

S16

4K Live Production Switcher



Specifications

Change History

Version	Release Date	Description
V1.3.0	2026-09-04	• Updated UVC streaming output to support 3840×2160@60Hz. • Updated the Features section. • Added the total shipping weight and package size for the flight case and paper packaging. • Added the Input and Output Resolutions section.
V1.2.1	2026-05-26	Updated the certifications.
V1.2.0	2026-04-03	• Added the video source features section. • Added the description of DVE effect. • Updated the number of encoders. • The USB 3.0 Type-C port now supports external keyboard connection. • Updated the weight and packaging accessories.
V1.1.0	2025-11-20	• Added the description of VISCA protocol for the PTZ camera. • Added the description of the screen brightness adjustment. • Added the description of the front panel area. • Updated the power consumption.
V1.0.0	2025-08-15	First release

Introduction

The S16 is a high-performance 4K live production switcher developed by PIXELHUE, designed to meet the needs of professional broadcasting and multimedia productions. Featuring 4K input and output capabilities, it receives and transmits ultra-high-definition videos, ensuring premium visual effects in various events. It supports UHD, FHD, and custom resolution options, offering flexible resolution adaptation capability. More importantly, it offers advanced layer resource configuration, including 1 BKGD, 4 upstream keyers, 2 downstream keyers, and 1 SuperSource, offering extensive possibilities for creative live productions.

The S16 is equipped with a 10.25-inch LCD display, providing professional Multiviewer function. It comes with an industrial-grade control joystick, making on-site adjustments and operations more intuitive and precise, and compatible with PTZ camera control. Its versatile live streaming module supports major streaming platforms globally, offers simultaneous 4-channel RTMP streaming, and provides 3840×2160 @60Hz UVC output capability, meeting high-standard live streaming and online editing requirements. Additionally, the S16 includes MIX, DIP, WIPE, and DVE transition effects, adding professional-quality visual effects to your streaming and recording.

With its high performance, flexibility, and innovative design, the S16 provides comprehensive support for various live productions in corporate and commercial events, entertainment and cultural activities, sports events, community and religious gatherings, education and training, e-sports and game streaming, as well as personal and small studio productions.

Certifications

CE, KC, CB, RoHS

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

Features

Display and Control

- 10.25-inch LCD screen
 - Professional Multiviewer function ensures thorough on-site adjustments before events and keeps everything under control during production.
 - Independent LCD control greatly facilitates and simplifies on-site operations.
- Industrial-grade joystick
 - Compatible with PTZ cameras, offering multifunctionality and cost efficiency.
 - High-precision industrial-grade joystick ensures accurate adjustments of keyer position and size.
- Diverse control options
 - Equipped with 95 buttons, 12 encoders, and 1 T-bar, providing extensive operation options.
 - Combines buttons, encoders, T-bar, joystick, and LCD menu for a flexible, convenient, and precise operation experience.
 - Smart button reuse mechanism expands the actual number of operable buttons to 200+, significantly enhancing operational efficiency.

Input and Output

- 16x 12G-SDI + 4x HDMI 2.0 inputs

Supports up to 16 channels of UHD video signal inputs to meet large-scale production requirements.
- Main outputs: 2 groups of HDMI 2.0/12G-SDI
 - HDMI 2.0 and 12G-SDI within the same group output the identical content.
 - Supports selection of output content for each group.
- MVR outputs: 1x HDMI 2.0 + 1x 12G-SDI

Supports copy and independent modes.
- AUX outputs: 8x 12G-SDI + 4x HDMI 2.0

Supports output of input sources, PVW, PGM, Multiviewer, and Clean Feed.
- 1x USB 3.0 (Type-C)

Supports selection of streaming resolution, up to a maximum of 3840×2160@60Hz.

- Various audio connectors
 - 2x XLR/TRS audio input connectors
 - 2x XLR audio output connectors
 - 1x 6.35mm TRS (stereo) monitoring output connector, suitable for headphone monitoring
 - 2x Dante connectors (reserved)

Delivers multiple audio connection options along with mixing features to satisfy professional audio processing requirements.

