Colorlight

U9 Max

Video Splicer Specification

CONTENTS

Revision History 1

1 Product Introduction 2

1.1 Overview 2

1.2 Appearance 3

2 Features 5

3 Applications 9

4 Board Specifications 10

4.1 Input Boards 10

4.2 Output Boards 24

4.3 Preview Board 33

4.4 Main Board 34

5 Port Specifications 35

5.1 Input Ports 35

5.2 Output Ports 42

6 Cabinet Count Loaded 46

7 Device Specifications 51

8 Installation 53

8.1 Chassis Handling 53

8.2 Rack Mounting 54

9 Six Principal Views 55

10 Reference Dimensions 56

11 Statements 57

11.1 Certifications 57

11.2 Legal Statement 57

更新说明

Version	Date	Description
V1.0	2024.09.26	• Initial release
V1.1	2025.09.26	• Added a new board: - U_2×IP input board - U_CENTRE CONTROL input board • Added new features: - Number all receiving cards - Backup and fiber port status indicators - Accelerated sending and readback of calibration coefficients - Web-based simulation software (Universe simulator) - Audio board-related functions - IP board-related functions - Real-time screen frame rate updates - Performance and user experience optimizations - Support embedded audio output in output boards • Added installation instructions

01 PRODUCT INTRODUCTION

1.1 Overview

The U9 Max is Colorlight's next generation video splicer, featuring an integrated video processing and splicing solution. Powered by a robust FPGA architecture, the U9 Max offers a secure and stable software system, making it ideal for diverse applications. Whether for large-scale events, convention centers, stadiums, stage performances, traffic monitoring, or commercial exhibitions, the U9 Max delivers unparalleled reliability and performance.

In addition to an impressive load capacity of 260 million pixels, the U9 Max boasts a modular design that supports flexible combinations of 21 types of boards. It can accommodate 10 to 18 input boards and 2 to 10 output boards, with a total of 20 slots available. Input ports include HDMI, DisplayPort (DP), SDI, DVI, IP, VGA, and CVBS, while output options feature Gigabit Ethernet (GbE), 10G fiber, HDMI, and DVI.

The U9 Max is capable of managing various screen types, delivering 4K HDR ultra high-quality video with 10-bit video input and processing. It supports video source cropping, scaling, along with the addition of various display elements, such as background images, OSD, and logos. The unit also supports multiple redundancy options, including fiber ports, Ethernet ports, and power supplies, ensuring high availability. Additional features include dual 4K UHD video preview and monitoring, health monitoring, and email alerts. This versatility makes the U9 Max well-suited for small-pitch LED video walls, LCD video walls, and projection screens.

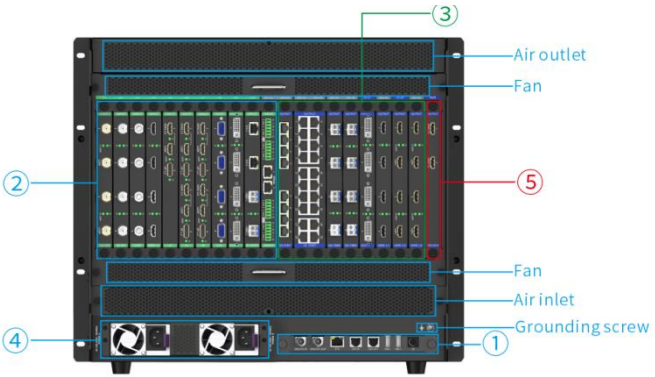
The Universe series lets you control and manage devices across multiple platforms, such as Windows, macOS, and Linux, all through a web app. With an intuitive user interface, the series enables smooth workflows including real-time collaboration and modular permission management.

1.2 Appearance

Front Panel

No.	Name	Description
1	Touch screen	Displays device status and allows for parameters configuration and device operation.
2	Power switch	Turns the device on or off.

Rear Panel



No.	Name	Description
1	Main board	GENLOCK IN port, GENLOCK LOOP port, RS232 serial port, USB 2.0 port, GbE port, 3D port.
2	Input board	Supports 14 types of input boards.
3	Output board	Supports 8 types of output boards.
4	Power supply	AC 100-240V, 50/60Hz, supports dual power supplies (a redundant power supply is optional).
5	Preview board	2×HDMI 2.0 ports: Connects to external monitors for input preview and output monitoring.

Notes on slot silkscreen markings:

- Slots marked "I-x" are for input boards, where "I" indicates input and "x" stands for the slot number. For example, "I-1" indicates that the first input slot can only be used for an input board.
- Slots marked "O-x" are for output boards, where "O" indicates output and "x" stands for the slot number. For example, "O-17" indicates that the 17th output slot can only be used for an output board.
- Slots marked "I/O-x" can be used for either input or output boards.
- Slot marked "MVR" is for the preview board only.

02 FEATURES

Modular Design Flexible Combination

- 3 LED screen solutions:
  - 10G fiber output: Loads up to 26 million pixels per board and 260 million pixels per device.
  - 5G Ethernet output: Loads up to 23.6 million pixels per board and 236 million pixels per device.
  - 1G Ethernet output: Loads up to 13 million pixels per board and 65 million pixels per device.
- LCD/Projection screen solutions:
  - HDMI 2.0 video output: Loads up to 2× 4K×2K@60Hz per board.
  - HDMI 1.4 video output: Loads up to 4× 4K×1K@60Hz per board.
  - HDMI 1.3 video output: Loads up to 6× 2K×1K@60Hz per board.
  - DVI video output: Loads up to 4× 2K×1K@60Hz per board.
- Supports LED, LCD, and projection screen solutions simultaneously.
- Supports 22 types of hot-swappable I/O boards. Input slots accommodate 10 to 18 boards, and output slots accommodate 2 to 10 boards:
  - Input ports: HDMI 2.0, DP 1.2, 12G-SDI, IP, HDMI 1.3, DVI, VGA, CVBS, 3G-SDI.
  - Output ports: HDMI 2.0, HDMI 1.4, HDMI 1.3, DVI, 10G fiber, 5G Ethernet, 1G Ethernet.
- Monitors the status of all boards in real time.
- Input and output frame rates range from 23.98Hz to 240Hz.

Multiple Screen Management

- Screen group management: Up to 10 LCD or LED screen groups.
- Custom resolutions per screen group.

- User-definable parameters per screen: Layers, colors, presets, frame rates, and more.
- Synchronized splicing between screens, with no tearing, delay, or frame loss.
- Advanced seam correction for LED video walls.
- Bezel compensation for LCD video walls.

