About Us

Every NovoStar product is designed and built with six main principles in mind: innovation, stability, security, power, ease of use, and customer service. This is why NovoStar products are used all around the world, trusted for huge events such as the 2008 Beijing Olympic Games, the World Cup, and WAVE. From the smallest event to the world’s greatest stages, NovoStar’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, meaning they skipped 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. With headquarters in their original hometown of Wuhan, China, NovaStar has 74 branches located around the world, serving more than 10,000 customers. NovaStar has over 1,000 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.

NovaStar’s 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 solution 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 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.

NovaStar is one of the brightest destinations in the right 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 NovaStar team. With NovaStar products now trusted all over the world for huge events from the Rio Games to the World Cup to WWC, 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%.

<table>
<thead>
<tr>
<th>Patents (up to 2019)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>895</strong></td>
</tr>
<tr>
<td>Patent for Invention</td>
</tr>
<tr>
<td>600</td>
</tr>
</tbody>
</table>

**Intellectual Property Rights (up to 2019)**

<table>
<thead>
<tr>
<th>Rights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1248</td>
</tr>
<tr>
<td>Software Copyright</td>
</tr>
<tr>
<td>113</td>
</tr>
</tbody>
</table>
# Product Contents

<table>
<thead>
<tr>
<th>Controller</th>
<th>Video Processor</th>
<th>Receiving Card</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>• All-in-one Controller</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NovaPro U-HD</td>
<td>09</td>
<td>J6</td>
<td>ARMOR</td>
</tr>
<tr>
<td>NovaPro U-HD Jr</td>
<td>11</td>
<td>C1</td>
<td></td>
</tr>
<tr>
<td>NovaPro HD</td>
<td>13</td>
<td>N8</td>
<td></td>
</tr>
<tr>
<td>VM6s</td>
<td>15</td>
<td></td>
<td>Fiber Converter CVT310 / CVT320</td>
</tr>
<tr>
<td>VM4U</td>
<td>17</td>
<td></td>
<td>Fiber Converter CVT4K-C / CVT4K-M</td>
</tr>
<tr>
<td>VM4S</td>
<td>19</td>
<td></td>
<td>Ambient Brightness Sensor NS000</td>
</tr>
<tr>
<td>• Controller</td>
<td></td>
<td></td>
<td>MultiFunction Card MN200</td>
</tr>
<tr>
<td>MCTRL4K</td>
<td>21</td>
<td></td>
<td>Fiber Converter CVT-Rack310 / CVT-Rack320</td>
</tr>
<tr>
<td>MCTRL18S</td>
<td>22</td>
<td></td>
<td>Ambient Temperature Sensor MTH310</td>
</tr>
<tr>
<td>MCTRL650 PRO</td>
<td>25</td>
<td></td>
<td>Monitoring Card MOK350</td>
</tr>
<tr>
<td>Taurus Multimedia Player</td>
<td>27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Controller

- All-In-one Controller
  NovaPro Upl-3 09
  NovaPro Upl-3 Jr 11
  NovaPro HD 13
  VM6 15
  VX4U 17
  VX4G 18

- Controller
  MCTRL4K 21
  MCTRL RS 23
  MCTRL990 PRO 25
  Touch Multimedia Player 27

Always at the leading edge of LED technology, NovaStar controllers are top, sleek, and powerful.
NovaPro UHD

The NovaPro UHD is a new rack-unit 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 signals, to support HD, 4K×2K and 8K×4K signals, and provides a loading capacity of 4096×2160 pixels.

The built-in advanced intelligent platform, the NovaPro UHD supports layer creation, property settings, and screen configuration via simple mouse, keyboard and monitor operations.

