

NovaStar VX4S-N

NovaStar VX4S-N All-in-One LED Video Processor User Manual

Model: VX4S-N | Brand: NovaStar

1. INTRODUCTION AND OVERVIEW

The NovaStar VX4S-N is an advanced all-in-one LED video processor designed for professional display applications. It integrates video processing, screen control, and configuration functions into a single device, offering a powerful and flexible solution for LED display management. This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of your VX4S-N unit.



Figure 1.1: NovaStar VX4S-N All-in-One LED Video Controller, showcasing its compact design.

Key Features:

- **2.3 Million Pixels Loading Capacity:** Capable of driving large LED displays.
- **Built-in Scaling:** All-in-one controller, scaler, and processor with switcher capabilities.
- **Multiple Input Interfaces:** Includes CVBS, VGA, DVI, HDMI 1.3, DP, and SDI for versatile connectivity.
- **Adjustable PIP (Picture-in-Picture):** Allows for flexible adjustment of PIP location and size.
- **High-Quality Video Processing:** Supports 10bit/8bit HD video sources for crisp and colorful display.
- **Intuitive Control:** Features a single knob and button for easy configuration.

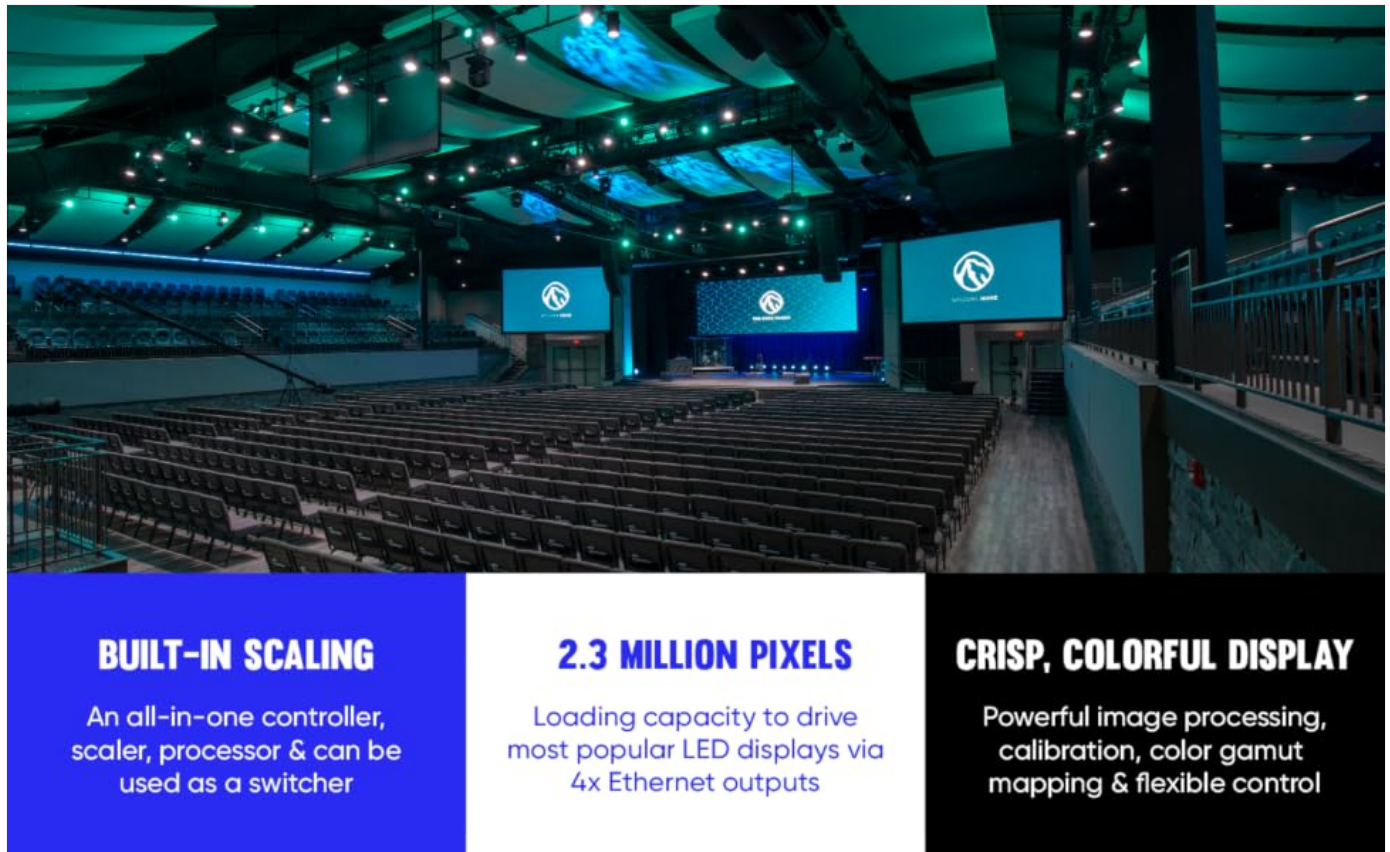


Figure 1.2: Visual representation of the VX4S-N's core capabilities.