4K HDR Impeccable Visuals

- DCI 4K: 4096×2160@60Hz.
- HDR:
  - Supports HDR 10, compliant with SMPTE ST 2086/2084.
  - Supports HLG.
- 8-bit and 10-bit color depth.
- Maximum frame rate: 240Hz.

Powerful Video Processing

- Multi-layer display:
  - 160×2K or 40×4K layers per device.
  - 16×2K or 4×4K layers per board.
- Inputs scaling and cropping.
- Layer roaming and free splicing.
- Automatic and manual frame rate multiplication.
- Fade in/out.
- 3D display.
- Precise color management.
- Multiple color formats:
  - RGB, YCbCr444, YCbCr422, YCbCr420.
- Color management by input sources, output ports, and screens.
  - Adjusts brightness, color temperature, saturation, hue, contrast, brightness compensation, and RGB.

Diversified Display

- BKG: Supports UHD images with a maximum height/width of 32,768 pixels; BKG does not use up any layers.
- OSD (image and text):
  - Scrolling images and text.
  - Adjustable OSD transparency for superimposing.
  - Custom direction, speed, and style.
- Signal logo: Supports adding image or text logos for identifying input sources.
- Advanced test patterns: Includes up to 15 built-in test patterns, each capable of displaying any color.

All-Round Multiviewer

- 2×HDMI 2.0 ports: Supports simultaneous 4K ultra HD preview and monitoring.
- Software-based preview: Supports device control as well as preview and monitoring using an Ethernet cable.
- HD LCD on front panel: On-device input preview and output monitoring, with no external devices required.

Web Control All-in-One Web Control

- Cross-platform web control that enables multi-user collaboration.
- Screen/device management, input configuration, and splicing settings.
- Screen mapping, screen parameter transmission, and advanced seam correction.
- Control via the Kylin VICP (Visualization Intelligent Control Platform) mobile app.
- Intuitive user interface with on-screen instructions.
- Up to 20,000 presets: Real-time application and scheduled loop.

- Supports a web simulator, allowing configuration and import/export operations while the device is offline.

Secure and Stable

- Dual power supplies for 24/7 uptime.
- Parameter snapshot, as well as multiple redundancies for Ethernet, fiber, and devices.
- Permission management and log record.
- Real-time monitoring and alerts:
  - Monitors device status, power status, and fan speed.
  - Monitors screen connection status, runtime, temperature and humidity, and bit error rates.

03 APPLICATIONS

Note: The image displayed is for illustrative purposes and may vary from the actual product.

04 BOARD SPECIFICATIONS

4.1 Input Boards

13 types of input boards available for flexible configuration:

Name	Model
U_2×HDMI 2.0+2×DP 1.2 input board	U_IN_2HDMI20_2DP12
U_1×HDMI 2.0+1×DP 1.2 input board	U_IN_1HDMI20_1DP12
U_2×12G-SDI input board	U_IN_2×12GSDI
U_1×12G-SDI input board	U_IN_1×12GSDI
U_2×IP input board	U_IN_2IP
U_4×3G-SDI input board	U_IN_4×3GSDI
U_4×HDMI 1.3 input board	U_IN_4HDMI13
U_6×HDMI 1.3 input board	U_IN_6HDMI13
U_4×VGA input board	U_IN_4VGA
U_2×VGA+2×CVBS input board	U_IN_2VGA_2CVBS
U_4×AUDIO input board	U_IN_4AUDIO
U_4×DVI input board	U_IN_4DVI
U_4×CVBS input board	U_IN_4CVBS
U_CENTRE CONTROL input board	U_IN_CENTRE_CONTROL

Number of input boards per device:

- Max. input boards: 18

Name: U_2×HDMI 2.0+2×DP 1.2 Input Board	Model: U_IN_2HDMI20_2DP12

Details

Two groups of 4K input ports: Each group includes 1×HDMI 2.0 & LOOP ports, and 1×DP 1.2 port. For each group, both HDMI 2.0 and DP 1.2 can be connected simultaneously, but only one can be displayed.

2×HDMI2.0

- Backwards compatible with HDMI 1.4/1.3.
- Each port supports a maximum pixel clock of 600MHz; video inputs up to 4096×2160@60Hz/8192×1080@60Hz.
- Supports custom resolutions through EDID configuration:
  - Maximum width: 4096 pixels (when the width is 4096 pixels, supported resolutions include 4096 × 2160@60Hz, 4096 × 2160@50Hz, and 4096×2160@30Hz).
  - Maximum height: 4095 pixels (2160×4095@60Hz).
- Width limit: 8192 pixels, height limit: 8188 pixels (forced by external signals).
- 8/10/12-bit input.
- Color formats: RGB, YCbCr444, YCbCr422, YCbCr420.
- Frame rates: 23.98Hz ~ 240Hz.
- Supports HDR10 and HLG.
- Supports HDCP2.2 and HDCP1.4.
- Supports embedded audio input.
- Progressive only.

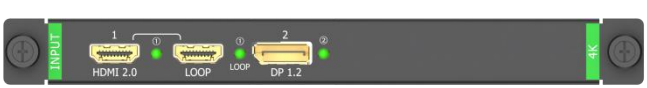
2×HDMI2.0_LOOP

- 2×HDMI 2.0 loop-out ports.

2×DP1.2

- Backwards compatible with DP 1.1.
- Each port supports a maximum pixel clock of 600MHz; video inputs up

	to 4096×2160@60Hz/8192×1080@60Hz. • Supports custom resolutions through EDID/DisplayID configuration: - Maximum weight: 8192 pixels (8192×1080@60Hz). - Maximum height: 8192 pixels (1024×8192@60Hz). • Width limit: 8192 pixels, height limit: 8092 pixels. • 8/10/12-bit input. • Color formats: RGB, YCbCr444, YCbCr422. • Frame rates: 23.98Hz ~ 240Hz. • Supports HDR10 and HLG. • Supports HDCP2.2 and HDCP1.4. • Supports embedded audio input. • Progressive only. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 500 g (17.6 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 26W
Tech Specs	• For video specifications, refer to Sections 5.1.1 and 5.1.2.

Name: U_1×HDMI 2.0+1×DP 1.2 Input Board	Model: U_IN_1HDMI20_1DP12
Details	 1×HDMI2.0 • Backwards compatible with HDMI 1.4/1.3. • Each port supports a maximum pixel clock of 600MHz; video inputs up to 4096×2160@60Hz/8192×1080@60Hz.