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

Rear Panel

- **Input**:
  - **DVI-24**: 4 input resolutions up to 4K×2K (4 channels) and downsampled component signals (DVI-D signals input).
  - **DVI-2**: 1 input resolution up to 4K×2K (2 channels) and downsampled component signals (DVI-D signals input).
- **Output**:
  - **DVI-2**: 1 output resolution up to 4K×2K (2 channels) and downsampled component signals (DVI-D signals input).
  - **VGA**: 1 output resolution up to 1920×1200 (1 channel) and downsampled component signals (VGA signals input).
- **HDMI**: 1 input resolution up to 4K×2K (1 channel) and downsampled component signals (HDMI signals input).
- **HDMI1.3**: 4 input resolutions up to 4K×2K (2 channels) and downsampled component signals (HDMI signals input).
- **HDMI1.2**: 4 input resolutions up to 4K×2K (2 channels) and downsampled component signals (HDMI signals input).
- **Overlay**: 1 input resolution up to 4K×2K (1 channel) and downsampled component signals (HDMI signals input).
- **VGA**: 1 output resolution up to 1920×1200 (1 channel) and downsampled component signals (VGA signals input).
- **DVI-2**: 1 output resolution up to 4K×2K (2 channels) and downsampled component signals (DVI-D signals input).
- **HDMI**: 1 output resolution up to 4K×2K (1 channel) and downsampled component signals (HDMI signals input).
- **HDMI1.3**: 4 output resolutions up to 4K×2K (2 channels) and downsampled component signals (HDMI signals input).
- **Overlay**: 1 output resolution up to 4K×2K (1 channel) and downsampled component signals (overlay signals input).
- **VGA**: 1 output resolution up to 1920×1200 (1 channel) and downsampled component signals (VGA signals input).
- **DVI-2**: 1 output resolution up to 4K×2K (2 channels) and downsampled component signals (DVI-D signals input).
- **HDMI**: 1 output resolution up to 4K×2K (1 channel) and downsampled component signals (HDMI signals input).
- **HDMI1.3**: 4 output resolutions up to 4K×2K (2 channels) and downsampled component signals (HDMI signals input).
- **Overlay**: 1 output resolution up to 4K×2K (1 channel) and downsampled component signals (overlay signals input).
- **VGA**: 1 output resolution up to 1920×1200 (1 channel) and downsampled component signals (VGA signals input).
- **DVI-2**: 1 output resolution up to 4K×2K (2 channels) and downsampled component signals (DVI-D signals input).
- **HDMI**: 1 output resolution up to 4K×2K (1 channel) and downsampled component signals (HDMI signals input).
- **HDMI1.3**: 4 output resolutions up to 4K×2K (2 channels) and downsampled component signals (HDMI signals input).
- **Overlay**: 1 output resolution up to 4K×2K (1 channel) and downsampled component signals (overlay signals input).
- **VGA**: 1 output resolution up to 1920×1200 (1 channel) and downsampled component signals (VGA signals input).

Features

- **A variety of input connectors**: DVI-24, DVI-2, HDMI, DVI, HDMI1.3, DVI, HDMI1.2, Overlay, VGA
- **Layer priority adjustment by software**: up to 8 display layers or height of a single device.
- **Multi-layer monitoring settings**: including monitoring of input sources, PWM, PGM or aspect preview.
- **16-bit NuVista Ethernet outputs**: 16x16 fiber optical outputs with copy and legacy backup modes.
- **Quick and advanced screen configuration**.
- **With the built-in smart platform Master**: 16-bit LED screen configuration, layer configuration and video display can be easily performed via the connected mouse, keyboard and monitor.
- **Environment-friendly processing capability to reduce electricity input and output**, remote control communication via a wireless Ethernet port or fiber optical connector,
### NovaPro UHD Jr

**Features**
- **8Kx4K / 4Kx2K**: Free scaling to any size with crisp post-wall image.
- E-DSH High Dynamic Range support Wide color gamut and high contrast for the ultimate viewing experience.
- Real-time 
  - **SDI**: DP2x1, HDMI2x1, 12G-SDI x2, DVIx4.
  - **4K ProRes - Support**: Blending together into a single independent 8Kx4K / 4Kx2K input.
- 16-Port Ethernet ports and 16 optical ports reaching 1544 trillion bit loading capacity.
- Support flexibly input of 3 layers.
- 8Kx4K video formats ensure that multiple linked units maintain synchronization.
- 8Kx4K technology makes sure the display matches the input action.
- Supports 3D function with scaling and scaling.
- Works as either sending card or optical converter card for display rasterization.
- Supports Capture source image as MKV codec.
- Support for Vancer operation software, Smart.CC Novel.CT mapping software.

### Rear Panel

<table>
<thead>
<tr>
<th>Input</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDI2x1</td>
<td>2</td>
<td>Supports input resolutions up to 8Kx4K4096x2160 and compact connectivity. Supports 3G-SDI input output.</td>
</tr>
<tr>
<td>DP1.2</td>
<td>1</td>
<td>Supports input resolutions up to 8Kx4K4096x2160 and compact connectivity. Supports 4096x2160 frame rate.</td>
</tr>
<tr>
<td>HDMI EDID</td>
<td>1</td>
<td>Supports input resolutions up to 8Kx4K4096x2160 and compact connectivity. Supports 4096x2160 frame rate.</td>
</tr>
<tr>
<td>DVI</td>
<td>4</td>
<td>Two DVI connectors adopt plug-and-play design for connecting different input cards according to the selected video card, DVI connection can be supported, the detailed option is DVI D/1.2.</td>
</tr>
</tbody>
</table>