Keyer and Transition

- Powerful keyer adjustment features

Offers a wide range of keyer editing functions, such as position and size adjustments, cropping, keying, mask, borders, shadows, and color adjustments.
- Flexible keying options

Includes 1 main image + 4 upstream keyers + 2 downstream keyers.
- SuperSource

Provides professional multi-layer visual effects processing, allowing the combination of multiple input sources into a single input source, accommodating up to 1 background and 4 foreground images.
- Rich transition effects

Offers a variety of video transition effects, including MIX, DIP, WIPE, and DVE.
- Convenient PTZ camera and keyer control

Operate PTZ cameras (ONVIF, VISCA over IP, and Panasonic AW protocols) with an 8-direction joystick for precise adjustments of camera images and keyers.

Function and Operation

- End-to-end 4K compatibility

Accommodates signals at 4K and lower resolutions, ensuring image clarity.
- Flexible resolution adjustment

Supports switching between UHD, FHD, and custom resolutions.
- Multi-platform RTMP live streaming

Supports streaming up to four RTMP streams simultaneously to major global live streaming platforms.
- One-click recording

Allows recorded content to be directly stored on an external hard drive or USB drive.
- Network Tally

Sends Tally signals to monitors or cameras, displaying the live status of signal sources on these devices for quick identification of which sources are currently on air.
- Audio control

Provides professional audio processing features, including precise volume adjustment (gain and level) and mixing control to ensure optimal sound quality.

- Flexible preset saving and recall
 - Supports saving up to 128 presets, including keyer and audio parameters.
 - Allows users to customize keyer properties and save these personalized settings as presets.
 - Enables quick switching between different presets to adapt to changing program content or layout, meeting diverse program needs.
- Screen brightness adjustment
- Open third-party protocol interface for remote control
- Genlock support

Allows precise synchronization of video signals with other equipment.
- Redundant backup

Offers complete redundancy, including input and output backups, providing comprehensive protection to ensure stable system operation.
- Easy maintenance and operation
 - Easy to maintain and repair
 - Verified through 24/7 stability tests, ensuring the system runs reliably and stably

Appearance

Note

The pictures shown are for illustration purposes only. Actual product may vary due to product enhancement.

Front Panel



No.	Area	Description
1	Output audio	Adjust the output volume.
2	LCD screen	Provide an intuitive LCD interface displaying menus and monitoring images.
3	Menu navigation	Choose menu options and configure relevant parameters.
4	Joystick	Precisely control the position, size, and direction of keyer and camera focus.
5	Input audio	Adjust the audio mix and volume.
6	Main program source switching	Quickly switch the BKGD source to the one bound to the button.
7	Auxiliary control	Perform operations such as delete, confirm, and enter numbers.
8	Comprehensive control	Edit keyers, load presets, and set camera presets.
9	Transition	Perform actions such as lock, live streaming, recording, and transition effects settings.

