrik Ethernet port, fiber optical connector or SDI connector. With powerful video processing and sending abilities, NovaPro UHD is well suited for high-end rental applica-
tions, stage control systems and small pitch LED displays.

Rear Panel

<table>
<thead>
<tr>
<th>Connector</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12G-SDI</td>
<td>4</td>
<td>Supports input resolution up to 4K×2K(60HZ) and downward compatibility. Supports 12G-SDI Loop output.</td>
</tr>
<tr>
<td>DP1.2</td>
<td>1</td>
<td>Supports input resolution up to 4K(60HZ) and downward compatibility. Supports HDCP1.3.</td>
</tr>
<tr>
<td>HDMI2.0</td>
<td>1</td>
<td>Supports input resolution up to 4K×2K(60HZ) and downward compatibility. Supports HDCP1.4 and HDCP2.2. Supports HDMI2.0 Loop output.</td>
</tr>
<tr>
<td>DVI</td>
<td>4</td>
<td>Four DVI interfaces adopt plug-in design for connecting different input cards according to users’ needs. HDMI optical cards, Dual-link DVI input cards are supported. Supports HDCP1.4 in all layers.</td>
</tr>
<tr>
<td>USB</td>
<td>1</td>
<td>Supports USB playback.</td>
</tr>
</tbody>
</table>

Output

<table>
<thead>
<tr>
<th>Connector</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber optical connector</td>
<td>4</td>
<td>Supports 4 × 10G fiber optical output connectors with backup and redundancy modes</td>
</tr>
<tr>
<td>HDMI</td>
<td>1</td>
<td>1 × HDMI used as the monitoring connector of MultiViewer to preview input source. 1 × USB for system upgrade.</td>
</tr>
<tr>
<td>AUX</td>
<td>1</td>
<td>1 × AUX is used as an auxiliary output for connecting devices such as a projector.</td>
</tr>
</tbody>
</table>

Control

<table>
<thead>
<tr>
<th>Connector</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>1</td>
<td>Connects to the PC for communication, or to the network.</td>
</tr>
<tr>
<td>USB (Type-A)</td>
<td>1</td>
<td>It can be used as the input for cascading devices.</td>
</tr>
<tr>
<td>Genlock IN</td>
<td>1</td>
<td>It is used for Genlock signal input.</td>
</tr>
<tr>
<td>Genlock LOOP</td>
<td>1</td>
<td>It is used for Genlock signal output.</td>
</tr>
<tr>
<td>USB (Type-B)</td>
<td>1</td>
<td>It is used for sending the solutions or perform system upgrade.</td>
</tr>
<tr>
<td>GUI</td>
<td>1</td>
<td>Connects to a monitor for human-machine interaction.</td>
</tr>
</tbody>
</table>
Features

- The inputs of the NovaPro HD include CVBS, VGA, SDI, HDMI and DP. They support input resolution up to 1080p@60Hz. Highest pixel clock is 165MHz. Output bandwidth is up to 4GBit.
- Advanced de-interlacing motion adaptive processing technology is adopted so that images are clear and fine. And with HDMI, the gray scale depth can be up to 12bits.
- Each input can be fully configured with contrast, brightness, hue, saturation, and RGB gain. Inputs can be scaled up or down to fit the LED display resolution.
- Computer software for system configuration is not necessary. The system can be configured using one wheel and one button. All can be done just by fingers. That’s what we called Touch Track! You can also configure the system with browsers. This gives you the option of using a remote PC (Windows or Mac or Linux), a pad or even a smart phone to do the configuration. Real-time previews assist with system set-up and confirm source status.

Input

<table>
<thead>
<tr>
<th>Port</th>
<th>Amount</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVBS</td>
<td>3</td>
<td>PAL/NTSC</td>
</tr>
<tr>
<td>VGA</td>
<td>3</td>
<td>VESA standard</td>
</tr>
<tr>
<td>DVI</td>
<td>2</td>
<td>VESA standard (support 1080p) and support HDCP</td>
</tr>
<tr>
<td>HDMI</td>
<td>4</td>
<td>DVI-1.0, DVI-1.2, standard, supporting DVI-1.3, and supporting HDCP</td>
</tr>
<tr>
<td>DP</td>
<td>1</td>
<td>VESA standard</td>
</tr>
<tr>
<td>3G-SDI</td>
<td>4</td>
<td>480i, 720i, 1080p – 3G-SDI</td>
</tr>
</tbody>
</table>