## 2. SETUP AND INSTALLATION

This section guides you through the physical setup and initial connections of your NovaStar VX4S-N video processor.

### 2.1 Unpacking and Inspection

Carefully remove the VX4S-N from its packaging. Inspect the unit for any signs of damage during transit. Ensure all accessories are present according to the packing list.

### 2.2 Front Panel Overview



Figure 2.1: Front view of the VX4S-N, showing the power switch, LCD display, control knob, and various function buttons.

The front panel provides access to the main controls and display. Key elements include the power switch, LCD display for status and menu navigation, a rotary encoder for menu selection, and dedicated buttons for input switching and control

functions.

## 2.3 Rear Panel Connections



Figure 2.2: Rear view of the VX4S-N, detailing the input, output, and power connections.

The rear panel houses all the necessary input and output ports for connecting your video sources and LED display. These include:

- **Inputs:** CVBS, VGA, DVI, HDMI 1.3, DisplayPort (DP), SDI (with loop-through).
- **Outputs:** DVI Out (for monitor), Ethernet ports (for LED display connection).
- **Control:** USB ports (Type-A and Type-B) for PC control and firmware updates.
- **Power:** AC power input (100-240V, 50/60Hz).

## 2.4 Connecting Devices

Follow these steps to connect your video sources and LED display to the VX4S-N:

1. **Power Connection:** Connect the supplied AC power cable to the VX4S-N power input and then to a suitable power outlet.
2. **Video Source Connection:** Connect your video sources (e.g., PC, camera, DVD player) to the desired input ports (HDMI, DVI, VGA, SDI, DP, CVBS) on the rear panel.
3. **LED Display Connection:** Connect the Ethernet cables from the VX4S-N's output ports to your LED display receiving cards. The VX4S-N has 4 Ethernet outputs.
4. **Monitor Output (Optional):** Connect a monitor to the DVI OUT port to preview the output or for configuration purposes.
5. **Control PC Connection (Optional):** Connect a PC to the USB Type-B port for advanced control and configuration using NovaStar software.