Rear Panel



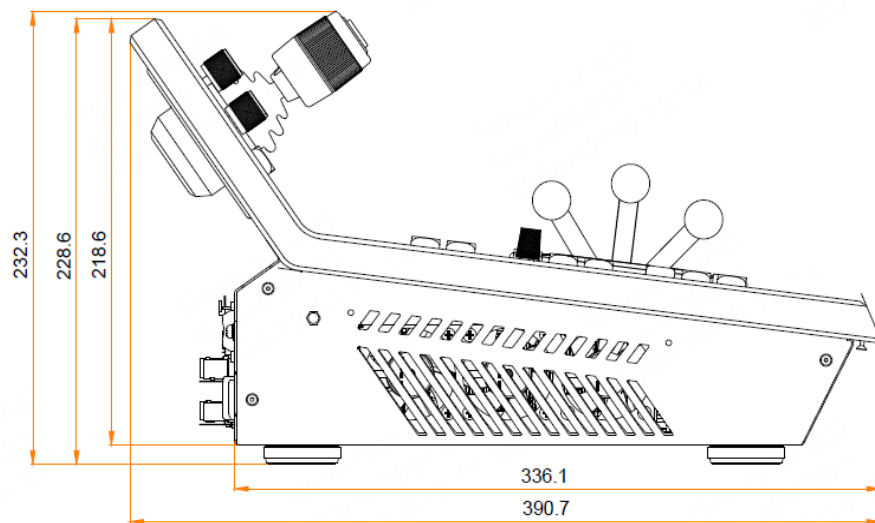
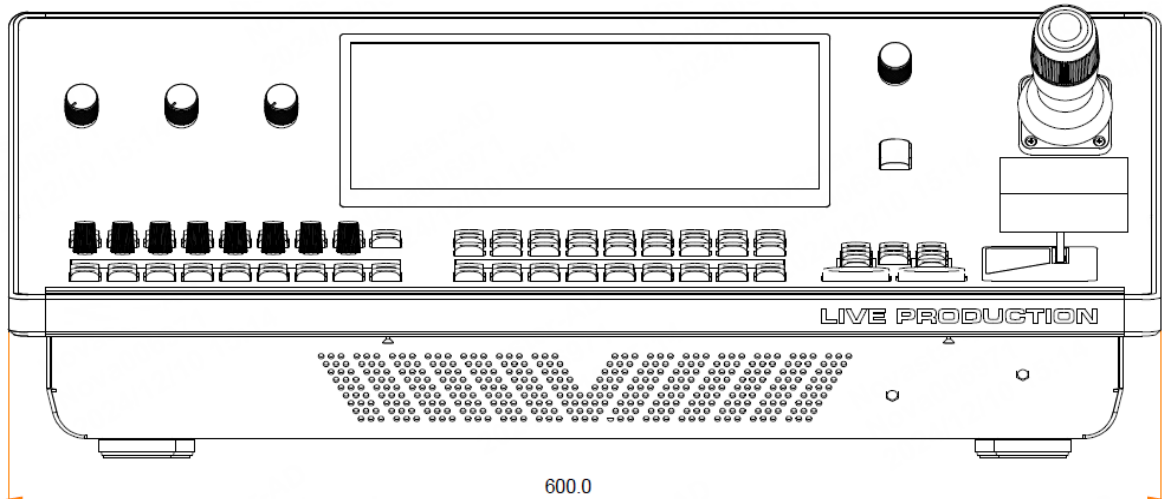
Area	Connector	Qty.	Description
INPUT (HDMI 2.0-12G SDI)	HDMI 2.0	4	- Each supports up to 4K×2K@60Hz 8-bit 4:4:4 inputs. - Support 8-bit, 10-bit, 12-bit input processing. - Support 4:4:4, 4:2:2, 4:2:0 format inputs. - Support EDID settings. - Support full and limited color ranges. - Support HDCP 2.2, downward compatible. - Support deinterlacing processing (only A and B). - Support embedded audio (24-bit/48 kHz, dual channel). - Support custom resolutions. - Max width: 4096 pixels - Max height: 4096 pixels - Can be selected alternatively with 12G-SDI input 7, 8, 15, 16.

Area	Connector	Qty.	Description
	12G-SDI	16	• Each supports up to 4K×2K@60Hz 10-bit 4:2:2 inputs. • Support ST-2081 (6G), ST-2082 (12G), ST-424 (3G), and ST-292 (HD) inputs. • Compatible with HD-SDI, 3G-SDI and 6G-SDI • Support YCbCr color space settings. • Support interlaced inputs. • Support deinterlacing processing (only the first row of 12G-SDI connectors). • Support embedded audio (24-bit/48 kHz, dual channel).
OUTPUT (HDMI 2.0-12G SDI)	HDMI 2.0	2	• Each supports up to 4K×2K@60Hz 8-bit 4:4:4 outputs. • Support 8-bit and 10-bit output processing. • Support 4:4:4 and 4:2:2 format outputs. • Support YCbCr and RGB color space settings. • Support interlaced outputs. • Support embedded audio (24-bit/48 kHz, dual channel). • Support custom resolutions. – Max width: 4096 pixels – Max height: 4096 pixels
	12G-SDI	2	• Compatible with HD-SDI, 3G-SDI and 6G-SDI • Support interlaced outputs. • Copy the output content on 2x HDMI 2.0. • Support embedded audio (24-bit/48 kHz, dual channel).
MVR (HDMI 2.0-12G SDI)	HDMI 2.0	1	• Support up to 4K×2K@60Hz 8-bit 4:4:4 outputs. • Support separate timing configuration. When the timing matches the main output 1 timing, output via AUX is supported.
	12G-SDI	1	
AUX (HDMI 2.0-12G SDI)	HDMI 2.0	4	• Support up to 4K×2K@60Hz 8-bit 4:4:4 outputs. • Support output of input sources, PVW, PGM, Multiviewer, and Clean Feed. • Support embedded audio (24-bit/48 kHz, dual channel).
	12G-SDI	8	
CONTROL	USB 3.0 (Type-C)	2	• USB 3.0 (TYPE-C) 1 – Connect to devices like USB drives for storage, firmware update, and log export. – Connect an external keyboard. • USB 3.0 (TYPE-C) 2 – Supports UVC streaming with selectable output resolution, up to 3840×2160@60Hz. – Connect to devices like USB drives for storage, firmware update, and log export. – Connect an external keyboard.
	LTC	2	1x LTC IN, 1x LTC OUT • IN: Connect to external devices with LTC format time code. • OUT: LTC time code output