Input index

<table>
<thead>
<tr>
<th>Port</th>
<th>Amount</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVBS</td>
<td>3</td>
<td>PAL/NTSC</td>
</tr>
<tr>
<td>VGA</td>
<td>3</td>
<td>VESA standard</td>
</tr>
<tr>
<td>DVI</td>
<td>2</td>
<td>VESA standard (support 1080p) and support HDCP</td>
</tr>
<tr>
<td>HDMI</td>
<td>4</td>
<td>DVI-1.0, DVI-1.2, standard, supporting DVI-1.3, and supporting HDCP</td>
</tr>
<tr>
<td>DP</td>
<td>1</td>
<td>VESA standard</td>
</tr>
<tr>
<td>3G-SDI</td>
<td>4</td>
<td>480i, 720i, 1080p – 3G-SDI</td>
</tr>
</tbody>
</table>

Output index

<table>
<thead>
<tr>
<th>Port</th>
<th>Amount</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVI</td>
<td>2</td>
<td>1280×1024/60Hz – 1440×900/60Hz</td>
</tr>
<tr>
<td>HDMI</td>
<td>7</td>
<td>3G SDI – 720p/1080p – 3G SDI</td>
</tr>
<tr>
<td>DP</td>
<td>1</td>
<td>View-defined output resolution (bandwidth optimization) Horizontal resolution maximum 3840 pixels Vertical resolution maximum 1080 pixels</td>
</tr>
</tbody>
</table>

The NovaPro HD is a professional LED display controller. Besides the function of display control, it also features in powerful front-end processing, so an external scaler is no longer needed. With professional interfaces integrated, NovaPro HD meets the requirements of broadcast industry, in image quality and in control.
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 10 video 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 and 1.3, 2 × DVI and 1 × USB playback.
- 3 × window and 1 × OSD.
- Switches the PVM to PGM by pressing only the TAKE button in the switcher.
- Supports adjustment of input resolutions.
- 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.
- Supports input resolutions up to 1920×1080@60Hz and downward compatibility.
- Connects to a USB flash drive to play video or picture files stored in the drive.
- Connects to a mouse.
- Connects to a PC for communication, or to the network.
- Connects to the PC for device control. Used as the input connector for cascading devices.
- Used as the output connector for cascading devices.
- Supports adjustment of input resolutions up to 1920×1200@60Hz and downward compatibility. Supports HDCP.
- Supports 6 Ethernet outputs.

**Controller**

**Input**

<table>
<thead>
<tr>
<th>Connector</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3G-SDI</td>
<td>2</td>
<td>Supports input resolutions up to 1920×1080@60Hz and downward compatibility.</td>
</tr>
<tr>
<td>USB</td>
<td>2</td>
<td>Connects to a USB flash drive to play video or picture files stored in the drive.</td>
</tr>
<tr>
<td>DVI</td>
<td>2</td>
<td>Supports input resolutions up to 1920×1200@60Hz and downward compatibility. Supports HDCP.</td>
</tr>
<tr>
<td>HDMI</td>
<td>2</td>
<td>Supports input resolutions up to 1920×1200@60Hz and downward compatibility. Supports HDCP.</td>
</tr>
</tbody>
</table>

**Output**

<table>
<thead>
<tr>
<th>Connector</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>6</td>
<td>Gigabit Ethernet outputs.</td>
</tr>
</tbody>
</table>

**Control**

<table>
<thead>
<tr>
<th>Connector</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>1</td>
<td>Connects to the PC for communication, or to the network.</td>
</tr>
<tr>
<td>USB (Type-B)</td>
<td>1</td>
<td>Connects to the PC for device control. Used as the input connector for cascading devices.</td>
</tr>
<tr>
<td>USB (Type-A)</td>
<td>1</td>
<td>Used as the output connector for cascading devices.</td>
</tr>
</tbody>
</table>
**Features**

- The inputs of the VX4U include CVBS×2, VGA×2, DVI×1, HDMI×1, DP×1 and USB×1. The supported input resolution is up to 1920×1200@60Hz. The input images of VX4U can be zoomed point-to-point according to the resolution of LED display.
- With seamless quick switching and fade-in/out effects to enhance and present pictures of professional quality.
- The location and size of PIP (Picture in Picture) are adjustable, which can be controlled at will.
- The input images of VX4U can be zoomed point-to-point according to the resolution of LED display.
- Adopts NovaStar G4 engine. The screen is stable and flicker free without scanning lines. Images are exquisite and have a good sense of depth.
- Able to perform white balance calibration and color gamut mapping based on the different features of LEDs used by screens to ensure reproduction of true colors.