### Output

<table>
<thead>
<tr>
<th>Output</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet port</td>
<td>4</td>
<td>10Gbps network connection compliant with 802.3ae standard. Supports 10Gbps network throughput.</td>
</tr>
<tr>
<td>DVI</td>
<td>4</td>
<td>10Gbps network connection compliant with 802.3ae standard. Supports 10Gbps network throughput.</td>
</tr>
<tr>
<td>HDMI2.1</td>
<td>1</td>
<td>HDMI 2.1 connector, supporting 8Kx4K30 Hz/120 Hz connection.</td>
</tr>
<tr>
<td>12G-SDI</td>
<td>1</td>
<td>12G-SDI connector, supporting 8Kx4K30 Hz/120 Hz connection.</td>
</tr>
<tr>
<td>RGBHV5</td>
<td>1</td>
<td>RGBHV connector for output monitoring, resolution up to 1920x1080i/50 Hz.</td>
</tr>
</tbody>
</table>

**Control**

<table>
<thead>
<tr>
<th>Connector</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHERNET</td>
<td>Connects to the PC for communication, or connect to the net for remote control.</td>
</tr>
<tr>
<td>USB Type-C</td>
<td>Connects to the PC for data control. Used as the input connector to connect the NovaPro UHD Jr for data processing.</td>
</tr>
<tr>
<td>USB Type-A</td>
<td>Connects to the output connector to connect the NovaPro UHD Jr for data processing.</td>
</tr>
<tr>
<td>GENLOCK In</td>
<td>Connects to a synchronization signal from a different connected NovaPro UHD Jr, with.</td>
</tr>
<tr>
<td>H.D.</td>
<td>Connects to the control bus.</td>
</tr>
</tbody>
</table>
NovaPro HD

Features

- The inputs of the NovaPro HD include CVBS, YPbPr, SDI, HD-SDI and DP. They support input resolutions up to 1080p/60Hz. The highest pixel block is 1920x1080. Output can be in any of the above.
- Advanced de-interlacing motion adaptive processing technology is adopted to ensure clean, clear and flicker-free video with low latency for true full motion. It supports up to 1080p.
- Each input can be individually configured with contrast, brightness, hue, saturation, and RGB gain controls. It can be accessed via a web browser interface.

Rear Panel

- Two USB ports for control and monitoring: USB 3.0 and USB-C.
- HDMI 3.0: Supports 8K video and audio.
- DP: Supports 4K video and audio.
- RS-232: For serial communication.

Specifications

<table>
<thead>
<tr>
<th>Input Index</th>
<th>Port</th>
<th>Amount</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVBS</td>
<td>1</td>
<td></td>
<td>CVBS Output</td>
</tr>
<tr>
<td>YPbPr</td>
<td>1</td>
<td></td>
<td>YPbPr Output</td>
</tr>
<tr>
<td>HDMI 3.0</td>
<td>1</td>
<td></td>
<td>HDMI 3.0 (4K@60Hz)</td>
</tr>
<tr>
<td>DP</td>
<td>1</td>
<td></td>
<td>DP (4K@60Hz)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Index</th>
<th>Port</th>
<th>Amount</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVBS</td>
<td>1</td>
<td></td>
<td>CVBS Input</td>
</tr>
<tr>
<td>YPbPr</td>
<td>1</td>
<td></td>
<td>YPbPr Input</td>
</tr>
<tr>
<td>HDMI 3.0</td>
<td>1</td>
<td></td>
<td>HDMI 3.0 (4K@60Hz)</td>
</tr>
<tr>
<td>DP</td>
<td>1</td>
<td></td>
<td>DP (4K@60Hz)</td>
</tr>
</tbody>
</table>

The NovaPro HD is a professional LED display control unit. Besides the function of display control, it also features in a powerful image processing, as an external decoder is no longer needed. With professional interfaces integrated, NovaPro HD meets the requirements of broadcast industry in high-quality and high-definition.
Features

- Features 7 input connectors: 2x3G-SI/SDI
  2xHDMI 2.0, 2xHDMI-Dual-loop and
  1xDVI input.
- Supports 3D switch,
- Supports quick and advanced screen
  configurations.
- Switches the PIP to PIPm by pressing
  only the TAKE button in the switcher,
- Supports adjustment of input resolutions,
- Supports device redundancy settings,
- The maximum loading capacity of video
  input is 5.0 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 on templates. The
  templates can be used directly and
  converted,
- Any HDMI or DVI input source can be
  used as the synchronization signals
  achieved vertical synchronization of
  HDMI,
- Features an intuitive OLED screen and
  clear button indicator prompt in the
  front panel, simplifying system control
  and operation.

