spectra

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VX1000

All-in-One Controller

V1.0.1



Specifications

Introduction

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

The VX1000 is capable of receiving a variety of video signals and processing high-resolution 4K×1K@60Hz images. In addition, the device features stepless output scaling, low latency, 3D, pixel-level brightness and chroma calibration and more, to present you with an excellent image display experience.

What's more, the VX1000 can work with NovaStar's supreme software NovaLCT and V-Can to greatly facilitate your in-field operations and control, such as screen configuration, Ethernet port backup settings, layer management, preset management and firmware update.

Thanks to its powerful video processing and sending capabilities and other outstanding features, the VX1000 can be widely used in applications such as medium and high-end rental, stage control systems and fine-pitch LED screens.

Features

- Input connectors
  - 1x HDMI 1.4 (IN & LOOP)
  - 1x HDMI 1.4
  - 1x DVI (IN & LOOP)
  - 1x DVI
  - 1x 3G-SDI (IN & LOOP)
  - 1x 10G optical fiber port (OPT1)
- Output connectors
  - 10x Gigabit Ethernet ports

    A single device unit drives up to 6.5 million pixels, with a maximum width of 10,240 pixels and a maximum height of 8192 pixels.
  - 2x Fiber outputs

    OPT 1 copies the output on 10 Ethernet ports.

    OPT 2 copies or backs up the output on 10 Ethernet ports.
  - 1x HDMI 1.3

    For monitoring or video output
- Self-adaptive OPT 1 for either video input or sending card output

  Thanks to the self-adaptive design, OPT 1 can be used as either an input or output connector, depending on its connected device.
- Audio input and output
  - Audio input accompanied with HDMI input source
  - Audio output via a multifunction card
  - Output volume adjustment supported
- Low latency

  Reduce the delay from the input to receiving card to 20 lines when the low latency function and Bypass mode are both enabled.
- 3x layers
  - Adjustable layer size and position
  - Adjustable layer priority
- Output synchronization

  An internal input source or external Genlock can be used as the sync source to ensure the output images of all cascaded units in sync.
- Powerful video processing
  - Based on SuperView III image quality processing technologies to provide stepless output scaling.
  - One-click full screen display
  - Free input cropping
- Easy preset saving and loading
  - Up to 10 user-defined presets supported
  - Load a preset by simply pressing one button
- Multiple kinds of hot backup
  - Backup between devices
  - Backup between Ethernet ports
  - Backup between input sources
- Mosaic input source supported

  The mosaic source is composed of several input connectors of the same type.
- Up to 4 units cascaded for image mosaic
- Three working modes
  - Video Controller
  - Fiber Converter
  - Bypass
- All-round color adjustment

  Input source and LED screen color adjustment supported, including brightness, contrast, saturation, hue and Gamma
- 3D function

  Work with the EMT200 3D emitter and matched 3D glasses to present a 3D visual experience.

- Pixel level brightness and chroma calibration

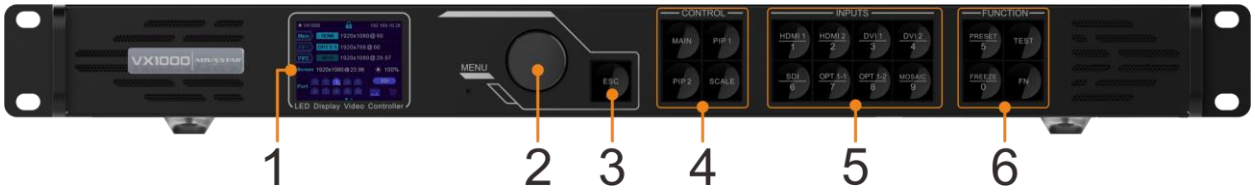
  Work with NovaLCT and NovaStar calibration software to support brightness and chroma calibration on each LED, which can effectively remove color discrepancies and greatly improve LED display brightness and chroma consistency, allowing for better image quality.

- Multiple operation modes

  Control the device as you wish via V-Can, NovaLCT or device front panel knob and buttons.