Area	Connector	Qty.	Description
	GENLOCK	2	1x GENLOCK IN, 1x GENLOCK OUT Support Bi-Level and Tri-Level. • IN: Receive the Genlock signal. • OUT: Loop through the Genlock signal. Genlock signal supports frame rate range from 23.98 Hz to 60 Hz.
	ETHERNET	2	2x Gigabit Ethernet ports • Support network Tally. • Connect to the control PC software (reserved). • Support PTZ control.
AUDIO	XLR/TRS (IN)	2	2x Audio input connectors • XLR: 24-bit/48 kHz, mono • TRS: 24-bit/48 kHz, stereo
	XLR (OUT)	2	2x Audio output connectors 24-bit/48 kHz, mono, defaulting to output the left and right channels of PGM audio
	PHONES OUT	1	1x 6.35 mm TRS (24-bit/48 kHz, stereo) monitoring output connector Used for monitoring or transmitting unbalanced stereo audio signals
	Dante	2	Reserved Note: The device does not ship with a Dante module. Please order it separately if needed.
LIGHT	-	1	Connect to a gooseneck light.
Power	100-240V~, 50/60Hz	1	AC power input

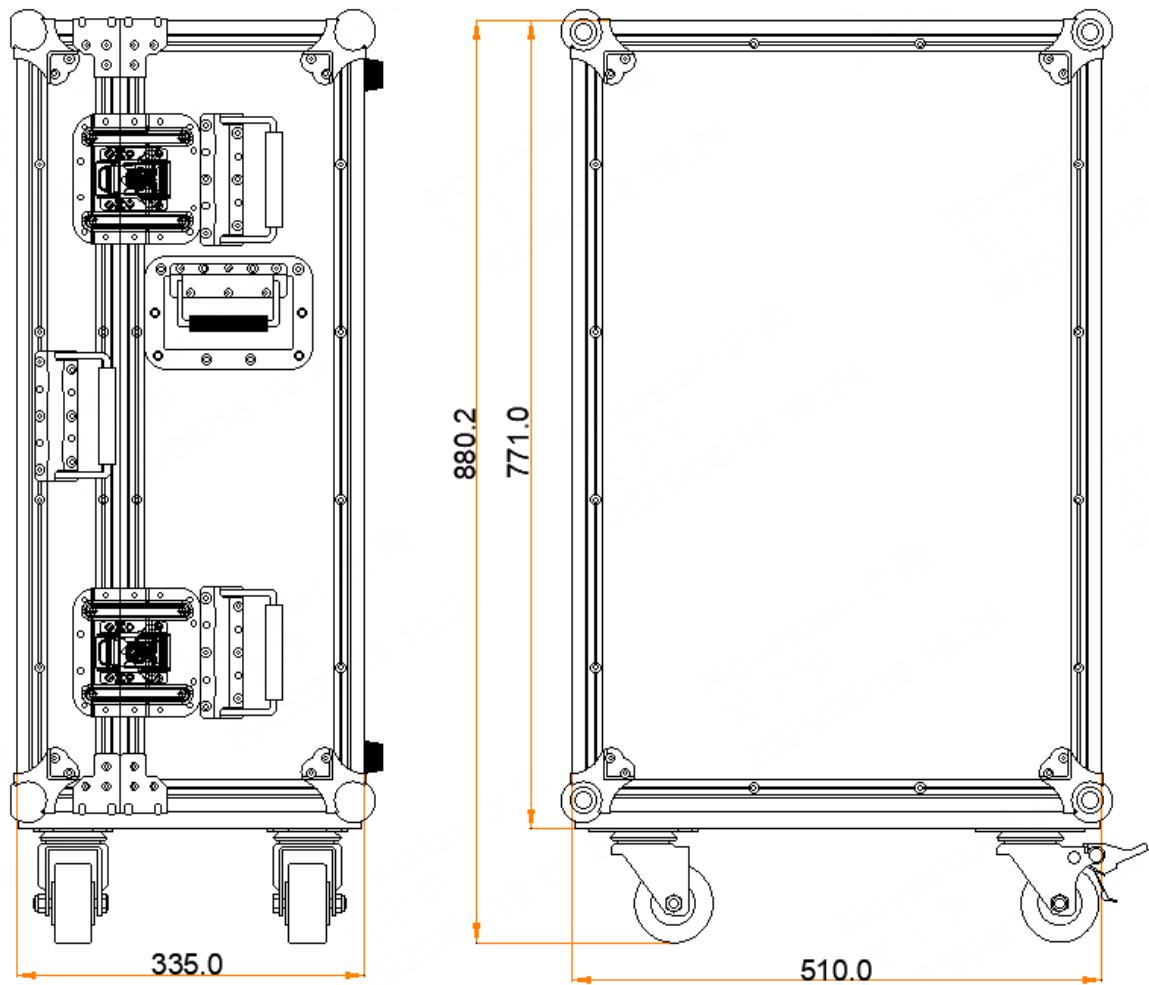
Dimensions

Device



Tolerance: ± 0.5 Unit: mm

Flight Case

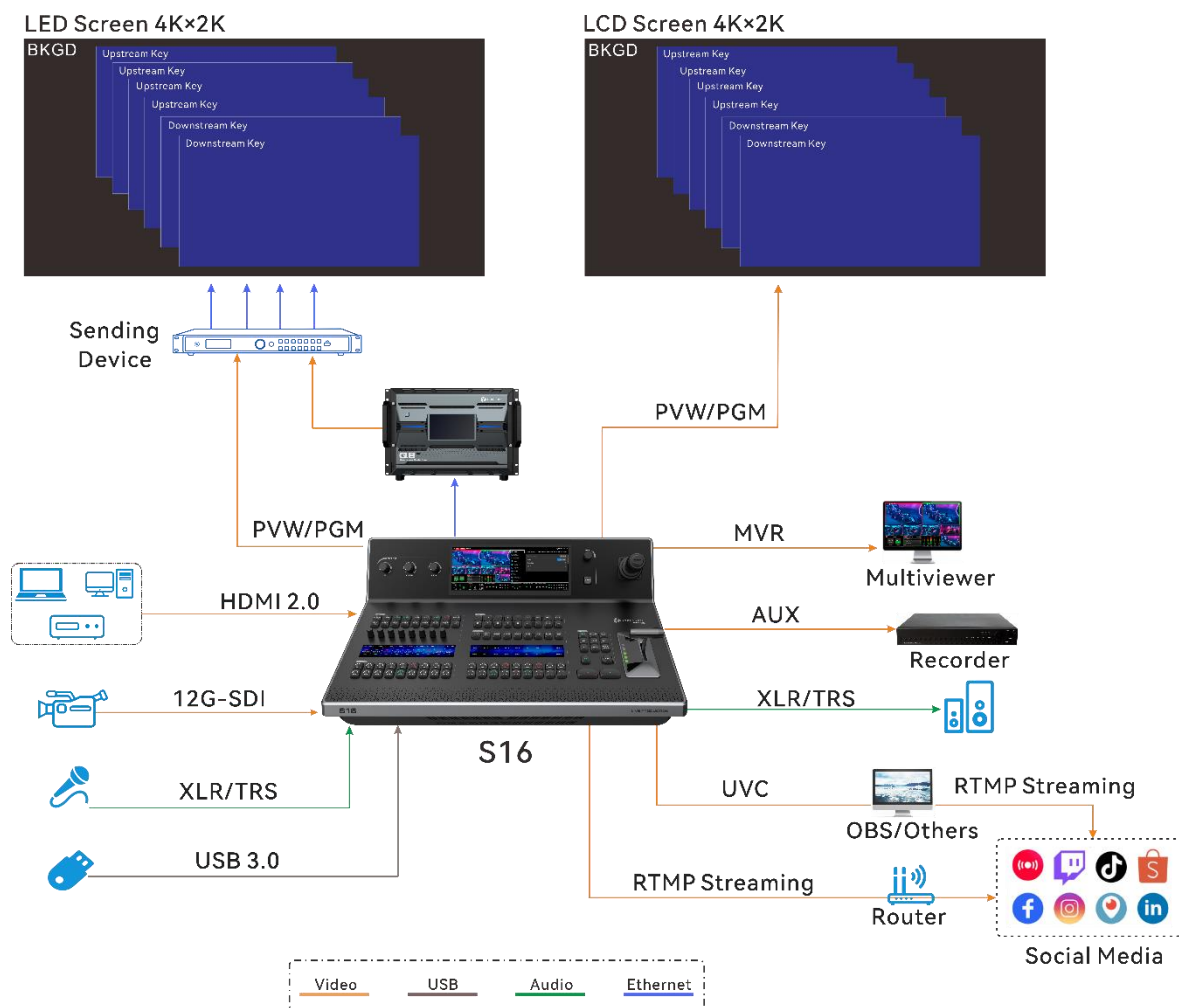