Rear Panel

<table>
<thead>
<tr>
<th>Input</th>
<th>Connector</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
</table>
| 3G-SDI | 2 | Supports input signal up to
  1080i/1080p/2k and downstream compatibility,
  YUV 4:2:2 loopthrough. |
| USB | 2 | Connects to a USB flash drive to play video or
  picture files saved in the drive,
  Connects to a mouse |
| DVI | 2 | VESA standard
  supports input signal up to
  1080i/1080p/2k and downstream compatibility,
  Supports YUV. |
| DVI LOOP | 1 | DVI output connectors. |
| HDMI | 2 | Supports input signal up to
  1080i/1080p/2k and downstream compatibility,
  Supports YUV. |

<table>
<thead>
<tr>
<th>Output</th>
<th>Connector</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>1</td>
<td>Ethernet outputs.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<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>
<td></td>
</tr>
</tbody>
</table>
| USB (Type-B) | 1 | Connects to the PC for device control.
  Supports the input connector for cascading devices. |
| USB (Type-A) | 2 | Uses as the output connector for cascading devices. |
Features

- The inputs of the VX4U include CVBS×2, VGA×2, DVI×1, HDMI×1, and USB×1. The supported input resolution is up to 1024×1280@60Hz. The output images of VX4U can be zoomed, rotated, and sent according to the resolution of LED display.
- With seamless basics switching and fade video effects to enhance and present pictures of professional quality.
- The location and size of a single picture in PC pictures are adjustable, which can be controlled by the controller.
- Adopts Nuvista G4 engine. The screen is stable and flicker free without scanning lines. Image is exquisite and have a good sense of depth.
- Role to perform white balance calibration and color gamut mapping based on the different features of LED pixels used by screens to ensure reproduction of the colors.
- 1080p/60Hz interlaced independent audio input.
- Supports high-bit video input, 10bitb.
- Leading capacity of video output: 3.2 million pixels.
- Supports multiple control mechanisms for loading large screens.
- Supports Nuvista’s new-generation plug-and-play 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 shortens the preparation time.
- With multiple LCD interfaces and clear button indicators to simplify the control of the system.

Rear Panel

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Specifiations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio</td>
<td>Audio Input</td>
</tr>
<tr>
<td>DP</td>
<td>DP Input</td>
</tr>
<tr>
<td>HDMI</td>
<td>HDMI Input</td>
</tr>
<tr>
<td>USB</td>
<td>USB Input</td>
</tr>
<tr>
<td>VGA1/VGA2</td>
<td>VGA/USB Input</td>
</tr>
<tr>
<td>CVBS/CMYK</td>
<td>CMYK System Colorimetry Output</td>
</tr>
<tr>
<td>Outputs</td>
<td>DVI Output</td>
</tr>
<tr>
<td>Monitor</td>
<td>DVI OUT1/2</td>
</tr>
<tr>
<td>Network</td>
<td>ETHERNET</td>
</tr>
<tr>
<td>Control</td>
<td>DVI PORT 3/4</td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Input/Output</th>
<th>Port</th>
<th>Qty</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVBS</td>
<td>2</td>
<td></td>
<td>PAL/NTSC</td>
</tr>
</tbody>
</table>
| VGA          | 2    |     | 1080i/1080p/576i/576p/480i/480p/400i/450i |}

Controller

Output Index

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Reaction specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVI/OPT</td>
<td>2</td>
<td>Connect with DVI input</td>
</tr>
</tbody>
</table>
The VX4S is a professional LED display controller. Besides the function of display control, it also features in powerful front-end video processing, high image quality and flexible image control. VX4S is able to meet the demands of media industry.

**Features**

- The input of the VX4S includes CVBS*2, VGA*2, DVI*1, HDMI*1, SDI*1, DisplayPort*1. The input signals can be automatically detected and processed, so the input signals can be input without manual adjustment.
- The system supports multiple input protocols, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input signal.
- The system supports various input signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input signal.
- The system supports various output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the output signal.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
- The system supports various input and output signal formats, including CVBS, HDMI, SDI, DisplayPort, and VGA. The supported protocols can be selected according to the input and output signal formats.
MCTRL4K is an independent master controller developed by NovaStar with an excellent design. The clear, vivid colors and wide viewing angles make the display look like a scene. MCTRL4K also acts as a second independent master controller, which makes it more flexible and can be used in 2×2/3×3/4×4 video wall configurations.