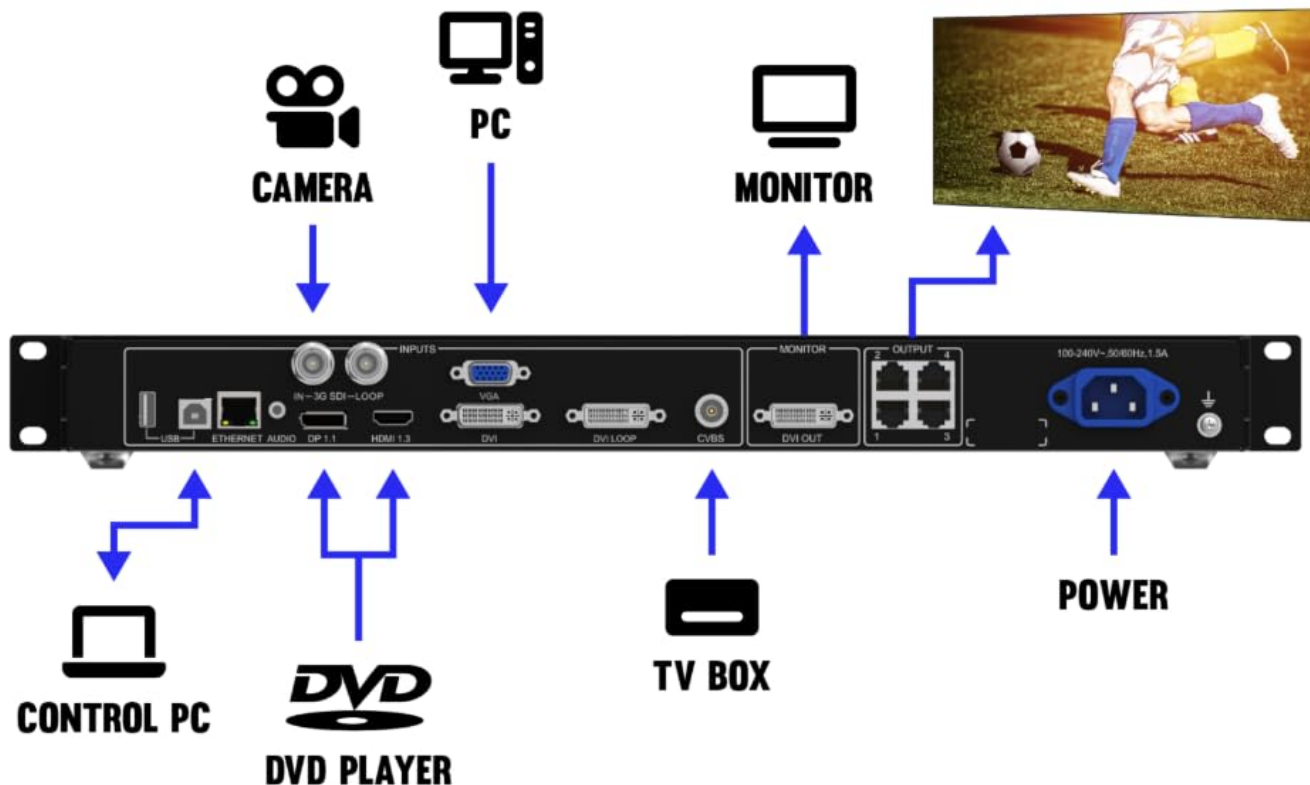


Figure 2.3: Typical connection diagram illustrating various input and output configurations.

### 3. OPERATING INSTRUCTIONS

This section details the basic operation of the NovaStar VX4S-N, including input switching, screen configuration, and Picture-in-Picture (PIP) settings.

#### 3.1 Powering On/Off

- To power on, flip the **ON/OFF** switch on the front panel to the **ON** position.
- To power off, flip the **ON/OFF** switch to the **OFF** position.

#### 3.2 Input Source Selection

Use the dedicated input buttons on the front panel to switch between different video sources. Press the button corresponding to the desired input (e.g., HDMI, DVI, VGA, CVBS, DP, SDI).



Figure 3.1: Close-up of the input selection buttons on the front panel.

#### 3.3 Menu Navigation and Configuration

The VX4S-N features an intuitive display interface controlled by a single rotary knob and an ESC button. Rotate the knob

to navigate through menu options and press it to confirm a selection. Use the ESC button to go back to the previous menu or exit the menu.

- **Screen Configuration:** Access the "Screen Config" menu to set up the resolution, refresh rate, and mapping of your LED display.
- **Brightness Adjustment:** Adjust the overall brightness of the display from the main menu.
- **Advanced Settings:** Explore other settings like color temperature, gamma, and test patterns.

### 3.4 Picture-in-Picture (PIP) Function

The VX4S-N supports Picture-in-Picture functionality, allowing you to display two video sources simultaneously. Use the **PIP** button on the front panel to activate and configure PIP mode.

- **PIP Source Selection:** Select the main and PIP input sources from the menu.
- **Position and Size:** Adjust the position and size of the PIP window using the control knob.

Refer to the table below for input source compatibility when using PIP:

|                  |      | MAIN LAYER INPUT SOURCE |     |     |      |     |    |
|------------------|------|-------------------------|-----|-----|------|-----|----|
|                  |      | HDMI                    | DVI | VGA | CVBS | SDI | DP |
| PIP INPUT SOURCE | HDMI | —                       | ✗   | ✓   | ✓    | ✓   | ✓  |
|                  | DVI  | ✗                       | —   | ✓   | ✓    | ✓   | ✓  |
|                  | VGA  | ✓                       | ✓   | —   | ✓    | ✓   | ✓  |
|                  | CVBS | ✓                       | ✓   | ✓   | —    | ✓   | ✓  |
|                  | SDI  | ✓                       | ✓   | ✓   | ✓    | —   | ✓  |
|                  | DP   | ✓                       | ✓   | ✓   | ✓    | ✓   | —  |

✓ denotes the input sources can be used by both the main layer and PIP at the same time

✗ denotes the input sources cannot be used by both the main layer and PIP at the same time

— denotes the main layer and PIP use the same input source

Figure 3.2: Input source compatibility matrix for Main Layer and PIP inputs. A checkmark indicates compatibility, an 'X' indicates incompatibility, and a dash indicates the same input cannot be used for both.

Legend:

- ✓ denotes the input sources can be used by both the main layer and PIP at the same time.
- ✗ denotes the input sources cannot be used by both the main layer and PIP at the same time.
- denotes the main layer and PIP use the same input source.