	• Supports custom resolutions through EDID configuration: - Maximum width: 4096 pixels (4096×2160@60Hz). - Maximum height: 4095 pixels (2160×4095@60Hz). • Width limit: 8192 pixels, height limit: 8188 pixels (forced by external signals). • 8/10/12-bit input. • Frame rates: 23.98Hz ~ 240Hz. • Supports HDR10 and HLG. • Color formats: RGB, YCbCr444, YCbCr422, YCbCr420. • Supports HDCP2.2 and HDCP1.4. • Supports embedded audio input. • Progressive only. 1×HDMI2.0_LOOP • 1×HDMI 2.0 loop-out ports. 1×DP1.2 • Backwards compatible with DP 1.1. • Each port supports a maximum pixel clock of 600MHz; video inputs up to 4096×2160@60Hz/8192×1080@60Hz. • Supports custom resolutions through EDID/DisplayID configuration: - Maximum weight: 8192 pixels (8192×1080@60Hz). - Maximum height: 8192 pixels (1024×8192@60Hz). • Width limit: 8192 pixels, height limit: 8092 pixels. • 8/10/12-bit input. • Frame rates: 23.98Hz ~ 240Hz. • Supports HDR10 and HLG. • Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP2.2 and HDCP1.4. • Supports embedded audio input. • Progressive only. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply.

	• Blinking green: Normal video input. Specifications • Weight: 480 g (16.9 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 20W
Tech Specs	• For video specifications, refer to Sections 5.1.1 and 5.1.2.

Name: U_4×DVI Input Board	Model: U_IN_4DVI
Details	 4×DVI • Supports both SL-DVI and DL-DVI. • SL-DVI: ① Ports 1 and 3 can be used as SL-DVI inputs. ② Each port supports a maximum pixel clock of 165MHz; video inputs up to 2048×1080@60Hz/4096×512@60Hz. ③ Supports custom resolutions through EDID configuration: - Maximum weight: 4095 pixels (4095×512@60Hz). - Maximum height: 4095 pixels (512×4095@60Hz). ④ Width/height limit: 4096 pixels (forced by external signal). • DL-DVI: ① Ports 2 and 4 can be used as DL-DVI inputs. ② Each port supports a maximum pixel clock of 330MHz; video inputs up to 4096×1080@60Hz/4096×2160@30Hz. ③ Supports custom resolutions through EDID configuration: - Maximum weight: 4095 pixels (4095×1080@60Hz). - Maximum height: 4095 pixels (1080×4095@60Hz). ④ Width/height limit: 4096 pixels (forced by external signal). • 8-bit input. • Frame rates: 23.98Hz ~ 120Hz.

	• Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP1.4. • Progressive only. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 415 g (14.6 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 9W
Tech Specs	• For video specifications, refer to Sections 5.1.3 and 5.1.4.

Name: U_2×12G-SDI Input Board	Model: U_IN_2×12GSDI
Details	 2×12G-SDI • Backwards compatible with 6G-SDI, 3G-SDI (Level A/B), HD-SDI, and SD-SDI. • Supports SMPTE ST-2082-1 (12G), ST-2081-1 (6G), ST-424 (3G), ST-292 (HD), and ST-259 (SD) standards. • Each port supports a maximum video input of 4096×2160@60Hz. • 10-bit input. • Frame rates: 23.98Hz ~ 60Hz. • Color format: YCbCr422. • Supports signal de-interlacing: 480i/576i/1080i. 2×12G-SDI_LOOP • 2×12G-SDI loop-out ports.

	Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 455 g (16.0 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 11W
Tech Specs	• For video specifications, refer to Section 5.1.5.

Name: U_1×12G-SDI Input Board	Model: U_IN_1×12GSDI
Details	 1×12G-SDI • Backwards compatible with 6G-SDI, 3G-SDI (Level A/B), HD-SDI, and SD-SDI. • Supports SMPTE ST-2082-1 (12G), ST-2081-1 (6G), ST-424 (3G), ST-292 (HD), and ST-259 (SD) standards. • Each port supports a maximum video input of 4096×2160@60Hz. • 10-bit input. • Frame rates: 23.98Hz ~ 60Hz. • Color format: YCbCr422. • Supports signal de-interlacing: 480i/576i/1080i. 1×12G-SDI_LOOP • 1×12G-SDI loop-out ports. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply.

	• Blinking green: Normal video input. Specifications • Weight: 435 g (15.3 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 10W
Tech Specs	• For video specifications, refer to Section 5.1.5.

Name: U_4×3G-SDI Input Board	Model: U_IN_4×3GSDI
Details	 4×3G-SDI • Backwards compatible with HD-SDI and SD-SDI. • Supports SMPTE ST-424 (3G), ST-292 (HD), and ST-259 (SD) standards. • Each port supports a maximum video input of 2048×1080@60Hz. • Supported formats: Level A and Level B. • 10-bit input. • Frame rates: 23.98Hz ~ 60Hz. • Color format: YCbCr422. • Supports signal de-interlacing: 480i/576i/1080i. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 470 g (16.6 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 9W

Tech Specs	• For video specifications, refer to Section 5.1.6.

Name: U_4×HDMI 1.3 Input Board	Model: U_IN_4HDMI13
Details	 4×HDMI1.3 • Each port supports a maximum pixel clock of 165MHz; video inputs up to 2048×1080@60Hz. • Supports custom resolutions through EDID configuration: - Maximum width: 4095 pixels (4095×512@60Hz). - Maximum height: 4095 pixels (512×4095@60Hz). • Width/height limit: 4096 pixels (forced by external signal). • 8-bit input. • Frame rates: 23.98Hz ~ 120Hz. • Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP1.4. • Supports embedded audio input. • Progressive only. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 395 g (13.9 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 9W
Tech Specs	• For video specifications, refer to Section 5.1.7.

Name: U_6×HDMI 1.3 Input Board	Model: U_IN_6HDMI13
Details	 6×HDMI1.3 • Each port supports a maximum pixel clock of 165MHz; video inputs up to 2048×1080@60Hz. • Supports custom resolutions through EDID configuration: - Maximum width: 4095 pixels (4095×512@60Hz). - Maximum height: 4095 pixels (512×4095@60Hz). • Width/height limit: 4096 pixels (forced by external signal). • 8-bit input. • Frame rates: 23.98Hz ~ 120Hz. • Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP1.4. • Supports embedded audio input. • Progressive only. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 415 g (14.6 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 11W
Tech Specs	• For video specifications, refer to Section 5.1.7.