Features:

- **HD-Optima (High Dynamic Range):** The MCTRL4K controller with AIO or AIOx16 via RS232 and control via DisplayPort offers an excellent solution to precisely paste HD-AIO series devices.
- **HID:** A standard for HID High Dynamic Range, which can capture high dynamic range images directly, making the images more natural and realistic.
- **3D:** Three-dimensional visuals, making the images more attractive.
- **HDR:** Offers deeper contrast and better color range, making the screens look more natural.
- **Complete video input interfaces:** HDMI 2.0, DVI-D, DisplayPort, DVI-D, and USB input interfaces.
- **Optical fiber port:** 12M~100MKm, and supports 4-meter optical fiber ports as well.
- **Wired connection:** Support via Ethernet cables and optical fiber cables and high-speed data transmission of 1Gbps or greater.
- **Complete video output interfaces:** HDMI 2.0, DVI-D, DisplayPort, and USB output interfaces.
- **Power supply:** 100~240V AC, 50/60Hz ±10% (or 12VDC 4A)

Rear Panel:

- **Inputs:**
  - DP 1.2
  - HDMI 2.0
  - USB
  - DisplayPort
  - DVI-D
  - TTL
  - Ethernet
  - USB

- **Outputs:**
  - HDMI 2.0
  - DisplayPort
  - DVI-D
  - USB

Specifications:

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Resolution specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 1</td>
<td>1</td>
<td>4K1.2 standard, Max supported resolution 3840×2160 60Hz or 7680×4320 30Hz luminance contrast 1000:1</td>
</tr>
<tr>
<td>HDMI</td>
<td>1</td>
<td>4K1.4 standard, Max supported resolution 3840×2160 60Hz or 7680×4320 30Hz luminance contrast 1000:1</td>
</tr>
<tr>
<td>DisplayPort</td>
<td>2</td>
<td>4K1.2 standard, Max supported resolution 3840×2160 60Hz or 7680×4320 30Hz luminance contrast 1000:1</td>
</tr>
<tr>
<td>USB</td>
<td>1</td>
<td>4K1.2 standard, Max supported resolution 3840×2160 60Hz or 7680×4320 30Hz luminance contrast 1000:1</td>
</tr>
</tbody>
</table>

Controller:

- **Controller:** Each controller supports 8×8 matrix and up to 8×8 matrix, can be used in 2×2/3×3/4×4 video wall configurations.
MCTRL R5

MCTRL R5 is an independent master controller developed by Novastar with an epoch-making significance. Its flexible control function allows users to make their LED displays more creative. The02h capacity of a single unit is up to 3840 x 1920@60Hz (3840 x 1080@120Hz). MCTRL R5 can meet the real-time requirements of oversized LED displays.

Features

- Combine video inputs: 8x DVI, 4x HDMI, 2x AV, 1x SDI.
- Support the simultaneous output of 9-way NevePix Gigabit Ethernet port and Sweex fiber port (with single-device mode) up to 23GHz (10 Gigabit).
- 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 S4 engine to create pixels and MaskLESS pictures without scanning lines, and present smooth images with a good sense of layering.
- Supports Novastar’s latest professional level color calibration technology with a fast and effective process.
- Enables white balance calibration and color gamut mapping based on the different features of LEDs on the display to ensure colors are faithful and 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 online status in a more intuitive way.
- Multiple MCTRL R5 units can be cascaded for uniform control.

Specifications

<table>
<thead>
<tr>
<th>Input</th>
<th>Qty</th>
<th>Resolution specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG-LED</td>
<td>1</td>
<td>Maximum supported resolution: 3840 x 1920@60Hz (3840 x 1080@120Hz)</td>
</tr>
<tr>
<td>HDMI</td>
<td>1</td>
<td>HDMI 2.0 standard, maximum supported resolution: 3840 x 1920@60Hz (3840 x 1080@120Hz)</td>
</tr>
<tr>
<td>DVI-A</td>
<td>1</td>
<td>VESA standard, maximum supported resolution: 3840 x 1920@60Hz and 3840 x 1080@120Hz</td>
</tr>
</tbody>
</table>

Output

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Resolution specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ45</td>
<td>6</td>
<td>NevePix Gigabit Ethernet port, 23GHz (10 Gigabit)</td>
</tr>
<tr>
<td>OPT</td>
<td>2</td>
<td>Dual fiber optic ports, single-mode dual-fiber (LC port, 1310nm, 20km) for long-distance transmission. Both Gigabit Ethernet port and fiber port can be connected to the device and operate in a dual state 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>Control interface of upper computer and accessing interface</td>
</tr>
</tbody>
</table>

Note

- Horizontal & vertical scan rates can be configured by the controller software.
- Multiple MCTRL R5 units can be cascaded for uniform control.
MCTRL660 PRO

Features

- Input connectors: 1x SDI, 1x HDMI, 1x VGA, 1x 4K HDMI, 1x 4K DisplayPort
- Loop output connectors: 1x HDMI, 1x DVI-D, 1x 4K DisplayPort
- Rear panel: Input and output connectors, power supply, control panel, and switch controls.

Rear Panel

- Connector: DVI-D, HDMI, DisplayPort, 4K DisplayPort, 4K HDMI
- Description: Single-source display, support for multiple inputs, and a dedicated power supply.
- Rear panel: Connection for various input and output devices, including HDMI, DVI-D, and DisplayPort.