Tolerance: ± 5 Unit: mm

Note

For detailed drawings of the flight case dimensions, please contact PIXELHUE technical support.

Applications



Specifications

Electrical Specifications	Power connector	100–240V~, 10A, 50/60Hz
	Max consumption	250 W
Operating Environment	Temperature	0°C to +40°C
	Humidity	5%RH to 85%RH, non-condensing
Storage Environment	Temperature	–20°C to +70°C
	Humidity	5%RH to 95%RH, non-condensing
Physical Specifications	Dimensions	600.0 mm × 390.7 mm × 232.3 mm
	Net weight	13.0 kg
	Gross weight	17.5 kg (Paper box packaging)
		41.5 kg (Flight case packaging)
Packaging Information	43.5 kg (Flight case+paper box packaging)	
	Paper box packaging	720.0 mm × 515.0 mm × 340.0 mm
	Flight case packaging	880.2 mm × 510.0 mm × 335.0 mm
	Flight case+paper box packaging	890.2 mm × 565.0 mm × 390.0 mm
	Accessories	1x Power cable 1x HDMI cable 1x Cat 5e cable 1x Gooseneck light 1x Quick Start Guide 1x Embedded Assembly Guide 1x Safety Manual 1x Certificate of Approval 1x Customer Letter
Noise Level (typical at 25°C/77°F)		40 dB(A)