**Rear Panel**

- Controller

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<tr>
<th>Input index</th>
<th>Port Qty</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVBS</td>
<td>2</td>
<td>PAL/NTSC</td>
</tr>
<tr>
<td>VGA</td>
<td>2</td>
<td>VESA Standard, support max. 1920×1200@60Hz input</td>
</tr>
<tr>
<td>DVI</td>
<td>1</td>
<td>VESA Standard, support HDCP</td>
</tr>
<tr>
<td>USB</td>
<td>1</td>
<td>Multimedia bi-directional input, power, data, sync</td>
</tr>
<tr>
<td>HDMI</td>
<td>1</td>
<td>EIA/CEA-958-B standard, supports standard HDMI 1.4 standard, support HDCP</td>
</tr>
<tr>
<td>DP</td>
<td>1</td>
<td>VESA Standard</td>
</tr>
</tbody>
</table>

- Output index

<table>
<thead>
<tr>
<th>Output index</th>
<th>Port Qty</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVI LOOP</td>
<td>1</td>
<td>Consistent with DVI input</td>
</tr>
<tr>
<td>VGA</td>
<td>1</td>
<td>Max. output: 1920×1200@60Hz (2.3 million pixels)</td>
</tr>
<tr>
<td>DVI</td>
<td>1</td>
<td>Max. horizontal resolution up to 1920 pixels, vertical resolution up to 1200 pixels</td>
</tr>
</tbody>
</table>

**Specifications**

- **Input**
  - **Audio Input**
    - CVBS
    - VGA
    - DVI
    - USB
    - HDMI
    - DP
  - **HDMI/External Audio Input**
    - Multimedia bi-directional input, power, data, sync
  - **Loading Capacity of Video Output**
    - 2.3 million pixels
  - **Supports Multiple Controller Montage for Loading Huge Screen**
  - **Supports NovaStar’s New-Generation Pixel-by-Pixel Calibration Technology and the Calibration is Fast and Efficient**
  - **Adopts an Innovative Design to Enable Smart Configuration**
    - Screen settings can be completed within several minutes, which greatly shortened the preparation time.
    - With an intuitive LCD interface and clear button indicator lights to simplify the control of the system.
Features

- The inputs of the VX4S include CVBS×2, VGA×2, DVI×1, HDMI×1, DP×1 and SDI×1. They support input resolution up to 1920×1080@60Hz, the input images of VX4S can be zoomed point-to-point according to the screen resolution.
- Provide seamless high-speed switching and fade-in/fade-out effect so as to strengthen the display picture demonstration of professional quality.
- The location and size of PIP can both be adjusted, which can be controlled at will.
- Adopts the NovaStar G4 engine; the screen is stable and flicker free without scanning lines; the images are exquisite and have a good sense of depth.
- White balance calibration and color gamut mapping based on different features of LEDs used by screens to ensure reproduction of true colors.
- HDMI/external audio input.
- 10bit/8bit HD video source; the loading capacity: 2.3 million pixels.
- Support multiple controller montage for loading huge screen.
- Support NovaStar’s new-generation point-by-point calibration technology; the calibration is fast and efficient.
- Computer software for system configuration is not necessary. The system can be configured using one knob and one button. All operations can be done in a few steps.

Specifications

Input index
Port Number Resolution specification
CVBS 2 VGA: Standard support max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 480i, 576i, 720p, 1080i/p
DVI 2 HDMI: Standard support max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 480i, 576i, 720p, 1080i/p
SDI 1 HD-SDI: Standard in accordance with EIA/CEA-861 standard, support HDCP
HDMI 1 Standard support max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 480i, 576i, 720p, 1080i/p
DP 1 DVI: Standard support max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 1920×1080@60Hz, max. 1920×1200@60Hz, max. 480i, 576i, 720p, 1080i/p
Output index
Port Number Resolution specification
DVI LOOP 1 Consistent with DVI input
VGA 1 Consistent with CVBS input
DVI 1 Consistent with DVI input
SDI 1 Consistent with SDI input
**MCTRL4K**

**Features**

- **HDR 10** (High Dynamic Range) - The MCTRL4K controller with A8s or A10s receiving cards offers an excellent solution to precisely parse HDR video sources.
- **HLG** - HLG is a standard for HLG (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 eye. And no metadata is required for real-time transmission.
- **3D × Three Dimensional** - MCTRL4K can support 3D content via adding one NOVA 3D External Emitter EM7225 and updating the program.
- **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 during dual-link DVI input**: mosaic and multi-card;
- **Innovative design** to enable smart configuration without PC which has greatly shortened the time for stage preparation;
- **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 uniform control.**

**Specifications**

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP</td>
<td>1</td>
<td>DP 1.2 standard</td>
</tr>
<tr>
<td>HDMI</td>
<td>1</td>
<td>HDMI 2.0 standard</td>
</tr>
<tr>
<td>Dual-link DVI</td>
<td>2</td>
<td>Dual-link DVI standard</td>
</tr>
</tbody>
</table>

**Input Index**

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT1</td>
<td>16</td>
<td>Neutrik Gigabit Ethernet</td>
</tr>
</tbody>
</table>