Controller

- Connector: RS-232, Ethernet
- Description: Control, monitoring, and configuration of the device via a serial or network connection.

Output

- Connector: BNC, COF, COF, COF
- Description: Connection for output devices, such as monitors or projectors.

Monitor

- Connector: HDMI, DisplayPort
- Description: Connection for a monitor to display the device's output.
Taurus Multimedia Player

Features

- Self-protects by connecting to communication failure signals or display failure signals, averting trouble before it occurs.
- Remote emergency connection: allowing you to respond to issues at a moment's notice.
- Multiple redundant backups: ensuring ultimate reliability.
- 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 schedule or free switching to meet the needs of any scenario.

Product name | T83 | T85 | T86
---|---|---|---
Loading capacity | 650,000 | 1,390,000 | 2,350,000
Processing | 8 Cores | 8 Cores | 8 Cores
Access capacity | Fault MIS | Standard | Standard
Availability | Optional | Optional | Optional
Screen back-up | Yes | Yes | Yes
Synchronous / asynchronous switching | Yes | Yes | Yes
Screen splitting | Yes | Yes | Yes
Certified | v | v | v

Suitable applications

- Advertisement screens
- Small installations
- Transparent screens
- Pull screens
- Mirrored screens
- On-board screens
- Particular stages
- Indoor fixed installations
- Large fixed installations
- Outdoor fixed installations
- Fixed monitors
- Mirror monitors
- Transparent screens
- Mirrored screens
- Advertisement screens

Note: Total memory (8GB/8GB) available to user.
Video Processor

JF
CT
NB
Features

- Supports wide range of video inputs divided into 4 groups with 8 inputs each, including 1×2 HDMI/SDI/SDI (allowing you to choose any one of these 3 interfaces).
- HDMI1/4DP: allowing you to choose any one of these interfaces.
- Input resolution of Input A supports 1080P@30Hz, other inputs support 1080P@60Hz, etc. All are downconverted compatibility.
- Supports 8 output channels, including 4 groups with 8 interfaces of HDMI/SDI/SDI output, and over 8000x procession speed.
- 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. Selecting width of 4 channels can be up to 1920x1080.
- Capable of displaying 6 windows simultaneously at most and the maximum resolution of each window is up to 1920x1080@60Hz.
- Window position, size, etc., are adjustable allowing to adjust borders to the window and set border width, color, etc.
- Capable of creating 32 previews which are saved as templates and can be used directly and easily.
- Provides diverse of input source transition effects to enhance and present dynamic images with professional quality.
- An intuitive main LCD at the front panel and like button indicate lights simplify the system control operations.
- Supports various sync signals allowing you to choose any input source or automatic frequency synchronization to achieve frame lock output.

Specifications

<table>
<thead>
<tr>
<th>Port</th>
<th>Qty</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDMI1/4DP:</td>
<td>1</td>
<td>Supports 4K@2160p/30Hz, 1080P@60Hz, 720P/60Hz, etc.</td>
</tr>
</tbody>
</table>
C1, a compact design, is designed for Novastar’s terminal video processing products, such as a series, mainly used for live stage control.

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

The C1 is also designed with a joystick and “T” dial. The joystick is used to precisely adjust the size and position of layers. The “T” dial supports adjustment of 100% levels of layer transparency, fine control of the transition effects of presets and PWM, PGM for switching.

Thanks to the cool light indications, highly sensitive joystick and “T” dial, 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 terminal Novastar video processing processors.
- Supports screen menus, easy movies, output image quality adjustment, layer settings, LED settings, test patterns, and switching four normal displays to blackout with one button press.
- Supports up to 32 layers.
- Supports preset setting: use of preset templates, preset customizing, saving of custom presets, preset data labeling, mixing of preset areas on C1 operation panel.
- Supports layer editing, layer image quality adjustment, layer border settings, and layer trimming.
- Supports settings of the layer size and position through the joystick and buttons.
- Supports Are configuration.
- Supports input source cropping.
- Allows for operations such as PGM, Preset or Take operation, to multiple layers simultaneously.
- Supports remote or live control of terminal video processors through A12/L5.