Video Source Features

Input Connectors	Bit Depth	Color Space/Sampling Rate	Supported Resolutions (Partial)	Connector Bandwidth (Gbps)
HDMI 2.0	8bit	RGB 4:4:4	4096×2160@60Hz	18
		YCbCr 4:4:4		
		YCbCr 4:2:2		
	10bit	RGB 4:4:4	4096×2160@30Hz	
		YCbCr 4:4:4	4096×1080@60Hz	
		YCbCr 4:2:2	4096×2160@60Hz	
	12bit	RGB 4:4:4	4096×2160@30Hz	
		YCbCr 4:4:4	4096×1080@60Hz	
		YCbCr 4:2:2	4096×2160@60Hz	
12G-SDI	10bit	YCbCr 4:2:2	4096×2160@60Hz	11.88

Input and Output Resolutions

- HDMI 2.0 and 12G-SDI default to 3840×2160@60Hz.
- Supported dynamic frame rates include:
23.98/24/25/29.97/30/47.95/48/50/56/59.94/60/70/71.93/72/75/85/100/119.88/120/143.86/144/240
The available frame rate range varies by resolution.
- ✓: The connector supports this resolution and frame rate.
- ✕: The connector does not support this resolution and frame rate.

Resolution	Frame Rate (Hz)	Input		Output	
		HDMI 2.0	12G-SDI	HDMI 2.0	12G-SDI
800×600p	Dynamic	✓	✕	✓	✕
	59.94	✓	✕	✓	✕
	60	✓	✕	✓	✕
	75	✓	✕	✓	✕
	85	✓	✕	✓	✕
1024×768p	Dynamic	✓	✕	✓	✕
	59.94	✓	✕	✓	✕
	60	✓	✕	✓	✕
	75	✓	✕	✓	✕
	85	✓	✕	✓	✕