Name: U_4×AUDIO Input Board	Model: U_IN_4AUDIO
Details	 8×Phoenix connectors • 8 audio channels, each supporting both input and output. • Supports single channel and dual channel modes. • Single channel mode - 4 audio inputs and 4 audio outputs. • Dual channel mode - 2 audio inputs and 2 audio outputs. • Audio sampling rate: 48kHz. • Sources of output audio - Embedded audio from the input video. - Audio input from the audio board. • Supports switching between single channel and dual channel modes. • Supports output volume adjustment and one-click mute. • Supports audio output delay. Specifications • Weight: 480 g (16.9 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 10W

Name: U_2×VGA+2×CVBS Input Board	Model: U_IN_2VGA_2CVBS
Details	 2×VGA • Each port supports a maximum video input of 1920×1200@60Hz. 2×CVBS • Supports both PAL and NTSC standards. Status LEDs

	• Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 420 g (14.8 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 10W
Tech Specs	• For video specifications, refer to Section 5.1.8.

Name: U_4×VGA Input Board	Model: U_IN_4VGA
Details	 4×VGA • Each port supports a maximum video input of 1920×1200@60Hz. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 420 g (14.8 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 10W
Tech Specs	• For video specifications, refer to Section 5.1.8.

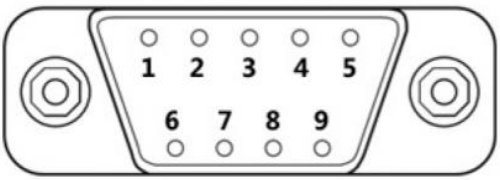
Name: U_4×CVBS Input Board	Model: U_IN_4CVBS

Details	 4×CVBS • Supports both PAL and NTSC standards. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video input. Specifications • Weight: 420 g (14.8 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 10W
Tech Specs	• For video specifications, refer to Section 5.1.8.

Name: U_2×IP Input Board	Model: U_IN_2IP
Details	 Use either ETH1 or FIBER1, and either ETH2 or FIBER2. Ports are self-adaptive, with fiber ports preferred. 2×RJ45 GbE ports • Supports independent connection to network video sources and redundancy. • Supports H.264 (AVC) and H.265 (HEVC) video encoding standards. • Supported protocols: GB28181, ONVIF. • Supports RTSP protocol. • Decoding capacity per board: - 8× 3840×2160@30Hz. - 18× 2560×1440@30Hz.

	- 32× 1920×1080@30Hz. - 64× 720×576@30Hz. • Supports DHCP. 2×1G FIBER • Refer to 2×RJ45 GbE ports. 1×USB3.0 (Reserved) Status LEDs (ETH) • Off: Power supply failure. • Solid green: Normal power supply. • Blinking orange: Normal data communication. Status LEDs (FIBER) • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal fiber connection. Specifications • Weight: 500 g (17.6 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 12W

Name: U_Control Board	Model: U_IN_CENTRAL_CTRL
Details	 2×COM • RS-232/RS-422/RS-485 serial ports; compatible with devices using RS-232/RS-422/RS-485 control protocols. • COM connector pinout



• Pin assignment and wiring

PIN	1	2	3	4	5	6	7	8	9
RS232	——	RXD	TXD	——	GND	——	——	——	——
RS422	RXD-	——	——	TXD+	GND	RXD+	——	——	TXD-
RS485	——	——	——	A	——	——	——	——	B

1×ETH

• Supports network-based control of external devices.
• Supported protocols: TCP/IP, UDP
• Bandwidth: 10/100 Mbps, auto-negotiation

3×I/O

• Supports user-defined command programming to control various terminal device functions.
• Pins 1, 2, and 3 are configurable as input or output; pin G serves as the common ground.

3×RELAY OUT

• Supports power on/off control of external devices via relay switching.
• Voltage: DC 30V; Current: 0–3A.
• Each relay output (up to 3) has 2 pins used to connect or disconnect external devices.

3×IR OUT

• Supports IR-based control of external devices.
• Supports importing learned IR commands.
• Pins 1, 2, and 3 function as IR outputs; pin G serves as the common

	ground. Specifications • Weight: 415 g (14.6 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 10W

4.2 Output Boards

8 types of output boards available for flexible configuration:

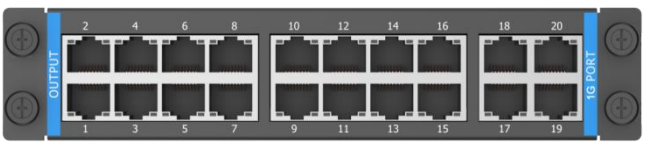
Name	Model
U_20×1G Ethernet output board	U_OUT_20×1G_RJ45
U_8×5G Ethernet output board	U_OUT_8×5G_RJ45
U_4×10G fiber output board	U_OUT_4×10G_FIBER
U_2×HDMI 2.0 output board	U_OUT_2HDMI20
U_1×HDMI 2.0 output board	U_OUT_1HDMI20
U_4×HDMI 1.4 output board	U_OUT_4HDMI14
U_6×HDMI 1.3 output board	U_OUT_6HDMI13
U_4×DVI output board	U_OUT_4DVI

Number of output boards per device:

Max. output boards	10	
Output Boards	Max. Output Ports	Max. Load Capacity
U_20×1G Ethernet output board	100	65 million pixels
U_8×5G Ethernet output board	80	236 million pixels
U_4×10G fiber output board	40	260 million pixels
U_2×HDMI 2.0 output board	20	81920×2160@60Hz
U_1×HDMI 2.0 output board	10	40960×2160@60Hz
U_4×HDMI 1.4 output board	40	81920×2160@60Hz
U_6×HDMI 1.3 output board	60	57600×2160@60Hz
U_4×DVI output board	40	38400×2160@60Hz

Name: U_20×1G Ethernet Output Board	Model: U_OUT_20×1G_RJ45

Details



As an LED sending card, this board loads up to 13 million pixels, with a maximum width and height of 16384 pixels. Each board occupies two slots.

20×RJ45 1G Ethernet ports

- 8/10-bit output.
- Frame rates: 23.98Hz ~ 240Hz.
- Supports loop redundancy between Ethernet ports.

Status LEDs

- Off: Power supply failure.
- Solid green: Normal power supply.
- Blinking orange: Normal data communication.

Specifications

- Weight: 596 g (21.0 oz)
- Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'')
- Power consumption: 40W

Load Capacity per Board

Frame Rate (Hz)	Color Depth (bit)	Pixels
60	8	13 million
	10	9.75 million
120	8	6.5 million
	10	4.87 million
240	8	3.25 million
	10	2.43 million

Name: U_8×5G Ethernet Output Board	Model: U_OUT_8×5G_RJ45

Details

As an LED sending card, this board loads up to 23.6 million pixels, with a maximum width and height of 16384 pixels. Use with a shieled Cat6A cable.

8×RJ45 5G Ethernet ports

- 8/10-bit output.
- Frame rates: 23.98Hz ~ 240Hz.
- Supports loop redundancy between Ethernet ports.