**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>Supports connectivity include terminal through network.</td>
</tr>
<tr>
<td>USB</td>
<td>1</td>
<td>Useable USB port, or connect to the upper computer.</td>
</tr>
<tr>
<td>USB Host</td>
<td>1</td>
<td>Connects to a USB drive to report USB.</td>
</tr>
<tr>
<td>Monitor</td>
<td>1</td>
<td>(RJ45) In/Out video connector.</td>
</tr>
<tr>
<td>RS232</td>
<td>1</td>
<td>A communications connector that connects the Novastar terminal board.</td>
</tr>
<tr>
<td>Reset button</td>
<td>1</td>
<td>A pushbutton reset button used to reset and restart the C1.</td>
</tr>
</tbody>
</table>
Features

- Supports 2 inputs: 1 HDMI + 2 with the resolution up to 3840×2160@60 Hz. HDMI input has the resolution up to 1080p@60 Hz, DVI input has the resolution up to 1080p@60 Hz.
- Supports 4 HDMI outputs, 4 DVI output ports. A single N9 can be used to an HMD screen, and multiple N9 units can be cascaded for output. The N9 support with Blackstar Front-end control C7 and make the operation of N9 on stage more convenient.
- Where it’s use, it can work with the new smart management software U-GO to enable more screen monitor 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 used in various scenarios, such as intermediate and high-end rental stage control media centers, conference sites and control centers.

Rear Panel

Inputs

- 4 HDMI inputs, 4 DVI inputs, and 4 asynchronous inputs.
- The asynchronous inputs can be configured for HDMI/4 DVI or DVI/DVI/DVI.
- 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 a button controller which can operate the front panel and remote control system.

Outputs

- HDMI: 4 HDMI outputs, and 4 DVI outputs.
- The user can set the output mode via the switcher to dual or single.
- DVI: 4 DVI outputs.
- The user can set the output mode via the switcher to dual or single.

Control

- Ethernet (RJ45): A control connection.
- USB Type-B: Connects to the computer.
- USB Type-A: Connects to the computer.
- RS232-Com: Connects to the synchronization signals to synchronize calculated units.
Receiving Cards
**Features**

- **2304**
  64 times dynamic contrast improvement with 1201pts precision control of greyscales, providing off-line and on-line display image even in low brightness conditions. (All: A10s Plus, Supports by dedicated firmware)

- **Precise Greyscale**
  Precise Grey-scale for driver IC using professional optical design, making possible for a more accurate, true-to-life image, improving color accuracy under low brightness conditions. (All: 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 high-end devices. This algorithmic optimization also allows for the optimal transmission of color information, maximizing the display's color accuracy. (All: A10s Plus)

- **HDTV-32bits & AGC**
  Support HDTV32bit in AGC, high-precision visual effects, and photo-realistic visual effects through built-in performance. (All: A10s Plus)

- **ClearView**
  Adjust the hue and contrast in different areas of images based on characteristics of the human visual system to make the images more vivid and realistic. (All: A10s Plus)

- **Low Latency**
  Reduce the frame latency of the video source on the receiving card to 1 frame for the most critical video settings. The frame latency for the driver IC. (All: A10s Plus, Supports by dedicated firmware)

- **LVDS Transmission**
  Use the transmitter module of the LVDS cable with lower power consumption. (All: A10s, A10s Plus, A10s), reduces power consumption by 50%, increasing battery life, and reducing the strain of the human vision. (All: A10s, A10s Plus, Supports by dedicated firmware)

- **Mapping**
  Disables the receiving card's and Ethernet port information on the display. The user can get the maximum performance of the receiving card's performance and the graphics, which makes our display extremely convenient. (All: A10s Plus, A10s, A10s Plus, Supports by dedicated firmware)

- **Free Screen Rotation**
  Works with the MST/SL, the receiving card supports screen rotation, making it possible to rotate images and more creative images. (All: A10s Plus)

- **Automatic Calibration**
  After a module has been replaced, the receiving card can automatically read the new module's ID and calibration coefficients, and save them to the flash of the receiving card. (All: A10s, A10s Plus, A10s, A10s Plus)

---

**Receiving Card of Armor Series**

High-quality, high-quality image quality on the display.
<table>
<thead>
<tr>
<th>Product Model</th>
<th>A1s</th>
<th>A1s</th>
<th>A7s</th>
<th>A7s</th>
<th>A5s</th>
<th>A1s Plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution (PPI)</td>
<td>286 x 598</td>
<td>300 x 598</td>
<td>512 x 384</td>
<td>512 x 384</td>
<td>512 x 384</td>
<td>512 x 132</td>
</tr>
<tr>
<td>PDS Parallel Data Group</td>
<td>34</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Serial Data Group</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>GTP Memory on board</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smart Power</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Power Supply Backups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loop Backup</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabinet Monitoring LED</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Monitoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply Monitoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring of power cable communication status (Support for ACC &amp; RemoteStart)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CE-EMC Class B</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Notes</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Maintenance Function**