Resolution	Frame Rate (Hz)	Input		Output	
		HDMI 2.0	12G-SDI	HDMI 2.0	12G-SDI
1152×864p	Dynamic	✓	×	✓	×
	75	✓	×	✓	×
1280×720p	Dynamic	✓	×	✓	×
	23.98	×	✓	×	✓
	24	×	✓	×	✓
	25	×	✓	×	✓
	29.97	✓	✓	✓	✓
	30	✓	✓	✓	✓
	48	×	✓	×	✓
	50	×	✓	×	✓
	59.94	✓	✓	✓	✓
	60	✓	✓	✓	✓
1280×768p	Dynamic	✓	×	✓	×
1280×800p	Dynamic	✓	×	✓	×
1280×960p	Dynamic	✓	×	✓	×
	59.94	✓	×	✓	×
	60	✓	×	✓	×
	85	✓	×	✓	×
1280×1024p	Dynamic	✓	×	✓	×
	59.94	✓	×	✓	×
	60	✓	×	✓	×
	75	✓	×	✓	×
	85	✓	×	✓	×
1360×768p	60	✓	×	✓	×
1364×1024p	Dynamic	✓	×	×	×
1364×768p	Dynamic	×	×	×	×
1366×768p	Dynamic	✓	×	✓	×
	59.94	✓	×	✓	×
	60	✓	×	✓	×
1366×800p	Dynamic	×	×	✓	×
1400×1050p	Dynamic	✓	×	✓	×
1440×900p	Dynamic	✓	×	✓	×
1600×900p	Dynamic	✓	×	✓	×
1600×1200p	Dynamic	✓	×	✓	×

Resolution	Frame Rate (Hz)	Input		Output	
		HDMI 2.0	12G-SDI	HDMI 2.0	12G-SDI
	59.94	✓	×	✓	×
	60	✓	×	✓	×
1680×1050p	Dynamic	✓	×	✓	×
1792×1280p	Dynamic	✓	×	✓	×
1920×1080p	Dynamic	✓	×	✓	×
	23.98	×	✓	×	✓
	24	×	✓	×	✓
	25	×	✓	×	✓
	29.97	×	✓	×	✓
	30	✓	✓	✓	✓
	48	×	✓	×	×
	50	×	✓	×	✓
	59.94	✓	✓	✓	✓
	60	✓	✓	✓	✓
1920×1080i	50	✓	✓	✓	✓
	59.94	✓	✓	✓	✓
	60	✓	✓	✓	✓
1920×1200p	Dynamic	✓	×	✓	×
2048×1080p	Dynamic	✓	×	✓	×
	23.98	×	✓	×	✓
	24	×	✓	×	✓
	25	×	✓	×	✓
	29.97	×	✓	×	✓
	30	×	✓	×	✓
	48	×	✓	×	✓
	50	×	✓	×	✓
	59.94	×	✓	×	✓
	60	×	✓	×	✓
2048×1152p	Dynamic	✓	×	✓	×
2304×1152p	Dynamic	✓	×	✓	×
2304×1024p	Dynamic	✓	×	✓	×
3840×1080p	Dynamic	✓	×	✓	×
2560×1080p	Dynamic	✓	×	✓	×
	59.94	✓	×	✓	×

Resolution	Frame Rate (Hz)	Input		Output	
		HDMI 2.0	12G-SDI	HDMI 2.0	12G-SDI
	60	✓	×	✓	×
2560×1400p	Dynamic	✓	×	✓	×
2560×1600p	Dynamic	✓	×	✓	×
3840×2160p	Dynamic	✓	×	✓	×
	23.98	×	✓	×	✓
	24	×	✓	×	✓
	25	×	✓	×	✓
	29.97	×	✓	×	✓
	30	✓	✓	✓	✓
	48	×	×	×	×
	50	×	✓	×	✓
	59.94	✓	✓	✓	✓
	60	✓	✓	✓	✓
4096×1080	Dynamic	✓	×	✓	×
4096×2160p	Dynamic	✓	✓	✓	×
	23.98	×	✓	×	✓
	24	×	✓	×	✓
	25	×	✓	×	✓
	29.97	×	✓	×	✓
	30	✓	✓	✓	✓
	48	×	✓	×	✓
	50	×	✓	×	✓
	59.94	✓	✓	✓	✓
	60	✓	✓	✓	✓

Note

The table above lists only standard resolutions and frame rates. For resolutions and frame rates not listed, configure them via the custom EDID settings.

Notes and Cautions

This is Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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