Appearance

Front Panel

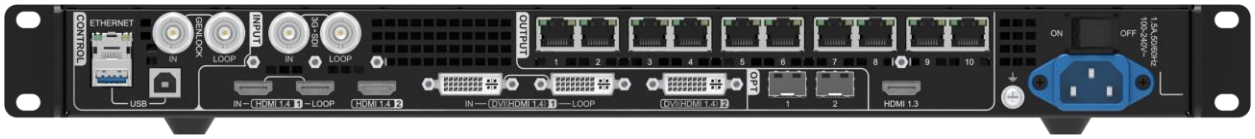


No.	Area	Function
1	LCD screen	Display the device status, menus, submenus and messages.
2	Knob	• Rotate the knob to select a menu item or adjust the parameter value. • Press the knob to confirm the setting or operation.
3	ESC button	Exit the current menu or cancel an operation.
4	Control area	• Open or close a layer (main layer and PIP layers), and show the layer status. Status LEDs: – On (blue): The layer is opened. – Flashing (blue): The layer is being edited. – On (white): The layer is closed. • SCALE: A shortcut button for the full screen function. Press the button to make the layer of the lowest priority fill the entire screen. Status LEDs: – On (blue): Full screen scaling is turned on. – On (white): Full screen scaling is turned off.
5	Input source buttons	Show the input source status and switch the layer input source. Status LEDs: • On (blue): An input source is accessed. • Flashing (blue): The input source is not accessed but used by the layer. • On (white): The input source is not accessed or the input source is abnormal. **Notes:** • When a 4K video source is connected to OPT 1, OPT 1-1 has a signal but OPT 1-2 does not have a signal. • When two 2K video sources are connected to OPT 1, OPT 1-1 and OPT 1-2 both have a 2K signal.
6	Shortcut function buttons	• PRESET: Access the preset settings menu. • TEST: Access the test pattern menu. • Freeze: Freeze the output image. • FN: A customizable button

Note:

Hold down the knob and **ESC** button simultaneously for 3s or longer to lock or unlock the front panel buttons.

