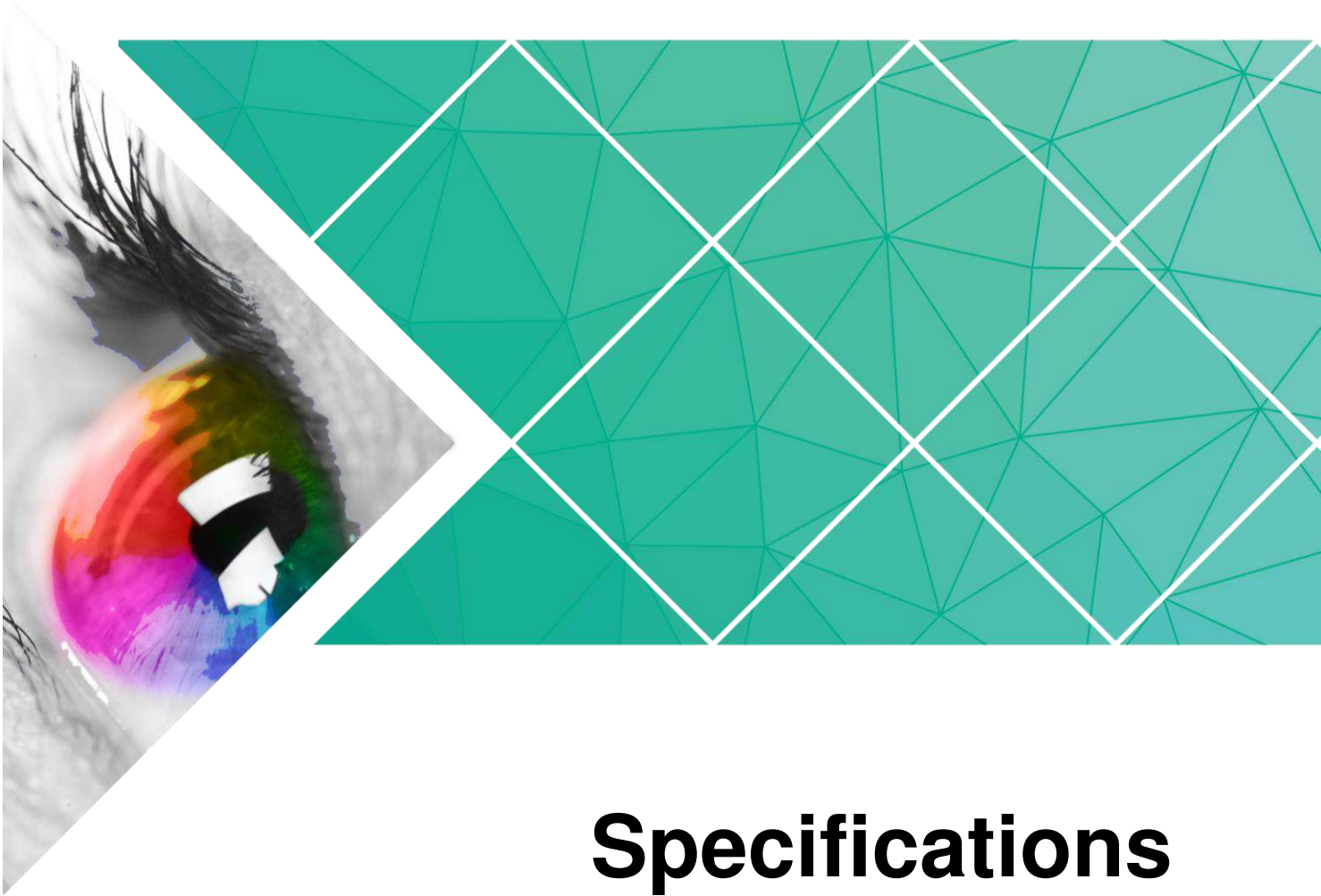# N9

Seamless Switcher

Specifications

Document Version: V1.0.1

Document Number: NS160100326

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Version	Release Date	Description
V1.0.1	2019-06-17	Updated the input card description.
V1.0.0	2019-03-07	First release

1 Overview

The N9 is a high-performance seamless switcher that integrates video processing, screen mosaic, transition effects and multi-screen display capabilities. With powerful video signal receiving and processing abilities, the N9 supports up to 4K×2K@60Hz video input. Using high-performance video processing technologies, it is capable of processing and outputting ultra-high quality images. The N9 supports 9 video inputs, 7 layers and up to 4 group of DVI connectors for mosaic output. A single N9 unit can load an up to 8KK screen, and multiple N9 units can be cascaded for output.