**Output Index**

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Resolution specification</th>
</tr>
</thead>
</table>
| OPT1 | 4   | Optical fiber port, single-mode and double fiber, LC connector, 1310nm OPT2 is used for connecting the devices of port 1-8; OPT3 is used for connecting the devices of port 9-16; 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.
MCTRLR5 is an independent master controller developed by NovaStar with an epoch-making significance. Its flexible rotation function allows users to make their LED displays more creative. The loading capacity of a single unit is up to 3840×1080@60Hz. MCTRLR5 can meet the on-site requirements of oversized LED displays. With a unique innovative design, it enables screen configuration any time without the need for a computer. Various video inputs such as HDMI, dual-link DVI, SDI and outputs of 8-channel Neutrik Gigabit Ethernet as well as 2-channel optical fiber are supported. MCTRLR5 also can serve as two independent controllers, which makes it more flexible to load LED displays and creates a stunning experience for users.

### Features

- **Complete video inputs:** 6G-SDI, HDMI 1.4×1, dual-link DVI×1.
- **Support simultaneous output of 8-way Neutrik Gigabit Ethernet port and 2-way fiber port with single-device load up to 3840×1080@60Hz.**
- **Images can be rotated with any angle at any area on the screen. Cabinet, port and screen rotation operation become much easier.**
- **Innovative design enabling smart configuration and greatly shortening the preparation time.**
- **Supports NovaStar’s latest pixel level calibration technology with a fast and efficient process.**
- **Enables white balance calibration and color gamut mapping based on the different features of LEDs on the display to ensure colors are faithfully reproduced.**
- **Screen configuration can be done at any time without the need for a computer.**
- **Manual adjustment of screen brightness with convenience and efficiency.**
- **USB port of the front panel can be used for firmware upgrade.**
- **Status display showing cabinet status in a more intuitive way.**
- **Multiple MCTRLR5 units can be cascaded for uniform control.**

### Specifications

#### Inputs

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Resolution specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>6G-SDI</td>
<td>1</td>
<td>Maximum supported resolution: 3840×1080@60Hz (downward compatibility).</td>
</tr>
<tr>
<td>HDMI</td>
<td>1</td>
<td>HDMI 1.4 standard. Maximum supported resolution: 3840×1080@60Hz (downward compatibility).</td>
</tr>
<tr>
<td>Dual-link DVI</td>
<td>1</td>
<td>VESA standard. Maximum supported resolution: 3840×1080@60Hz and 3840×2160@30Hz (downward compatibility).</td>
</tr>
</tbody>
</table>

#### Outputs

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ45</td>
<td>6</td>
<td>Neutrik Gigabit Ethernet port.</td>
</tr>
<tr>
<td>OPT</td>
<td>2</td>
<td>Optical fiber port, single mode dual fiber. LC port, 1310nm. OPT1 is used for transferring the data of port 1-8. OPT2 is the backup channel of OPT1. Both Gigabit Ethernet port and fiber port can be connected to the device simultaneously in one operation.</td>
</tr>
</tbody>
</table>

#### Control

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHERNET</td>
<td>1</td>
<td>Control interface.</td>
</tr>
<tr>
<td>USB</td>
<td>2</td>
<td>Connectivity interface of upper computer and cascading interface.</td>
</tr>
</tbody>
</table>

#### In

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>Service type: BlackKeep. Genlock synchronization signal keeping pictures being displayed on the screen in sync with external Genlock source.</td>
</tr>
<tr>
<td>LOOP</td>
<td>Service looped.</td>
</tr>
</tbody>
</table>
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.
- 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.
- Support for 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

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.

Input

<table>
<thead>
<tr>
<th>Connector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVI IN</td>
<td>Single-link DVI connector</td>
</tr>
<tr>
<td>DVI LOOP</td>
<td>Loop output connector</td>
</tr>
<tr>
<td>HDMI IN</td>
<td>HDMI 1.4a compliant</td>
</tr>
<tr>
<td>HDMI LOOP</td>
<td>HDMI loop output</td>
</tr>
<tr>
<td>3G-SDI IN</td>
<td>SMPTE ST-255-1 Level A&amp;B, SMPTE ST-274, ST-296, ST-295 compliant</td>
</tr>
<tr>
<td>3G-SDI LOOP</td>
<td>SMPTE ST-255-1 Level A&amp;B, SMPTE ST-274, ST-296, ST-295 compliant</td>
</tr>
<tr>
<td>HDMI IN</td>
<td>HDMI 1.4a compliant</td>
</tr>
<tr>
<td>HDMI LOOP</td>
<td>HDMI loop output</td>
</tr>
</tbody>
</table>