Rear Panel



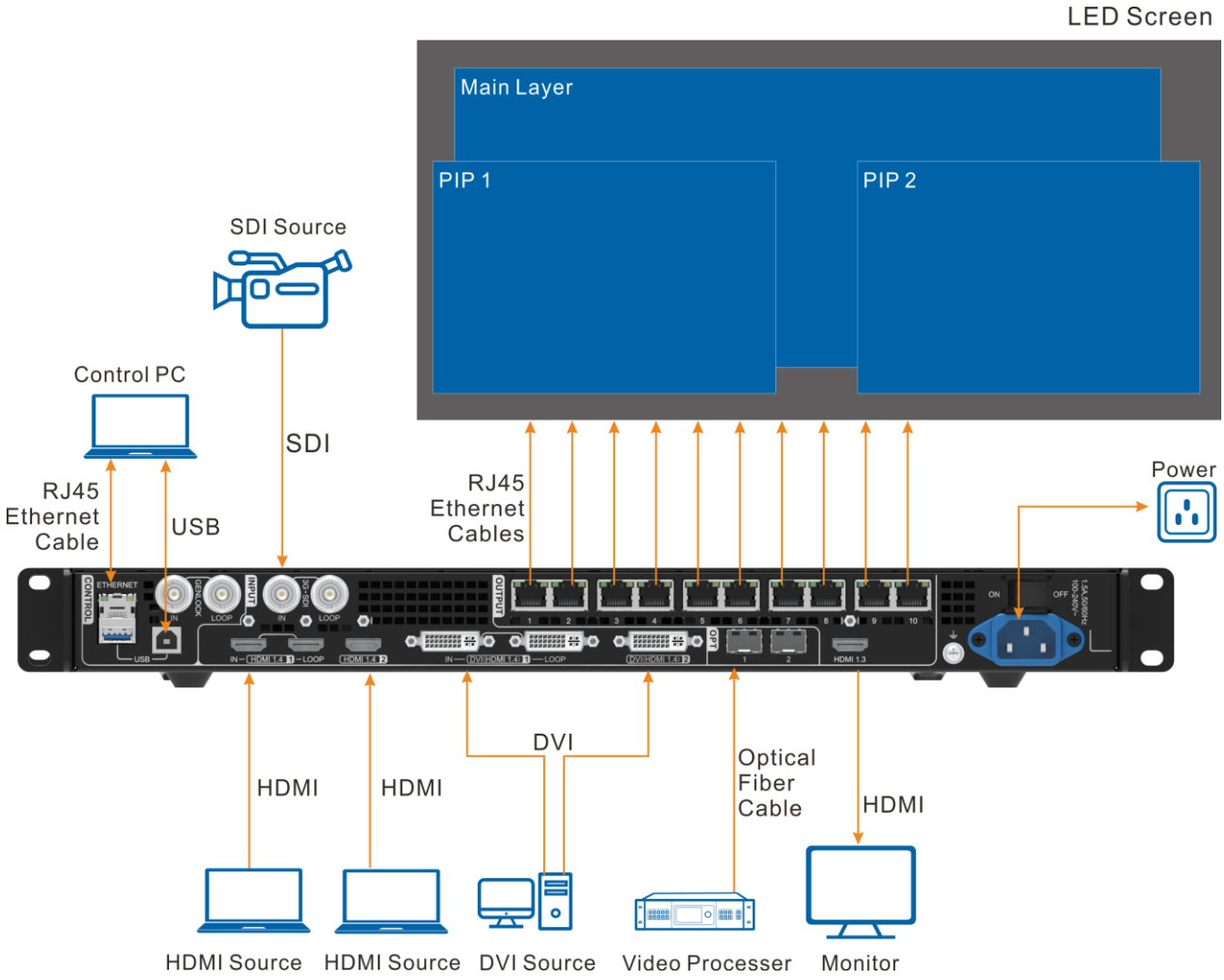
Input Connectors		
Connector	**Qty**	**Description**
3G-SDI	1	• ST-424 (3G), ST-292 (HD) and ST-259 (SD) standard video inputs supported • Max. input resolution: 1920×1080@60Hz • Deinterlacing processing supported • 3G-SDI loop output supported • DOES NOT support input resolution and bit depth settings.
HDMI 1.4	2	• Max. input resolution: 3840×1080@60Hz or 3840×2160@30Hz • HDCP 1.4 compliant • Interlaced signal inputs supported • Mosaic of two HDMI 1.4 inputs supported • Custom resolutions supported – Max. width: 4092 pixels (4092×1136@60Hz) – Max. height: 3981 pixels (1060×3981@60Hz) • Loop output supported on HDMI 1.4 1
DVI (HDMI 1.4)	2	• Max. input resolution: 3840×1080@60Hz or 3840×2160@30Hz • HDCP 1.4 compliant • Interlaced signal inputs supported • Custom resolutions supported – Max. width: 4092 pixels (4092×1136@60Hz) – Max. height: 3981 pixels (1060×3981@60Hz) • Mosaic of two DVI inputs supported • Loop output supported on DVI 1
Output Connectors		
Connector	**Qty**	**Description**
Ethernet ports	10	Gigabit Ethernet ports • Max. loading capacity: 6.5 million pixels • Max. width: 10,240 pixels • Max. height: 8192 pixels Ethernet ports 1 and 2 support audio output. When you use a multifunction card to parse the audio, be sure to connect the card to Ethernet port 1 or 2.
HDMI 1.3	1	• For output monitoring, the output resolution is fixed to 1920×1080@60Hz. • For video output, the output resolution is adjustable.
Optical Fiber Ports		