Status LEDs

- Off: Power supply failure.
- Solid green: Normal power supply; normal cable connection.
- Blinking orange: Normal data communication.

Specifications

- Weight: 510 g (18.0 oz)
- Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'')
- Power consumption: 28W

Load Capacity per Board

Frame Rate (Hz)	Color Depth (bit)	Pixels
60	8	23.6 million
	10	17.7 million
120	8	11.8 million
	10	8.85 million
240	8	5.9 million
	10	4.42 million

Name: U_4×10G fiber Output Board	Model: U_OUT_4×10G_FIBER
Details	 As an LED sending card, this board loads up to 26 million pixels, with a maximum width and height of 16384 pixels. Use with a dedicated fiber optic transceiver. 4×10G fiber • Supports 3 operating modes: independent, redundancy, and copy. • Independent mode - All 4 fiber ports are used for output. Each port can be converted to 10×1G Ethernet ports via fiber optic transceivers. • Redundancy mode - Ports 1 and 2 are used as the primary ports, while Ports 3 and 4 are used as the backup ports. Port 3 backs up the output of Port 1, and Port 4 backs up the output of Port 2. - To enable redundancy mode, the primary and backup ports must be connected in a loop. • Copy mode - Ports 1 and 2 are used for the primary ports, while Ports 3 and 4 are used as the copy ports. Port 3 copies the output of Port 1, and Port 4 copies the output of Port 2. • Supports output to be displayed at any position within the control area for each Ethernet port. • 8/10-bit output. • Frame rates: 23.98Hz ~ 240Hz. • Supports both single-mode and multi-mode SFP+ optical modules, with single-mode transmitting up to 20 km and multi-mode up to 300 m. • Comes with 4 single-mode, dual-core optical modules, with a transmission distance of 2 km and a wavelength of 1310 nm. Optical modules of other specifications are optional.

	Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal fiber connection. Specifications • Weight: 490 g (17.3 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 23W

	Frame Rate (Hz)	Color Depth (bit)	Pixels
Load Capacity per Board	60	8	26.2 million
		10	19.64 million
	120	8	13.08 million
		10	9.8 million
	240	8	6.52 million
		10	4.88 million

Name: U_2×HDMI 2.0 Output Board	Model: U_OUT_2HDMI20

Details	 2×HDMI2.0 • Ports 1 and 2 are used for video output. Port 1 (COPY) copies the output of Port 1, and Port 2 (COPY) copies the output of Port 2. • Each port supports a maximum video output of 4096×2160@60Hz/ 8192×1080@60Hz. • Width/height limit: 8192 pixels. • 8/10-bit output. • Frame rates: 23.98Hz ~ 240Hz. • Color formats: RGB, YCbCr444, YCbCr422.

	• Supports HDCP2.2 and HDCP1.4. • Supports embedded audio output. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video output. Specifications • Weight: 486 g (17.1 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 25W
Tech Specs	• For video specifications, refer to Section 5.2.1.

Name: U_1×HDMI 2.0 Output Board	Model: U_OUT_1HDMI20
Details	 1×HDMI2.0 • Port 1 is used for video output. Port 1 (COPY) copies the output of Port 1. • Each port supports a maximum video output of 4096×2160@60Hz/ 8192×1080@60Hz. • Width/height limit: 8192 pixels. • 8/10-bit output. • Frame rates: 23.98Hz ~ 240Hz. • Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP2.2 and HDCP1.4. • Supports embedded audio output. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply.

	• Blinking green: Normal video output. Specifications • Weight: 466 g (16.4 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 25W
Tech Specs	• For video specifications, refer to Section 5.2.1.

Name: U_4×DVI Output Board	Model: U_OUT_4DVI
Details	 4×DVI • Each port supports a maximum video output of 2048×1080@60Hz. • Width/height limit: 4096 pixels. • 8-bit output. • Frame rates: 23.98Hz ~ 60Hz. • Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP1.4. • Supports embedded audio output. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video output. Specifications • Weight: 506 g (17.8 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 25W
Tech Specs	• For video specifications, refer to Section 5.2.4.

Name: U_4×HDMI 1.4 Output Board	Model: U_OUT_4HDMI14
Details	 4×HDMI1.4 • Each port supports a maximum video output of 4096×2160@30Hz/ 4096×1080@60Hz. • Width/height limit: 4096 pixels. • 8-bit output. • Frame rates: 23.98Hz ~ 120Hz. • Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP1.4. • Supports embedded audio output. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video output. Specifications • Weight: 476 g (16.8 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 25W
Tech Specs	• For video specifications, refer to Section 5.2.2.

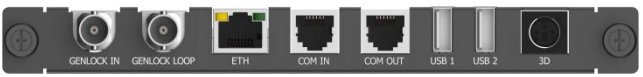
Name: U_6×HDMI 1.3 Output Board	Model: U_OUT_6HDMI13
Details	 6×HDMI 1.3 • Each port supports a maximum video output of 2048×1080@60Hz. • Width/height limit: 4096 pixels.

	• 8-bit output. • Frame rates: 23.98Hz ~ 120Hz. • Color formats: RGB, YCbCr444, YCbCr422. • Supports HDCP1.4. • Supports embedded audio output. Status LEDs • Off: Power supply failure. • Solid green: Normal power supply. • Blinking green: Normal video output. Specifications • Weight: 476 g (16.8 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 25W
Tech Specs	• For video specifications, refer to Section 5.2.3.

4.3 Preview Board

Name: U_Preview Board	Model: U_OUT_2HDMI20_2RJ45
Details	 2×HDMI2.0 • Connects to a monitor for input preview and output monitoring. • Supports 3840×2160@60Hz and 1920×1080@60Hz. • Port 1 defaults to Preview and Port 2 to Program. • Supports custom layouts for both Preview and Program, with multiple built-in templates available. Specifications • Weight: 500 g (17.6 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 25W

4.4 Main Board

Name: U_MAINBOARD	Model: U_Main Board
Details	 1×GENLOCK_IN/LOOP • 1×GENLOCK IN, for reference input; 1×GENLOCK LOOP, for reference loop. • Supports Black burst, Bi-level, and Tri-level signals. 1×RJ45 1G Ethernet port • A communication port for the host, used for connecting to a PC or tablet via a switch or router for device configuration and control. 2×RJ11 • RS-232 serial port with a default baud rate of 115200, 8N1. Used for connecting to central controllers or other devices. 2×USB2.0 • Supports firmware upgrades via a USB drive. • Supports data restoration/export via a USB drive. 1×3D • Works with a 3D emitter and compatible 3D glasses to deliver 3D visual effects. Specifications • Weight: 479 g (16.9 oz) • Dimensions: 193 mm (7.6'')×243.2 mm (9.6'')×19.82 mm (0.8'') • Power consumption: 8W