- Remote Copy ✓ ✓ ✓ ✓ ✓ ✓ ✓
- AIDA Reorder and Note ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Calibration Function
  - Pixel/Color and Brightness Calibration ✓ ✓ ✓ ✓ ✓ ✓ ✓
  - Quick setup correction ✓ ✓ ✓ ✓ ✓ ✓ ✓
  - One-Click Apply Calibration ✓ ✓ ✓ ✓ ✓ ✓ ✓
  - Calibration Correction Backup ✓ ✓ ✓ ✓ ✓ ✓ ✓
  - Auto Calibration ✓ ✓ ✓ ✓ ✓ ✓ ✓

**Performance Enhancements**

- Prefixed Features ✓ ✓ ✓ ✓ ✓ ✓
- Advanced per GB ✓ ✓ ✓ ✓ ✓ ✓
- SD Card Optimizing ✓ ✓ ✓ ✓ ✓ ✓
- LVDS Transmission ✓ ✓ ✓ ✓ ✓ ✓
- 3D function ✓ ✓ ✓ ✓ ✓ ✓
- Mapping ✓ ✓ ✓ ✓ ✓ ✓
- Ziben ✓ ✓ ✓ ✓ ✓ ✓
- Color Management ✓ ✓ ✓ ✓ ✓ ✓
- Precise grayscale ✓ ✓ ✓ ✓ ✓ ✓
- HDR10 Optimus & HLG ✓ ✓ ✓ ✓ ✓ ✓
- CleanLine ✓ ✓ ✓ ✓ ✓ ✓
- Raw Rotation (with Wh) ✓ ✓ ✓ ✓ ✓ ✓
- Low Latency ✓ ✓ ✓ ✓ ✓ ✓
Sometimes even the best products need a helping hand.
NaxaStar’s accessories are designed to work seamlessly with our products.

Accessories

1. Fiber Converter CVT310 / CVT320
2. Fiber Converter CVT4K-S / CVT 4K-M
3. Ambient Brightness Sensor NS093
4. Multi-funtion Card MN330
5. Fiber Converter CVT-Rack110 / CVT-Rack320
6. Ambient Temperature Sensor MTH310
7. Monitoring Card MDN330

Page 45
Page 45
Page 46
Page 46
Page 47
Page 48
Page 48

Accessories
Fiber Converter CVT310 / CVT320

- 1 optic fiber interface.
- 1 RS485.
- Power supply: 100 – 240V AC 10.5W.
- No need to install the charger.
- CVT310 Transmission distance up to 300m by using multi-mode dual-core optic fiber with LC interfaces.
- CVT320 Transmission distance up to 10km by using single-mode dual-core optic fiber with LC interfaces.
- Certification CE, RoHS, FCC, EAC.

Fiber Converter CVT4K-S / CVT 4K-M

- Supports 16-channel Mixed Ethernet outputs.
- Supports 16-channel Fiber optic interfaces (10G fiber-achieved). Two of them are master output channels, and the other four are backups.
- Supports two types of power interfaces (5-pin power socket and power 24V) with dual-power redundancy backup.
- With various indicator lights on the front panel, each state can be clearly shown.
- Power supply: 100 – 240V AC 10.5W.
- No need to install the charger.
- Transmission distance of CVT 4K-S is 10km, Transmission distance of CVT 4K-M is 300m.
- Certification CE, RoHS, FCC, UL/CSA, CB, EAC, KC.

Ambient Brightness Sensor NS060

- Ambient brightness detects 255 levels of auto brightness adjustment.
- Sensing card (NS0500, MCT1603, MCT703, MCT803, PSD108 or multi-function card MCTNS002) supporting.
- 5 mm standard cable, 100 meters extend.
- With protection from dust ingress and water jet, it can be used in an outdoor setting.
- Certification CE, RoHS.

Multifunction Card MFN300

- 8 power switch management.
- 4 light sensor/ambient temperature sensor interfaces.
- Auto power control of fan when condition is 0.2 degree above temperature.
- Auto output protection.
- Certification CE, RoHS.
Fiber Converter
CVT-Rack310 / CVT-Rack320

- 16 optic fiber interface
- 16 P40s
- Power supply: 100 - 240VAC 50/60Hz
- No need to install the drivers
- CVT-Rack310: Transmission distance up to 300m by single or multi-mode dual-core optical fiber with LC interface.
- CVT-Rack320: Transmission distance up to 15m by single or multi-mode dual-core optical fiber with LC interface.
- Certification CE, FCC. RoHS: E.

Ambient Temperature Sensor MTH310

- Detect ambient temperature
- Multi-function card supported
- 5m standard cable: 100 meters extend
- Waterproof
- Certification CE: RoHS, FCC.

Monitoring Card MON300

- Cabinet temperature, humidity and smoke monitoring
- 8 power supply voltage monitoring
- Ribbon cable status monitoring
- Cabinet door opening/des status monitoring
- 4 fan speed monitoring
- LED error status monitoring
- Certification CE: RoHS