Output

<table>
<thead>
<tr>
<th>Connector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONITOR</td>
<td>Connects to monitor to monitor the inputs. The output resolution is 1920×1080@60Hz.</td>
</tr>
<tr>
<td>3G-SDI IN</td>
<td>SMPTE ST-255-1 Level A&amp;B, SMPTE ST-274, ST-296, ST-295 compliant</td>
</tr>
<tr>
<td>3G-SDI LOOP</td>
<td>SMPTE ST-255-1 Level A&amp;B, SMPTE ST-274, ST-296, ST-295 compliant</td>
</tr>
<tr>
<td>USB IN</td>
<td>Input port for connecting devices, or connecting to PC</td>
</tr>
<tr>
<td>USB OUT</td>
<td>Output port for connecting devices, up to 8 MCTRL660 PRO units can be cascaded</td>
</tr>
</tbody>
</table>

Power

- Power: 100–240V AC

Controller

- O.P.T.: The 6 Gigabit Ethernet ports work as the corresponding output ports, and the 2 Ethernet ports work as the primary input or output ports. The 2 Ethernet ports work as the backup input or output ports.
- O.F.T.: Both the 2 Ethernet ports work as the primary input or output ports, or the 2 Ethernet ports work as the backup input or output ports. The 2 Gigabit Ethernet ports work as the primary or backup output ports of the whole system. The output image is input ports, the 2 Ethernet ports work as the backup input ports, and the output ports work as the primary output ports.
Features

- The inputs of the S1 includes 3G-SDI×1, HDMI×1, DVI×1 and support input resolutions up to 3840×1080@60Hz.
- The outputs of the S1 includes BNC×2 pairs.
- Zero latency feature, the whole system includes S1 and TR100 only 1 frame.
- Support pixel-level calibration technology.
- Support Mapping.
- Support the hardware backup solution.
- The system can be configured with a knob and solution on the front panel. Computer software for system configuration is not necessary.
- The OLED display makes operations much easier.

With multiple I/O and coaxial interfaces, controller S1 is ideal for different applications. It has higher data transmission bandwidth. One S1 controller can support 3840×1080@60Hz making the LED display connection simpler. Benefiting from the SerDes technology, controller S1 has zero latency and is especially designed for high-end LED display applications.

### Rear Panel

#### Input

<table>
<thead>
<tr>
<th>Interface</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3G-SDI×1</td>
<td>Single 3G-SDI, lower allowed resolution settings. Horizontal resolution up to 3840 pixels</td>
</tr>
<tr>
<td>HDMI×1</td>
<td>Supports 1080p@60Hz, 3840×2160@30Hz, etc.</td>
</tr>
<tr>
<td>DVI×1</td>
<td>Supports 1080p@60Hz, 3840×2160@30Hz, etc.</td>
</tr>
<tr>
<td>BNC×4</td>
<td>Supports 1080p@60Hz, 3840×2160@30Hz, etc.</td>
</tr>
</tbody>
</table>

#### Output

<table>
<thead>
<tr>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNC×4</td>
<td>2-channel outputs and 2-channel inputs, with each pair channel supports bandwidth up to 3.25G and can load 1080p full screen. Zero latency. The maximum transmission distance of the coaxial cable is 120 meters.</td>
</tr>
</tbody>
</table>

#### GenLock

<table>
<thead>
<tr>
<th>Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN×1</td>
<td>Synchronization of digital timing pictures being displayed on the screen in sync with external GenLock source.</td>
</tr>
<tr>
<td>LOOP×1</td>
<td>Synchronize loop back.</td>
</tr>
</tbody>
</table>

#### Control

- USB2.0 (4 in 1) and 10BaseT (Ethernet) (RJ45) (Optional) (Option 1/2/3/4) |

#### Switch

- IN×1:4×1000W, AC 50/60Hz (Optional) | 4: AC power interface.
Video Processor

Power, stability, and easy integration. You really can have it all.
Developed by NovaStar, J6 is the latest 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×CVBS/VGA/DVI/DMX (allowing you to choose any one of these 4 interfaces), 1×DualLink DVI/EDID 1.4/DP1.1 (allowing you to choose any one of these three interfaces).
- Input resolution: 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.
- The preview interface adopts 10 psus 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

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVI×1(D-3)</td>
<td>4</td>
<td>Supports 4K×2K@60Hz, 2560×1600@60Hz (downward compatible)</td>
</tr>
<tr>
<td>DVI×1(D-5)</td>
<td>4</td>
<td>Supports 4K×2K@60Hz (downward compatible)</td>
</tr>
<tr>
<td>CVBS/BNC/RGB/UXGA/UIA</td>
<td>1</td>
<td>1354×1080@60Hz (downward compatible)</td>
</tr>
</tbody>
</table>

#### Outputs

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDI-LoopBNC</td>
<td>2</td>
<td>480i, 576i, 720p, 1080i/p (3G-SDI), same as SDI input</td>
</tr>
<tr>
<td>HDMI(Type A)</td>
<td>1</td>
<td>Supported output resolution: 1920×1080@60Hz</td>
</tr>
</tbody>
</table>

#### Control Interface

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHERNET(LAN)</td>
<td>1</td>
<td>Connection interface</td>
</tr>
<tr>
<td>USB(Type-A)</td>
<td>1</td>
<td>Interface for connecting upper computer</td>
</tr>
<tr>
<td>USB(Type-A)</td>
<td>1</td>
<td>Interface for cascading more J6 units</td>
</tr>
</tbody>
</table>

---

J6 Video Processor

Developed by NovaStar, J6 is the latest 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.