## 4. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your NovaStar VX4S-N.

### 4.1 Cleaning

- Ensure the unit is powered off and unplugged before cleaning.
- Use a soft, dry cloth to wipe the exterior of the unit.
- For stubborn marks, a slightly damp cloth with a mild, non-abrasive cleaner can be used, followed by a dry cloth.
- Do not use liquid cleaners directly on the unit or allow liquids to seep into openings.
- Keep ventilation openings clear of dust and debris to ensure proper airflow.

## 4.2 Firmware Updates

Periodically check the NovaStar official website for firmware updates. Firmware updates can provide new features, performance improvements, and bug fixes. Follow the instructions provided with the firmware update package carefully, typically involving a USB connection to a PC.

## 5. TROUBLESHOOTING

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This section provides solutions to common issues you might encounter with your NovaStar VX4S-N.

### 5.1 No Display Output

- **Check Power:** Ensure the unit is powered on and the power indicator light is active.
- **Cable Connections:** Verify that all video input and output cables are securely connected.
- **Input Source:** Confirm that the correct input source is selected on the VX4S-N.
- **LED Display Status:** Check if the LED display itself is powered on and functioning correctly.
- **Resolution/Refresh Rate:** Ensure the output resolution and refresh rate of the VX4S-N match the capabilities of your LED display. Adjust settings via the menu if necessary.

### 5.2 Distorted or Flickering Image

- **Cable Quality:** Use high-quality, shielded cables for video connections, especially for long runs.
- **Cable Length:** Excessive cable length can cause signal degradation. Consider using signal boosters or shorter cables if possible.
- **Input Signal Stability:** Ensure the video source is providing a stable signal.
- **Grounding:** Check for proper grounding of all connected equipment to prevent electrical interference.

### 5.3 Unit Not Responding to Controls

- **Reboot:** Power off the unit, wait a few seconds, and then power it back on.
- **Firmware:** Ensure the firmware is up to date.
- **USB Connection:** If controlling via PC, verify the USB cable connection and driver installation.

## 6. SPECIFICATIONS

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Detailed technical specifications for the NovaStar VX4S-N All-in-One LED Video Processor.



## OVERVIEW



## CONNECTORS



## POWER



## DIMENSIONS

Loading capacity:  
2.3m pixels

Large screen, multiple  
controller support

Point-by-point correction

Fast and efficient

Configurable using  
1 knob + 1 button

Innovative and  
smart configuration

Intuitive display interface

Certification: CE, ROHS,  
FCC, UL, EAC

1 x CVBS

1 x VGA

1 x DVI (IN+LOOP)

1 x HDMI 1.3

1 x DP 1.1

1 x 3G-SDI (IN+LOOP)

1 x USB (Type-A)

2 x USB (Type-B)

4 x Ethernet outputs

100-240VAC,  
50-60 Hz

Power consumption:  
25W, 1.5A

Emerson power supply

15.75" L x 9.9" W x 2" H

12.0 lbs



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Figure 6.1: Overview of VX4S-N specifications.

| Feature                        | Specification                                                                  |
|--------------------------------|--------------------------------------------------------------------------------|
| Model Number                   | VX4S-N                                                                         |
| Loading Capacity               | 2.3 million pixels                                                             |
| Product Dimensions (L x W x H) | 15.75 x 9.9 x 2 inches (400 x 251.5 x 50.8 mm)                                 |
| Item Weight                    | 5.72 pounds (2.59 kg)                                                          |
| Video Inputs                   | 1x CVBS, 1x VGA, 1x DVI (IN+LOOP), 1x HDMI 1.3, 1x DP 1.1, 1x 3G-SDI (IN+LOOP) |
| Control Ports                  | 2x USB (Type-A, Type-B)                                                        |
| Output Ports                   | 4x Ethernet outputs, 1x DVI Out (Monitor)                                      |
| Power Supply                   | 100-240VAC, 50/60Hz                                                            |
| Power Consumption              | 25W, 1.5A                                                                      |
| Graphics Coprocessor           | AMD FirePro 2270                                                               |
| Graphics RAM Size              | 9 GB                                                                           |
| Certifications                 | CE, ROHS, FCC, UL, EAC                                                         |

Note: Some specifications like "Graphics Coprocessor" and "Graphics RAM Size" may refer to internal components or general product category listings and might not directly reflect user-configurable aspects of this video processor.

## 7. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official NovaStar website or contact your local distributor.

- **Manufacturer:** NovaStar
- **US-based Training & Support:** Blizzard Lighting, LLC (as per product information)
- **Warranty:** Please consult the warranty card included with your product or the official NovaStar website for specific warranty terms and conditions.

When contacting support, please have your product model (VX4S-N) and serial number ready.

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