Connector	Qty	Description
OPT	2	10G optical fiber ports • OPT 1: Self-adaptive, either for video input or for output – When the device is connected with a fiber converter, the port is used as an output connector. – When the device is connected with a video processor, the port is used as an input connector. – Max. capacity: 1x 4K×1K@60Hz or 2x 2K×1K@60Hz video inputs • OPT 2: For output only, with copy and backup modes OPT 2 copies or backs up the output on 10 Ethernet ports.
Control Connectors		
Connector	**Qty**	**Description**
ETHERNET	1	Connect to the control PC or router.
USB	2	• USB 2.0 (Type-B): – Connect to the control PC. – Input connector for device cascading • USB 2.0 (Type-A): Output connector for device cascading
GENLOCK IN-LOOP	1	Connect to an external sync signal. Accepts bi-level and tri-level signals. • IN: Accept the sync signal. • LOOP: Loop the sync signal.

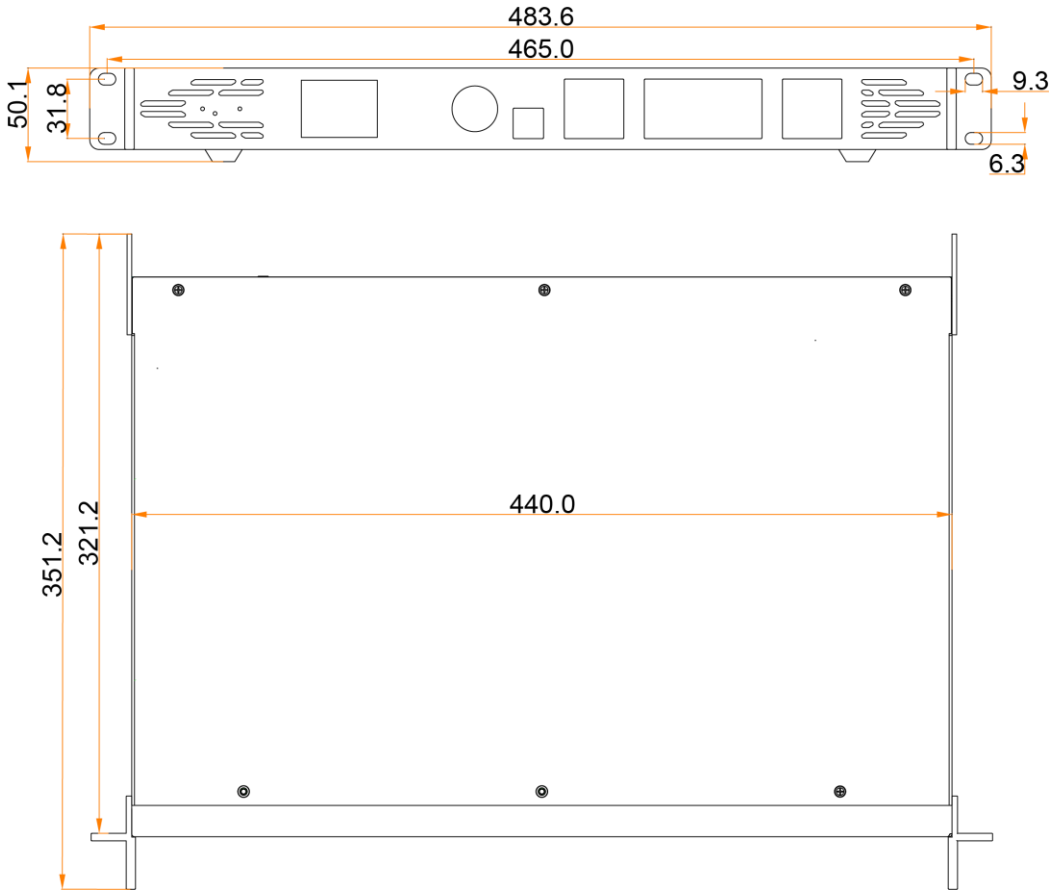
Note:

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

Applications



Dimensions



Tolerance: ±0.3 Unit: mm

Specifications

Electrical Parameters	Power connector	100–240V~, 1.5A, 50/60Hz
	Rated power consumption	28 W
Operating Environment	Temperature	–10°C to +60°C
	Humidity	20% RH to 90% RH, non-condensing
Storage Environment	Temperature	–20°C to +70°C
	Humidity	10% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	483.6 mm × 351.2 mm × 50.1 mm
	Net weight	4 kg
	Gross weight	6.3 kg
Packing Information	Accessories	1x Power cord 1x Power adapter 1x HDMI to DVI cable 1x USB cable 1x Ethernet cable 1x HDMI cable 1x DAC cable 1x Quick Start Guide 1x Certificate of Approval 1x Customer Letter 1x Safety Manual
	Packing box	565 mm × 175 mm × 450 mm
Certifications		TBD **Note:** If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please apply for the certifications yourself or contact NovaStar to apply for them.
Noise Level (typical at 25°C/77°F)		45 dB (A)

Video Source Features

<table>
<tr><th>Input Connectors</th><th colspan="2">Bit Depth</th><th>Max. Input Resolution</th></tr>
<tr><td rowspan="4">• HDMI 1.4
• DVI (HDMI 1.4)
• OPT 1</td><td rowspan="3">8-bit</td><td>RGB 4:4:4</td><td rowspan="3">3840×1080@60Hz (Standard)
4092×1136@60Hz (Custom)
4096×1080@60Hz (Forced)</td></tr>
<tr><td>YCbCr 4:4:4</td></tr>
<tr><td>YCbCr 4:2:2</td></tr>
<tr><td>YCbCr 4:2:0</td><td>Not supported</td></tr>
<tr><td colspan="2">10-bit</td><td>Not supported</td></tr>
<tr><td colspan="2">12-bit</td><td>Not supported</td></tr>
<tr><td>3G-SDI</td><td colspan="3">• Max. input resolution: 1920×1080@60Hz
• DOES NOT support input resolution and bit depth settings.
• Supports ST-424 (3G), ST-292 (HD) and ST-259 (SD) standard video inputs.</td></tr>
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