Supports a wide range of video inputs divided into 4 groups with 8 interfaces, including 1×CVBS/VGA/DVI/DMX (allowing you to choose any one of these 4 interfaces), 1×DualLink DVI/EDID 1.4/DP1.1 (allowing you to choose any one of these three interfaces).

Input resolution: 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.

The preview interface supports 10 presets which are saved as templates and can be used directly and easily.

Supports 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.
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.

### Specifications

<table>
<thead>
<tr>
<th>Port and Button</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet (RJ45)</td>
<td>1</td>
<td>Used to update program, or connect to the upper computer</td>
</tr>
<tr>
<td>USB</td>
<td>1</td>
<td>Used to update program, or connect to the upper computer</td>
</tr>
<tr>
<td>U-DISK</td>
<td>1</td>
<td>Connects to a USB drive to import multimedia</td>
</tr>
<tr>
<td>Monitor</td>
<td>1</td>
<td>RS-232 input/output connector which can transmit commands to the lower computer</td>
</tr>
<tr>
<td>RS232</td>
<td>1</td>
<td>A control connector that connects to the upper computer</td>
</tr>
<tr>
<td>Reset button</td>
<td>1</td>
<td>A button reset button used to reset and reboot the C1</td>
</tr>
</tbody>
</table>

### Features

- **Support two LCD screens**: one for monitoring the other touchscreen for operating. During operating, users can view 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.
- **Support control of up to 16 terminal devices**.
- **C1 support J6, N9**.
- **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, and setting of layer size and position under each preset**.
- **Supports layers, 1xOSD, 1xBKG, and 1xLOGO**.
- **Supports configurations of shape layers and layer size**.
- **Supports layer adding with one button press, layer cleaning with one button press, and moving a layer to the front or back with one button press**.
- **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**.
- **Supports 13 transition effects and settings of transition duration**.
- **Supports adjustment of the joystick’s sensitivity**.
- **Supports manual adjustment of the fade transition effect of layers by using the T-Bar**.
- **Supports remote or live control of terminal video processors through RJ45, RS232**.
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 be cascaded to an RPK 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; 1×Dual link input of Dual link DVI-D (DP1.1) or HDMI1.4 input card with the resolution up to 3840×1080@60Hz, 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, 1920×1080, 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.
- Provides Genlock synchronization and synchronization with any input source.

### Rear Panel

**Inputs**

- DP1.1, 3840×2160@60Hz and downward compatible.
- 1×DP1.2 with the resolution up to 3840×2160@60Hz, 1×SDI with the resolution up to 1920×1080@60Hz, 1×Dual link input of Dual link DVI-D (DP1.1) or HDMI1.4 input card with the resolution up to 3840×1080@60Hz, 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 year can reach 3840×2160, 1920×1080, 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.

**Outputs**

- HDMI, 3840×2160@60Hz and downward compatible.
- DVI1, 1920×1080@60Hz and downward compatible.
- DVI2, 1920×1080@60Hz and downward compatible.
- DVI3, 1920×1080@60Hz and downward compatible.
- DVI4, 1920×1080@60Hz and downward compatible.
- DVI5, 1920×1080@60Hz and downward compatible.
- DVI6, 1920×1080@60Hz and downward compatible.
- DVI7, 1920×1080@60Hz and downward compatible.
- DVI8, 1920×1080@60Hz and downward compatible.
- DVI9, 1920×1080@60Hz and downward compatible.
- Aux1, 1920×1080@60Hz and downward compatible.
- Aux2, 1920×1080@60Hz and downward compatible.
- Aux3, 1920×1080@60Hz and downward compatible.
- Aux4, 1920×1080@60Hz and downward compatible.
- HDMI1/HDMI2, 1920×1080@60Hz and downward compatible.
- DVI1/2 LOOP, 1920×1080@60Hz and downward compatible.
- DVI3/4 LOOP, 1920×1080@60Hz and downward compatible.
- DVI5/6 LOOP, 1920×1080@60Hz and downward compatible.
- DVI7/8 LOOP, 1920×1080@60Hz and downward compatible.
- DVI9 LOOP, 1920×1080@60Hz and downward compatible.
- Aux1 LOOP, 1920×1080@60Hz and downward compatible.
- Aux2 LOOP, 1920×1080@60Hz and downward compatible.
- Aux3 LOOP, 1920×1080@60Hz and downward compatible.
- Aux4 LOOP, 1920×1080@60Hz and downward compatible.
- Aux5 LOOP, 1920×1080@60Hz and downward compatible.
- Aux6 LOOP, 1920×1080@60Hz and downward compatible.
- Aux7 LOOP, 1920×1080@60Hz and downward compatible.
- Aux8 LOOP, 1920×1080@60Hz and downward compatible.
- Aux9 LOOP, 1920×1080@60Hz and downward compatible.