The N9 can work with NovaStar's C1 event controller and brand-new V-Can smart control software, to realize richer screen mosaic effects and easier operation.

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, big conference sites, exhibition sites and concert control centers.

2 Features

- Compatible with industry-standard video input connectors in the market
  - DP 1.2 connector: 3840×2160@60Hz
  - DP 1.1 connector: 3840×2160@30Hz
  - HDMI 1.3 connector: 1920×1080@60Hz
  - DVI connector: 1920×1080@60Hz
  - 3G-SDI connector: 1920×1080@60Hz
- 4 groups (2 connectors in each group) of DVI connectors for mosaic output

  Each group includes a main connector and a backup connector. A maximum of 4 connectors can be used for mosaic output. The mosaic layout can be 4×1, 1×4 or 2×2. The maximum loading capacity can reach 8,800,000 pixels and the maximum mosaic width can be up to 8192 pixels.

  Supports 4 single-link connectors or 2 dual-link connectors for mosaic output.
- Multiple layer display
  - Up to 7 layers supported at the same time. Max. resolution of each layer can be up to 4K×2K. Cross connector output is supported.
  - Layer cloning, layer mirroring and Z-order layer sorting are supported.
- Customized BKG settings

  You can load an image file from the control computer or C1 event controller, or you can also capture an input source image displayed on the screen as the BKG image.
- Input source cropping supported
- Easy mosaic and custom mosaic
- EDID management supported

  Supports input resolution management for DVI, HDMI and DP connectors.
- Display control and transition effects
  - Allows you to black out or freeze the screen by simply clicking one button.
  - Supports setting of transition effect and effect duration.
- HDMI connector for output monitoring
  - Supports monitoring of all input sources, PVW and PGM.
  - Supports displaying of input resolution and frame rate.
- 2 × Aux output

- 32 × preset

  A total of 32 user presets can be created and saved as templates which can be used directly and conveniently.

- Multiple operation modes

  You can operate the N9 via its front panel, the V-Can smart control software or C1 event controller.

- Genlock synchronization or synchronization with any input source, achieving output vertical synchronization

3 Appearance

Front Panel

No.	Button	Function
1	Input source buttons	Indicate input source status. • On: The input source is accessed but not in use. • Dim: The input source is accessed and in normal use. • Off: The input source is not accessed or abnormal.
2	LCD screen	Display the current device status and settings menu.
	Knob	• On the home screen, press the knob to enter the operation menu screen. • On the operation menu screen, rotate the knob to select a menu item, and press the knob to confirm the selection or enter the submenu. • When a menu item with parameters is selected, you can rotate the knob to adjust the parameters. Please note that after adjustment, you need to press the knob again to confirm the adjustment.
	BACK button	Press the button to exit the current menu or cancel the operation.

| No.	Button	Function
	TAKE button	Send PVW to PGM.
	TEST button	Enter the test patterns menu.
3	Layer buttons	Press a layer button to open the corresponding layer and enter the layer settings menu • On: Layer is open. • Flashing: Settings menu of the corresponding layer is opened and being edited. • Off: Layer is closed. • On the home screen, hold down a layer button to close the layer. • BKG: Open or close the BKG.
4	Preset button	Press it to enter the preset menu. A total of 32 presets can be loaded, saved and cleared, etc.
	Fn button	A custom function button

Rear Panel

Input	
INPUT-1	DP 1.1 connector Supports 3840×2160@30Hz video source input (downward compatible) and custom resolutions.
INPUT-2	HDMI 1.3 connectors
INPUT-3	Support 1920×1080@60Hz video source input, any input resolution that conforms to VESA standard and custom resolutions.
INPUT-4	DVI connectors
INPUT-5	Supports 1920×1080@60Hz video source input (downward compatible), any input resolution that conforms to VESA standard and custom resolutions.
INPUT-6	
INPUT-7	

| INPUT-8	DP 1.2 connector
	Supports 3840×2160@30Hz video source input (downward compatible) and custom resolutions.
INPUT-9	3G-SDI connector
	Supports 1920×1080@60Hz video source input (downward compatible).
	Supports de-interlacing processing.
	SDI LOOP for SDI signal loop output
Output	
HDMI	HDMI output connector, capable of monitoring 9 input sources, PVW and PGM
DVI1-DL/PGM1	DVI 1 output
	If the output mode is set to dual link, this connector is DuallinkOut1.
DVI2/PGM2	DVI 2 output
	If the output mode is set to dual link, this connector is invalid.
DVI3-DL/PVW1	DVI 3 output
	If the output mode is set to dual link, this connector is DuallinkOut2.
DVI4/PVW2	DVI 4 output
	If the output mode is set to dual link, this connector is invalid.
HDMI1/HDMI2	2 Aux output connectors
Control	
ETHERNET (RJ45)	A control connector
USB (Type-B)	For the connection with control computer
USB (Type-A)	For cascading N9 units
IN-Genlock-LOOP	For synchronizing cascaded devices
OPT OUTPUT	4 optical fiber connectors for controlling the VE7 video input expander
Power	
AC100V-240V~, 50/60Hz	AC power connector

