

# CP2309-RGB Specifications

Learn about the product specifications. Due to continuing research, specifications are subject to change without notice.

## Product documentation

For installation, setup, and user information, see the product documentation available on the Christie website. Read all instructions before using or servicing this product.

1. Access the documentation from the Christie website:
  - Go to <http://bit.ly/2V2E9wp> or <https://www.christiedigital.com/en-us/cinema/cinema-products/digital-cinema-projectors/christie-cp2309-rgb>
  - Scan the QR code using a QR code reader app on a smartphone or tablet.



2. On the product page, select the model and switch to the **Downloads** tab.

## Related documentation

Additional information on the projector is available in the following documents.

- *CP2309-RGB Installation and Setup Guide (P/N: 020-103078-XX)*
- *CP2309-RGB User Guide (P/N: 020-103081-XX)*
- *CP2309-RGB Product Safety Guide (P/N: 020-103079-XX)*
- *Cinema 2K-RGB Service Guide (P/N: 020-102770-XX)*
- *CineLife Serial Commands Guide (P/N: 020-102774-XX)*

## Display specifications

Learn the display specifications of the projector.

### Panel resolution and refresh rate

Pixel format (H x V square pixels)	2048 x 1080
Processing path	23.97 - 120Hz
3D (with 24 fps per eye input), Full Image (2048 x 1080):	144 Hz (frame tripled)

### Achievable contrast ratio

Minimum	450:1 ANSI
Standard contrast, sequential on/off center measured	2000:1 at 12,000 DCI lumens

### Color and grayscale

Displayable colors	35.2 trillion
Grayscale resolution	45 bits total linear, 15 bits per RGB component

### White point

#### Nominal White (full white, after calibration to Color Verification mode, Theaters)

$x = 0.314 \pm 0.006$

$y = 0.351 \pm 0.006$

### Gamma

Theater (nominal)	$2.6 \pm 5\%$
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## Control signal compatibility

Learn the control signal compatibility for the projector.

### Ethernet port

Interface	10Base-T/(IEEE 802.3)/100BASE-TX(IEEE 802.3u)/ 1000BASE-TX(IEEE 802.3ab)
Connector	Female RJ-45
Bit rate	1000 Mbps

**eSATA/USB 2.0 ingest**

Interface	USB 2.0/SATA revision 2.0
Connector	USB Type "A"/eSATA
Bit rate	480 Mbps/3.0 Gbps
Available power for devices	2A @ 5V (TBC)

**USB 3.0 ingest**

Interface	USB 3.0
Connector	USB Type "A"
Bit rate	5.0 Gbps
Available power for devices	2A @ 5V (TBC)

**GPIO port**

Interface	Opto-LED inputs, relay outputs
Number of I/O lines	16 - 4 inputs, 4 outputs, 1 health signal output
Connector	Terminal blocks
Wire size accepted	28-20 AWG
GPI diode forward current	5mA nominal, 50mA maximum
GPI diode forward voltage	1.1V nominal, 1.4V maximum (@ 5mA)
GPI relay continuous current	1A
GPO relay output rating	60V
Output supply voltage	5VDS @ 200 mA

**3D port**

Interface	Proprietary 3D connector
Connector	15-pin sub-miniature D, female
Bit rate	115,200 bps
Flow control	Software
Data format	1 start bit, 8 data, 1 stop bit, no parity
Communication protocol	RS232 and GPIO

**AES3 audio output**

Interface	16-Channel AES3 Digital Audio
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Connector	RJ-45
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**VGA user interface display**

Interface	VGA
Connector	15-pin high density sub-miniature D, female

**DVI user interface display**

Interface	DVI
Connector	24-pin DVI-I female

**HDMI**

Interface	HDMI v1.4A
Connector	HDMI Receptacle with locking

**USB touch panel input**

Interface	USB 2.0
Connector	USB Device Standard Size ("Series A")
Bit rate	480 Mbps

## Power specifications

Item	Description
Voltage range	200 - 240 VAC, single phase
Maximum current	9 A max at 200 V
Line frequency	50-60 Hz

## Physical specifications

Learn the dimensions and weight of the projector.

Item	Description
<b>Projector size</b>	
Overall size (L x W x H) (without the lens and with the feet at minimum length)	1083 mm (42.7 inches) x 635 mm (25 inches) x 305 mm (12 inches)
Overall size (L x W x H)	1403.4mm (55.25 inches) x 882.7mm (34.75 inches) x 679.5mm (26.75 inches)

Item	Description
(includes skid)	
<b>Projector weight</b>	
Without the lens	79 kg (174 lbs)
Shipping without lens (includes packaging)	99.8 kg (220 lbs)
<b>Operating position</b>	
Rotation about projection axis	±3° maximum
Tilt of projection axis from horizontal	± 15° maximum

## Orientation and alignment

Learn about the orientation and alignment specifications of the projector.

### Orientation

The projector is designed to operate in a non-inverted, landscape orientation, with all four feet on a level surface.