**Control**

- ETHERNET (10/100): A control connector.
- USB (type A): connects to the upper computer.
- USB (type B): connects to the upper computer.
- Gototh-Loop: connects to synchronization signal to synchronize cascaded units.
Receiving Cards

Rethinking what one little card can do.
The high-end and small-size receiving cards of Armor series developed by NovaStar uses multiple unique LED display image processing technologies, such as 18bit+ and ClearView, to greatly improve the display image quality, make the image attractive and vivid, and the display value more visible.

**HDR 10**
The high-end and small-size receiving cards of Armor series developed by NovaStar uses multiple unique LED display image processing technologies, such as 18bit+ and ClearView, to greatly improve the display image quality, make the image attractive and vivid, and the display value more visible.

**(A8s, A10s)**

**LVDS Transmission**
Use the transmission mode of low-voltage differential signaling (LVDS), realizing less data cables between the receiving cards’ HUB board and module, longer transmission distance, higher signal transmission quality, better EMC effect and more stable image output.

**(A4s, A5s, A7s, A8s, A9s, A10s, Supported by dedicated firmware)**

**18bit+**
Effectively avoid grayscale loss caused by brightness reduction and improve the grayscale performance under low brightness, displaying more exquisite and expressive images.

**(A8s, A10s)**

**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)**

**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)**

**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).

**(A8s, A10s, Supported by dedicated firmware)**

**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, A7s, A8s, A9s, A10s)**

**HLG**
HLG is a standard for HDR (High Dynamic Range), which can capture high dynamic range images directly, making the images 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.

**(A8s, A10s)**

**Highly improving the image quality on the display**
For detailed function comparison, please see next page.
## Product Model

<table>
<thead>
<tr>
<th>Product Model</th>
<th>A4s</th>
<th>A5s</th>
<th>A7s</th>
<th>A8s</th>
<th>A9s</th>
<th>A10s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution (PWM IC)</td>
<td>256×256</td>
<td>256×256</td>
<td>32×256</td>
<td>32×256</td>
<td>32×128</td>
<td>32×128</td>
</tr>
<tr>
<td>RGB Parallel Data Group</td>
<td>24</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Serial Data Group</td>
<td>24</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>MOM (Memory on module)</td>
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<td>✓</td>
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<td>✓</td>
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</tr>
<tr>
<td>Smart Module</td>
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<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Receiving Card Backup</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Power Supply Backup</td>
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<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Loop Backup</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Cabinet Monitoring LCD</td>
<td>✓</td>
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<td>✓</td>
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</tr>
<tr>
<td>Temperature Monitoring</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
</tr>
<tr>
<td>Power Supply Monitoring</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Monitoring of Ethernet cable communication status (Support only dedicated firmware)</td>
<td>✓</td>
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<td>✓</td>
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<td>✓</td>
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</tr>
<tr>
<td>CE-EMC Class B</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

## Firmware Copy

| Maintenance Function | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## Calibration Function

| Calibration Coefficient Backup | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Quick seam correction          | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| One-Click Apply Calibration Coefficient in MOM | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Auto Calibration               | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## Performance Enhancements

| Performance Enhancements | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 3D function               | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 18bit+                     | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ClearView                  | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Live latency               | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| HDR                        | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
Receiving Card

TR100

TR100, a new generation of receiving card with coaxial connectors as the transmission media, features higher pixels drive capacity up to 384×384, and supports 1.0/2.3 connector which ensures more reliable system connection and data transmission. Benefiting from the SerDes technology, TR100 has the lower latency feature (1 frame).