4 Dimensions
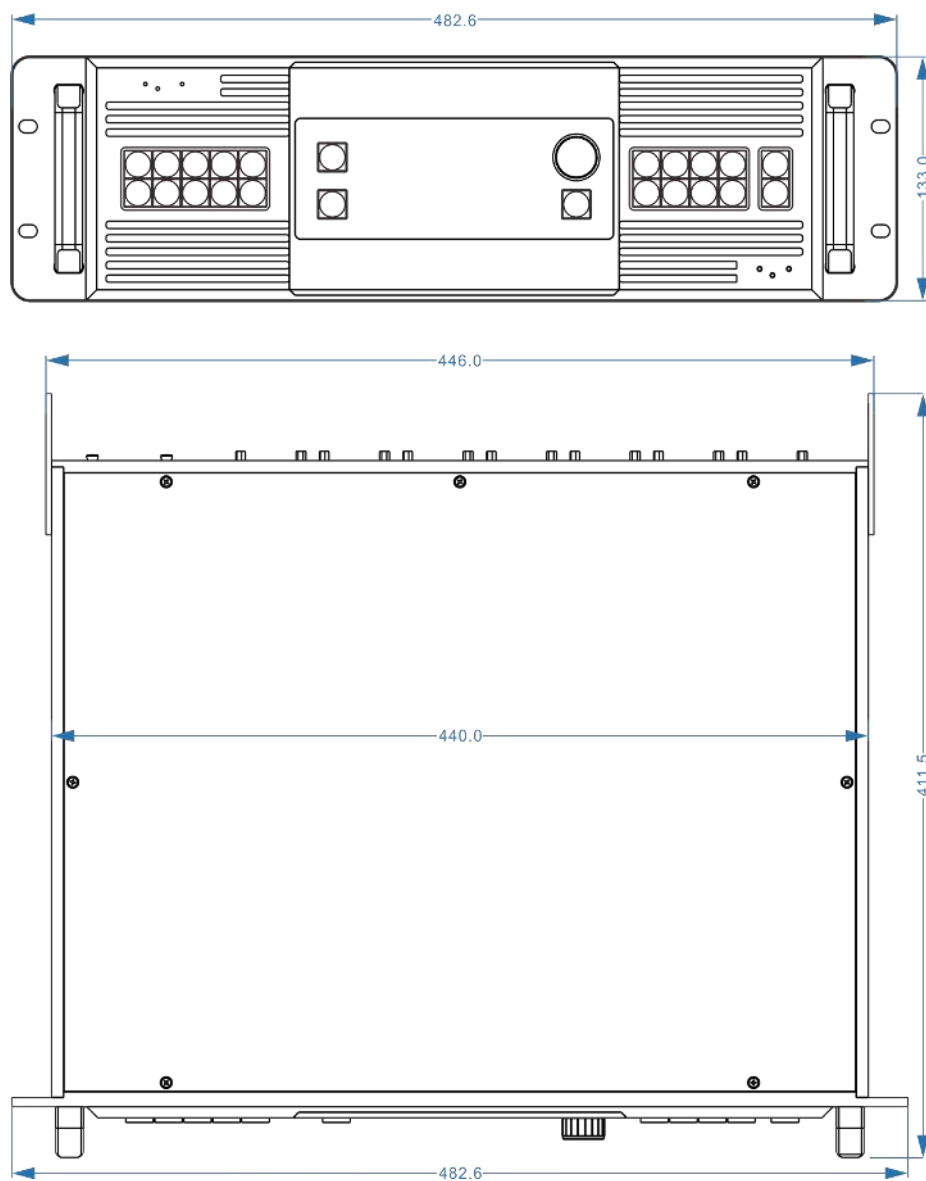
Unit: mm

5 Applications

N9 works independently