05 PORT SPECIFICATIONS

5.1 Input Ports

5.1.1 HDMI2.0

Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
DCI4K 4096×2160	RGB/YCbCr444	10	23.98,24,25,29.97,30,50
		8	23.98,24,25,29.97,30,50,59.94,60
	YCbCr422/YCbCr420	8/10	
UHD 3840×2160	RGB/YCbCr444	10	23.98,24,25,29.97,30,50
		8	23.98,24,25,29.97,30,50,59.94,60
	YCbCr422/YCbCr420	8/10	
QHD 2560×1440	RGB/YCbCr444	10	23.98,24,25,29.97,30,50,59.94,60,100
		8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
	YCbCr422/YCbCr420	8/10	
2K 2048×1152	RGB/YCbCr444/ YCbCr422/YCbCr420	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422/YCbCr420	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
FHD 1920×1080	RGB/YCbCr444/ YCbCr422/YCbCr420	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422/YCbCr420	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422/YCbCr420	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240
HD 1280×720	RGB/YCbCr444/ YCbCr422/YCbCr420	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.1.2 DP1.2			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
DCI4K 4096×2160	RGB/YCbCr444	10	23.98,24,25,29.97,30,50,59.94,60
		8	23.98,24,25,29.97,30,50,59.94,60
	YCbCr422	8/10	
UHD 3840×2160	RGB/YCbCr444	10	23.98,24,25,29.97,30,50,59.94,60
		8	23.98,24,25,29.97,30,50,59.94,60
	YCbCr422	8/10	
QHD 2560×1440	RGB/YCbCr444	10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
		8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
	YCbCr422	8/10	
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240
HD 1280×720	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.1.3 DL-DVI			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
DCI4K 4096×2160	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30
UHD 3840×2160	RGB/YCbCr444	8	23.98,24,25,29.97,30
QHD 2560×1440	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200
HD 1280×720	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240
XGA 1024×768	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240
SVGA 800×600	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.1.4 SL-DVI			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100
HD 1280×720	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
XGA 1024×768	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
SVGA 800×600	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.1.5 12G-SDI			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
12G-SDI 4096×2160 3840×2160	YCbCr422	8/10	50,59.94,60
6G-SDI 4096×2160 3840×2160	YCbCr422	8/10	23.98,24,25,29.97,30
3G-SDI	YCbCr422	8/10	50,59.94,60

2048×1080 1920×1080			
HD-SDI 1920×1080i	YCbCr422	8/10	50,59.94,60
HD-SDI 2048×1080 1920×1080	YCbCr422	8/10	23.98,24,25,29.97,30
HD-SDI 1280×720	YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60
ED-SDI 720×576 720×480	YCbCr422	8/10	50,59.94
SD-SDI 720×576i 720×480i	YCbCr422	8/10	50,59.94

5.1.6 3G-SDI

Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
3G-SDI 2048×1080 1920×1080	YCbCr422	8/10	50,59.94,60
HD-SDI 1920×1080i	YCbCr422	8/10	50,59.94,60
HD-SDI 2048×1080 1920×1080	YCbCr422	8/10	23.98,24,25,29.97,30
HD-SDI 1280×720	YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60
ED-SDI 720×576 720×480	YCbCr422	8/10	50,59.94
SD-SDI 720×576i	YCbCr422	8/10	50,59.94

720×480i			

5.1.7 HDMI1.3			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100
HD 1280×720	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
XGA 1024×768	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
SVGA 800×600	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.1.8 VGA			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
WUXGA 1920×1200	RGB	8	23.98,24,25,29.97,30,50,59.94,60
FHD 1920×1080	RGB	8	23.98,24,25,29.97,30,50,59.94,60
UXGA 1600×1200	RGB	8	23.98,24,25,29.97,30,50,59.94,60
SXGA 1280×1024	RGB	8	23.98,24,25,29.97,30,50,59.94,60
HD 1280×720	RGB	8	23.98,24,25,29.97,30,50,59.94,60
XGA 1024×768	RGB	8	23.98,24,25,29.97,30,50,59.94,60
SVGA 800×600	RGB	8	23.98,24,25,29.97,30,50,59.94,60

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.2 Output Ports

5.2.1 HDMI2.0			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
DCI4K 4096×2160	RGB/YCbCr444	10	23.98,24,25,29.97,30
		8	23.98,24,25,29.97,30,50,59.94,60
	YCbCr422	8/10	
UHD 3840×2160	RGB/YCbCr444	10	23.98,24,25,29.97,30
		8	23.98,24,25,29.97,30,50,59.94,60
	YCbCr422	8/10	
QHD 2560×1440	RGB/YCbCr444	10	23.98,24,25,29.97,30,50,59.94,60,100
		8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
	YCbCr422	8/10	
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240
HD 1280×720	RGB/YCbCr444/ YCbCr422	8/10	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120,144,200,240

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.2.2 HDMI1.4			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
DCI4K 4096×2160	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30
UHD 3840×2160	RGB/YCbCr444	8	23.98,24,25,29.97,30
QHD 2560×1440	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
HD 1280×720	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
XGA 1024×768	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
SVGA 800×600	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.2.3 HDMI1.3			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100
HD 1280×720	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
XGA 1024×768	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
SVGA 800×600	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

5.2.4 DVI			
Resolution	Color Format	Color Depth (bit)	Frame Rate (Hz)
2K 2048×1152	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
WUXGA 1920×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
FHD 1920×1080	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
UXGA 1600×1200	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60
SXGA 1280×1024	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100
HD 1280×720	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
XGA 1024×768	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120
SVGA 800×600	RGB/YCbCr444/ YCbCr422	8	23.98,24,25,29.97,30,50,59.94,60,100, 119.88,120

Note: The specifications listed above apply to standard resolutions. For non-standard resolutions, ensure all parameters remain within the interface's bandwidth limitations.