Features

- Support 32-group of RGB data output per single card.
- Support 384×384 resolution per single card.
- Support configuration file reading back.
- Support smart module with the functions of storing and managing information like calibration coefficients, module information, module parameters etc. as well as flat cable detection and LED pixel-by-pixel error detection without monitoring card.
- Support module Flash management and allows for storage of calibration coefficients and module information.
- Support various hot backups such as hardware backup, dual card backup, dual power backup etc. and seamless switching.
- Support bi-lattice feature.
- Support voltage and temperature detection.
- Support 18bit grey-level output.
- Support pixel-level calibration.
- Support pre-store picture setting for the receiving card.
- Support dual backup of display parameters.
- Able to apply module Flash calibration coefficients through one click.
- Support LCD Human-Computer Interaction (HCI).
- Support Mapping which will display the serial number and port number of the current cabinet.
- Support dual backup of calibration coefficients.
- Support backup and read back of the firmware program.
- With specific EMC design to effectively reduce electromagnetic radiation.

RoHS

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Sometimes even the best products need a helping hand. NovaStar’s accessories are designed to work seamlessly with our products.

- Fiber Converter CVT310 / CVT320
- Fiber Converter CVT4K-S / CVT 4K-M
- Ambient Brightness Sensor NS060
- Multifunction Card MFN300
- Fiber Converter CVT-Rack310 / CVT-Rack320
- Ambient Temperature Sensor MTH310
- Monitoring Card MON300
Fiber Converter CVT310 / CVT320

- Supports 15-channel Neutrik Ethernet outputs.
- Supports 4-channel optical fiber interfaces (3G 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 310 is 10km, by using single-mode dual-core optic fiber with LC interface.
- Certification: EMC, CE, UL/CUL, RoHS, FCC.

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, CE, UL/CUL, RoHS, FCC.

Fiber Converter CVT310 / CVT320

- Supports 15-channel Neutrik Ethernet outputs.
- Supports 4-channel optical fiber interfaces (3G 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 310 is 10km, by using single-mode dual-core optic fiber with LC interface.
- Certification: EMC, CE, UL/CUL, RoHS, FCC.

Ambient Brightness Sensor NS060

- Ambient brightness detect.
- 256 levels of auto brightness adjustment.
- Sending card (MCTRL300, MCTRL600, MCTRL900) or multifunction 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.
16 optic fiber interface.
TE1.4RS
Power supply: 100 ~ 240V AC 50/60Hz.
No need to install the drivers.
CVT-Rack310: Transmission distance up to 300m, by using multi-mode dual-core optic fiber with LC interface.
CVT-Rack320: Transmission distance up to 15km, by using single-mode dual-core optic fiber with LC interface.
Certification: CE, RoHs, IC

Fiber Converter
CVT-Rack310 / CVT-Rack320

Ambient Temperature Sensor MTH310
- Detect ambient temperature.
- Multi-function card supported.
- 5m standard cable, 100 meters extend.
- Waterproof.
- Certification: CE, RoHs, FCC

Cabinet temperature, humidity and smoke monitoring.
8 power supply voltage monitoring.
Ribbon cable status monitoring.
Cabinet door open/close status monitoring.
4 fan speed monitoring.
LED error status monitoring.
Certification: CE, RoHs
Regional Office

Europe Office
Kruisweg 643-647, 2132 NC Hoofddorp, the Netherlands
+31 (0) 23 303 36 82
europe@novastar.tech

North America Office
Room 4010, 5050 Howard Hughes Parkway #500, Las Vegas, NV 89169, USA
northamerica@novastar.tech

S.E.A. Office
VOX-3A S&Design Office, Sunway Velocity, Lingkaran SV, Kuala Lumpur 55100, Malaysia
+60 126 537 263 / +60 327 201 360
s.e.a@novastar.tech

India Office
No 1-8, First Floor, Block – IV, NATWEST VIJAY, Pallikaranai, Chennai 600 100, India
+91 910 000 0611
india@novastar.tech

Australia Office
Room 40, Level 3, 120 Collins St, Melbourne 3000 VIC,
+61 (0) 43 507 0315 / +61 188 217 0827
stephen@novastar.tech

Room #565, 3960 Howard Hughes Parkway #500, Las Vegas, NV 89169, USA
northamerica@novastar.tech

Europe Office
Kruisweg 643-647, 2132 NC Hoofddorp, the Netherlands
+31 (0) 23 303 36 82
europe@novastar.tech

North America Office
Room 4010, 5050 Howard Hughes Parkway #500, Las Vegas, NV 89169, USA
northamerica@novastar.tech

S.E.A. Office
VOX-3A S&Design Office, Sunway Velocity, Lingkaran SV, Kuala Lumpur 55100, Malaysia
+60 126 537 263 / +60 327 201 360
s.e.a@novastar.tech

India Office
No 1-8, First Floor, Block – IV, NATWEST VIJAY, Pallikaranai, Chennai 600 100, India
+91 910 000 0611
india@novastar.tech

Australia Office
Room 40, Level 3, 120 Collins St, Melbourne 3000 VIC,
+61 (0) 43 507 0315 / +61 188 217 0827
stephen@novastar.tech