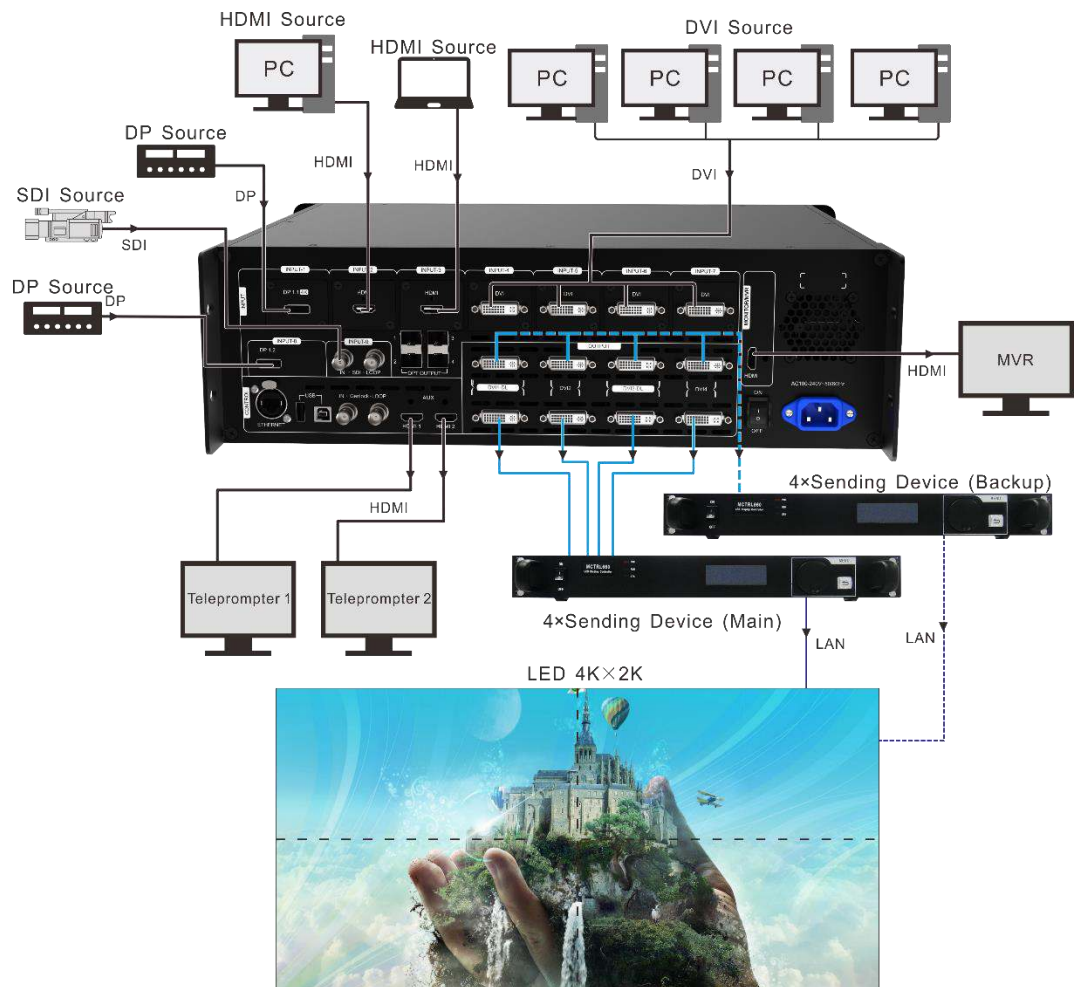
N9 works with V-Can/C1/VE7
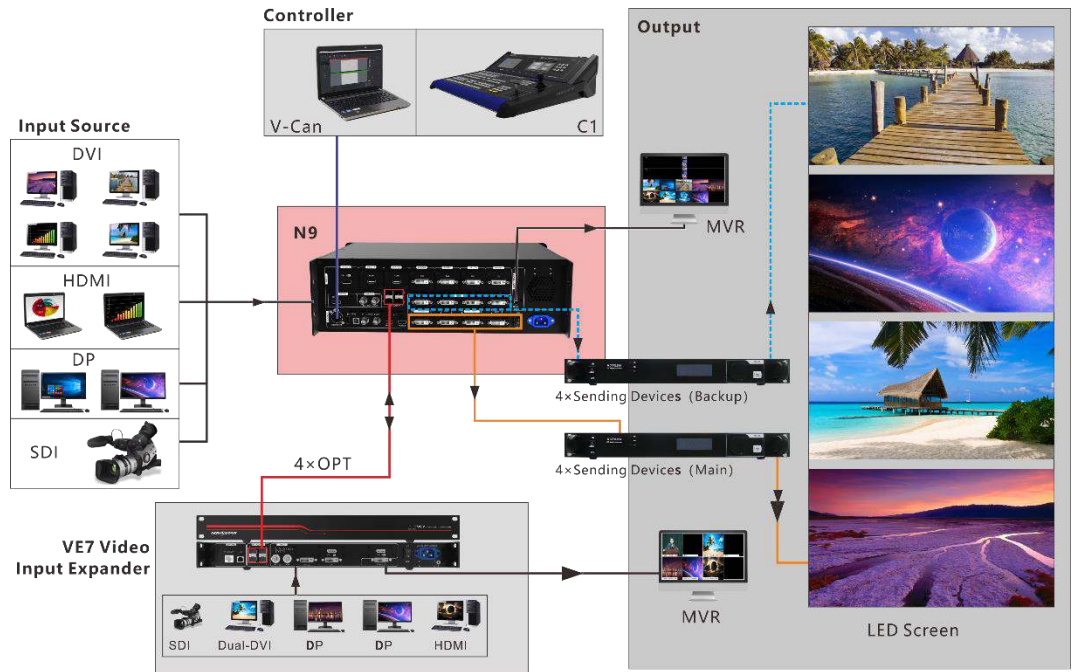
6 Specifications