### Alignment

The projector is designed to operate within the following alignment angles:

Alignment	Permitted Angle
Front-to-back tilt	+15° (upwards) to -15° (downwards)
Side-to-side tilt	+3° to -3°

## Touch panel specifications

Learn the specifications of the touch panel.

Type of Display	Color LCD, backlit
Display Size	256.54 mm (10.1 inches) diagonal
Display Resolution (H x V pixels)	1280 x 800
Maximum Dimensions (W x H x D)	248.2 mm x 166.8 mm x 36.3 mm
Communication Interface with Projector	VGA/USB
Power Requirement	6W (12 V @ 500 mA)
Interface Connector	VGA/USB/ Power on custom cable

## Light source specifications

Learn about the specifications of the direct-coupled laser light source.

Self-contained, fully sealed laser optical sub-system (LOS)
Discrete Red, Green, and Blue laser diodes

## Accessories

Learn about accessories that are available for the CP2309-RGB projector.

### Projection lenses

Projection Lens	Part Number
1.2-1.75:1 .69" DLPCine zoom lens	108-494108-XX
1.33-2.1:1 .69" DLPCine zoom lens	108-495109-XX
1.62-2.7:1 .69" DLPCine zoom lens	108-496100-XX
2.09-3.9:1 .69" DLPCine zoom lens	108-497101-XX

### Filters and coolant

Description	Part Number
Radiator Air Filter	003-006588-XX
Light Engine Air Filter	003-006157-XX
Coolant Propylene Glycol 740	003-005179-XX

### UPS power cord (optional)

Description	Part Number
North America 125V/15A	108-382104-XX
Japan 125V/12A	108-371102-XX
China 250V/10A	108-373104-XX
UK 250V/10A	108-388100-XX
EU/Korea 250V/10A	108-390103-XX
Australia 250V/10A	108-392105-XX
South Africa 250V/10A	108-487100-XX

**Miscellaneous**

Description	Part Number
Rack Stand Adapter Plates	163-111104-XX
Exhaust Duct	163-112105-XX
Christie IMB-S3	153-100102-XX
Christie NAS-S3	153-101103-XX

## Environment

Learn about the environment requirements for the CP2309-RGB projector while operating and not operating.

**Operating environment**

Item	Description
Temperature	10 to 35°C (50 to 95°F), up to 500 m (1640.5 ft)
Humidity (non-condensing)	10% to 80%
Altitude	0 to 3000 meters (0 to 9842 feet) at 15 to 25°C (15 to 77° F)
Nominal brightness ambient temperature	25°C (77°F)

**Non-operating environment**

Item	Description
Temperature	-40°C to 70°C (-13°F to 158°F)
Humidity (non-condensing)	0% to 95%

## Regulatory

This product conforms to the latest regulations and standards related to product safety, environmental, and electromagnetic compatibility (EMC) requirements.

## Safety

- ANSI/UL 60950-1 – Information Technology Equipment – Safety – Part 1: General Requirements
- CAN/CSA C22.2 No. 60950-1-07 – Information Technology Equipment – Safety – Part 1: General Requirements
- IEC/EN 60825-1 – Safety of Laser Products – Part 1: Equipment Classification and Requirements

- IEC/EN 60950-1 – Information Technology Equipment – Safety – Part 1: General Requirements
- IEC/EN 62471-5 – Photobiological Safety of Lamps and Lamp Systems – Part 5: Image projectors

## Electro-magnetic compatibility

### Emissions

- CAN ICES-003 (A)/NMB-003 (A) – Information Technology Equipment (Including Digital Apparatus) – Limits and Methods of Measurement
- CISPR 32:2012/EN 55032:2012, Class A – Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements
- FCC CFR47, Part 15, Subpart B, Class A – Unintentional Radiators
- IEC 61000-3-2/EN61000-3-2: Limits for harmonic current emissions for equipment with input current  $\leq 16$  A
- IEC 61000-3-3/EN61000-3-3: Limitations of Voltage Changes, Voltage Fluctuations, and Flicker input current  $\leq 16$  A

### Immunity

- CISPR 24:2010/EN55024:2010 EMC Requirements – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurements

## Environmental

- China Ministry of Information Industry (along with 7 other Government Agencies) Order No.32 (01/2016) on the control of pollution caused by electronic information products, hazardous substances concentration limits (GB/T 26572 - 2011), and the applicable product marking requirement (SJ/T 11364 - 2014).
- EU Directive (2011/65/EU) on the restriction of the uses of certain hazardous substances (RoHS) in electrical and electronic equipment and the applicable official amendment(s).
- EU Directive (2012/19/EU) on waste and electrical and electronic equipment (WEEE) and the applicable official amendment(s).
- Regulation (EC) No. 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH) and the applicable official amendment(s).

International packaging recycling mark requirements.

- EU Directive (94/62/EC) on packaging and packaging waste
- China packaging recycling mark standard (GB18455-2001)
- EU Directive (2012/19/EU) on waste and electrical and electronic equipment (WEEE) and the applicable official amendment(s).