06 CABINET COUNT LOADED

Ethernet Port	Frame Rate	Cabinet Pixels	Cabinet Count	Layout
1G Ethernet port (8-bit)	60Hz	768*432	1	1×1
		640*360	2	2×1，1×2
		480*270	5	5×1，2×2，1×5
		384*216	7	7×1，3×2，2×3，1×7
		320*180	11	10×1，5×2，3×3，2×5，1×10
		256*512	5	5×1，2×2，1×5
		256*256	10	10×1，5×2，3×3，2×4，1×9
		168*168	23	23×1，11×2，7×3，5×4，4×5，3×7，2×11，1×21
		128*128	40	40×1，20×2，13×3，10×4，7×5，6×6，5×7，4×9，3×13，2×19，1×35
	120Hz	640*360	1	1×1
		480*270	2	2×1，1×2
		384*216	3	3×1，1×3
		320*180	5	5×1，2×2，1×5
		256*512	2	2×1，1×2
		256*256	5	2×1，1×2
		168*168	11	11×1，5×2，3×3，2×5，1×10
		128*128	20	20×1，10×2，6×3，5×4，3×5，3×6，2×9，1×17
	240Hz	480*270	1	1×1
		384*216	1	1×1
		320*180	2	2×1，1×2
		256*512	1	1×1
		256*256	2	2×1，1×2
		168*168	5	5×1，2×2，1×5
		128*128	10	10×1，5×2，3×3，2×4，1×9

Ethernet Port	Frame Rate	Cabinet Pixels	Cabinet Count	Layout
1G Ethernet port (10-bit)	60Hz	768*432	1	1×1
		640*360	2	2×1，1×2
		480*270	3	5×1，2×2，1×5
		384*216	5	7×1，3×2，2×3，1×7
		320*180	8	10×1，5×2，3×3，2×5，1×10
		256*512	3	3×1，1×3
		256*256	7	7×1，3×2，2×3，1×7
		168*168	17	17×1，8×2，5×3，4×4，3×5，2×8，1×16
		128*128	30	30×1，15×2，10×3，7×4，6×5，4×6，4×7，3×9，2×14，1×27
	120Hz	640*360	1	1×1
		480*270	1	2×1，1×2
		384*216	2	3×1，1×3
		320*180	4	5×1，2×2，1×5
		256*512	1	1×1
		256*256	3	3×1，1×3
		168*168	8	8×1，4×2，2×4，1×8
		128*128	15	15×1，7×2，5×3，3×4，2×7，1×13
	240Hz	480*270	1	1×1
		384*216	1	1×1
		320*180	2	2×1，1×2
		256*256	1	1×1
		168*168	4	4×1，2×2，1×4
		128*128	7	7×1，3×2，2×3，1×6

Ethernet Port	Frame Rate	Cabinet Pixels	Cabinet Count	Layout
5G Ethernet port (8-bit)	60Hz	1280*720	3	3×1，1×3
		768*432	8	8×1，4×2，2×4，1×8
		640*360	12	12×1，6×2，4×3，3×4，2×6，1×12
		480*270	22	22×1，11×2，7×3，5×4，3×7，4×5，2×11，1×22
		384*216	35	35×1，17×2，11×3，8×4，7×5，5×7，4×8，3×11，2×17，1×35
		320*180	51	51×1，25×2，17×3，12×4，10×5，8×6，7×7，6×8，5×10，4×12，3×17，2×25
		256*512	22	22×1，11×2，7×3，5×4，4×5，3×7，2×10，1×21
		256*256	45	45×1，22×2，15×3，11×4，9×5，7×6，6×7，5×9，4×11，3×14，2×21，1×43
		168*168	104	104×1，52×2，20×5，10×10，9×11，5×20，2×51，1×96...
		128*128	180	180×1，90×2，36×5，18×10，13×13，10×18，5×35，2×86，1×160...
	120Hz	1280*720	1	1×1
		768*432	4	4×1，2×2，1×4
		640*360	6	6×1，2×3，3×2，1×6
		480*270	11	11×1，5×2，3×3，2×5，1×11
		384*216	17	17×1，8×2，5×3，4×4，3×5，2×8，1×17
		320*180	25	25×1，12×2，8×3，6×4，5×5，4×6，3×8，2×12，1×25
		256*512	11	11×1，5×2，3×3，2×5，1×10
		256*256	22	22×1，11×2，7×3，5×4，4×5，3×7，2×10，1×21
		168*168	52	52×1，26×2，17×3，13×4，10×5，8×6，7×7，6×8，5×10，4×12，3×16，2×25，1×48

		128*128	90	90×1，45×2，18×5，10×9，9×10，5×17，2×43，1×80...
	240Hz	768*432	2	2×1，1×2
		640*360	3	3×1，1×3
		480*270	5	5×1，2×2，1×5
		384*216	8	8×1，4×2，2×4，1×8
		320*180	12	12×1，6×2，4×3，3×4，2×6，1×12
		256*512	5	5×1，2×2，1×5
		256*256	11	11×1，5×2，3×3，2×5，1×10
		168*168	26	26×1，13×2，8×3，6×4，5×5，4×6，3×8，2×12，1×24
		128*128	45	45×1，22×2，15×3，11×4，9×5，7×6，6×7，5×8，4×10，3×14，2×21，1×40

Ethernet Port	Frame Rate	Cabinet Pixels	Cabinet Count	Layout
5G Ethernet port (10-bit)	60Hz	1280*720	2	2×1，1×2
		768*432	6	6×1，2×3，3×2，1×6
		640*360	9	9×1，4×2，3×3，2×4，1×9
		480*270	17	17×1，8×2，5×3，4×4，3×5，2×8，1×17
		384*216	26	26×1，13×2，8×3，6×4，5×5，4×6，3×8，2×13，1×26
		320*180	38	38×1，19×2，12×3，9×4，7×5，6×6，5×7，4×9，3×12，2×19，1×38
		256*512	17	17×1，8×2，5×3，4×4，3×5，2×8，1×16
		256*256	34	34×1，17×2，11×3，8×4，6×5，5×6，4×8，3×11，2×16，1×33
		168*168	79	79×1，38×2，15×5，9×8，8×9，5×15，2×39，1×74...
		128*128	136	136×1，68×2，27×5，12×11，11×12，5×27，2×66，1×125...

	120Hz	1280*720	1	1×1
		768*432	3	3×1，1×3
		640*360	4	4×1，2×2，1×4
		480*270	8	8×1，4×2，2×4，1×8
		384*216	13	13×1，6×2，4×3，3×4，2×6，1×13
		320*180	19	19×1，9×2，6×3，4×4，3×6，2×9，1×19
		256*512	8	8×1，4×2，2×4，1×8
		256*256	17	17×1，8×2，5×3，4×4，3×5，2×8，1×16
		168*168	39	39×1
		128*128	68	68×1，34×2，13×5，11×6，8×8，6×11，5×13，2×33，1×62...
	240Hz	768*432	1	1×1
		640*360	2	2×1，1×2
		480*270	4	4×1，2×2，1×4
		384*216	6	6×1，2×3，3×2，1×6
		320*180	9	9×1，4×2，3×3，2×4，1×9
		256*512	4	4×1，2×2，1×4
		256*256	8	8×1，4×2，2×4，1×8
		168*168	19	19×1，9×2，6×3，4×4，3×6，2×9，1×18
		128*128	34	34×1，17×2，11×3，8×4，6×5，5×6，4×8，3×10，2×16，1×31

Note: The above parameters are based on standard cabinets. For details on other cabinets, please contact technical support.