Connector Specifications	
Connector	**Resolution**
DP 1.1	800×600@50/60/75/120Hz 1920×1080@50/60/75/120Hz 1024×768@50/60/75/120Hz 1920×1200@/50/60/75Hz 1280×720@50/60/75/120Hz 2048×640@50/60/75/120Hz 1280×768@50/60/75/120Hz 2048×1152@/50/60/75Hz 1280×800@50/60/75/120Hz 2048×1536@/50/60/75Hz 1280×1024@50/60/75/120Hz 2304×1152@/50/60/75Hz 1366×768@50/60/75/120Hz 2560×816@50/60/75/120Hz 1440×900@50/60/75/120Hz 2560×960@/50/60/75Hz 1600×1200@50/60/75/120Hz 2560×1600@/50/60Hz 1680×1050@50/60/75/120Hz 3840×1080@/50/60Hz
DP 1.2	800×600@50/60/75/120Hz 1920×1200@50/60/75/120Hz 1024×768@50/60/75/120Hz 1920×2160@50/60/75/120Hz 1280×720@50/60/75/120Hz 2048×640@50/60/75/120Hz 1280×768@50/60/75/120Hz 2048×1152@50/60/75/120Hz 1280×800@50/60/75/120Hz 2048×1536@50/60/75/120Hz 1280×1024@50/60/75/120Hz 2304×1152@50/60/75/120Hz 1364×768@50/60/75/120Hz 2560×816@50/60/75/120Hz 1440×900@50/60/75/120Hz 2560×960@50/60/75/120Hz 1600×1200@50/60/75/120Hz 2560×1600@50/60/75/120Hz 1680×1050@50/60/75/120Hz 3840×1080@50/60/75/120Hz 1920×1080@50/60/75/120Hz 3840×2160p@/50/60Hz
HDMI 1.3 DVI	800×600@50/60/75/120Hz 1920×1080@50/60/75/120Hz 1024×768@50/60/75/120Hz 1920×1200@/50/60/75Hz 1280×720@50/60/75/120Hz 2048×640@50/60/75/120Hz 1280×768@50/60/75/120Hz 2048×1152@/50/60/75Hz 1280×800@50/60/75/120Hz 2048×1536@/50/60/75Hz

Connector Specifications	
Connector	Resolution
	1280×1024@50/60/75/120Hz 2304×1152@/50/60/75Hz 1366×768@50/60/75/120Hz 2560×816@50/60/75/120Hz 1440×900@50/60/75/120Hz 2560×960@/50/60/75Hz 1600×1200@50/60/75/120Hz 2560×1600@/50/60Hz 1680×1050@50/60/75/120Hz 3840×1080@/50/60Hz
SDI	3G-SDI, compatible with HD-SDI and SD-SDI signal De-interlacing supported 576i@50Hz 480i@59.94Hz 1280×720p@23.98/24/25/29.97/30/50/59.94/60Hz 1920×1035i@59.94/60Hz 1920×1080i@50/59.94/60Hz 1920×1080p@23.98/24/25/29.97/30/50/59.94/60Hz
Overall Specifications	
Power connector	AC100V-240V~50/60Hz
Operating environment	Temperature: 0°C–60°C
	Humidity: 10% RH–90% RH, non-condensing
Dimensions	3U standard chassis 482.6 mm × 139.5 mm × 411.5 mm
Package dimensions	550mm × 601mm × 189mm
Power consumption	95 W
Net weight	6.5 kg
Total weight	20 kg