07 DEVICE SPECIFICATIONS

Product Properties		
Series	Universe	
Model	U9 Max	
Input Specifications		
Max. input boards	18	
Max. inputs	36×4K@60Hz / 108×2K@60Hz	
Output Specifications		
Max. output boards	10	
Max. outputs	20×4K@60Hz / 60×2K@60Hz	
Max. load capacity (LED)	1G Ethernet port	65 million pixels
	5G Ethernet port	236 million pixels
	10G fiber port	260 million pixels
Number of Layers		
Max. layers	160	
Physical Dimensions (W×H×D)		
Device	482.6 mm (19.0")×399.3 mm (15.7")×535.2 mm (21.1") (excluding rubber feet)	
Packing	655.0 mm (25.8")×660.0 mm (26.0")×620.0 mm (24.4")	
Weight		
Net	27kg (59.52lbs)	
Gross	36kg (79.37lbs)	
Electrical Parameters		
Power supply	AC100-240V, 50/60Hz, supports dual power supplies (a	

	redundant power supply is optional).	
Max. power consumption	650W	
Operating Environment		
Temperature	10°C~45°C (50°F~113°F)	
Humidity	0% RH-85% RH, non-condensing	
Storage Environment		
Temperature	-10℃~60℃ (14°F~140°F)	
Humidity	0% RH-95% RH, non-condensing	
Placement Requirement		
This device can only be placed horizontally. Do not invert the device or place it vertically.		
Others		
Noise level (typical at 25℃/77°F)		< 45 dB(A)
Accessories	U9 Video Splicer	1PC
	Quick Start Guide	1PC
	Warranty Card	1PC
	Certificate	1PC
	Gigabit Ethernet cable	1PC
	Power cord	1PC / 2PCS (Optional redundant power supply comes with an additional cord.)
	Brush	1PC
	Grounding cable	1PC
	HDMI 2.0 cable	1PC (Optional board comes with an additional cable.)
	DP 1.2 cable	1PC (Optional board comes with an additional cable.)
	DVI cable	1PC (Optional board comes with an

		additional cable.)

08 INSTALLATION

8.1 Chassis Handling

- Always have two or more people to move the chassis.
- Use the front handles and side lifting handles when carrying the chassis.
- Lift and place the chassis slightly to prevent damage.

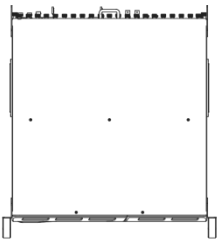
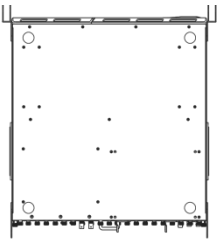
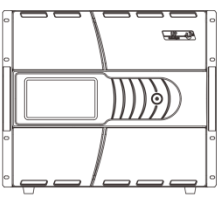
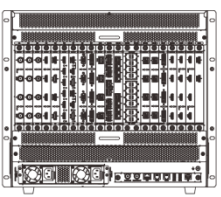
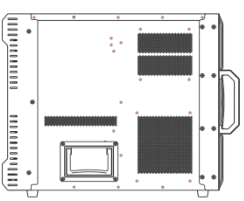
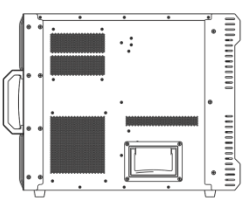
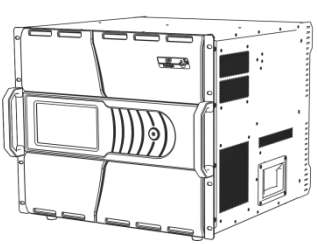
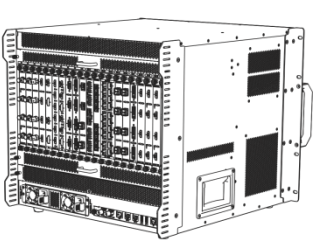
Warning:
Always disconnect power before installation, maintenance, or handling.

8.2 Rack Mounting

- Install the chassis at the bottom of the rack.
- Ensure the rack has a support shelf to hold the chassis. (Optional: Remove the four chassis feet for a stable fit if necessary.)
- Secure all rack ears and rails with screws.

Warning:
Always disconnect power before installation, maintenance, or handling.

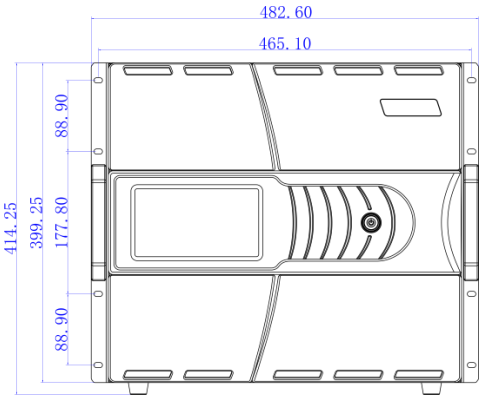
09 SIX PRINCIPAL VIEWS

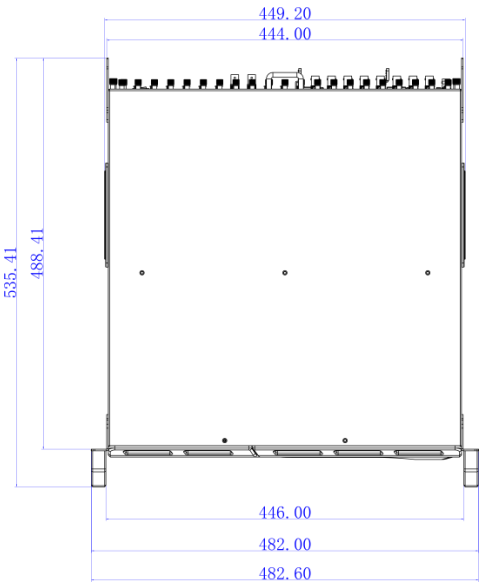









10 REFERENCE DIMENSIONS

Unit: mm

Tolerance: ±0.2mm





11 STATEMENTS

11.1 Certifications

CCC, CE, UKCA, FCC, IC, CB, cTUVus, KC, RCM, EAC, RoHS, REACH, BIS

Note: If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact Colorlight to confirm or address the problem as soon as possible. Otherwise, the customer shall be responsible for the legal risks or Colorlight has the right to claim compensation.

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Colorlight

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