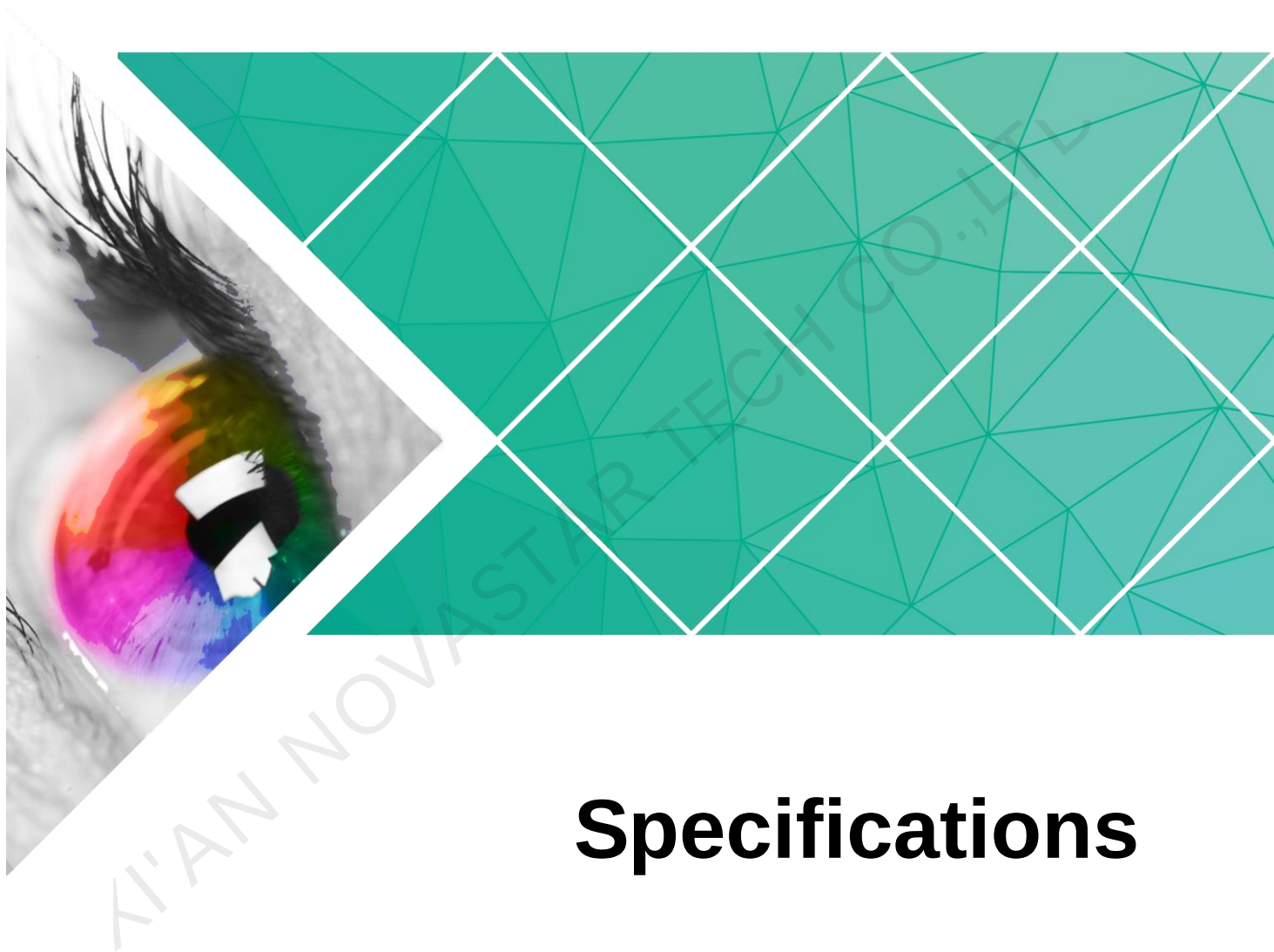


MCTRL4K

Independent Controller



Specifications

Product Version: V1.0.3

Document Number: NS110100428

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Change History

Version	Release Date	Description
V1.0.3	2018-02-08	HDR function is added.
V1.0.2	2017-11-16	Web control is supported.
V1.0.1	2016-10-31	Document style is updated.
V1.0.0	2016-06-06	First release

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1 Safety

This chapter illustrates safety of the MCTRL4K independent controller to ensure the product's storage, transport, installation and use safety.

Safety instructions are applicable to all personnel who contact or use the product. First of all, pay attention to following points.

- Read through the instructions.
- Retain all instructions.
- Comply with all instructions.

1.1 Storage and Transport Safety

- Pay attention to dust and water prevention.
- Avoid long-term direct sunlight.
- Do not place the product at a position near fire and heat.
- Do not place the product in an area containing explosive materials.
- Do not place the product in a strong electromagnetic environment.
- Place the product at a stable position to prevent damage or personal injury caused by dropping.
- Save the packing box and materials which will come in handy if you ever have to store and ship the product. For maximum protection during storage and shipping, repack the product as it was originally packed at the factory.

1.2 Installation and Use Safety

- Only trained professionals may install the product.
- Plugging and unplugging operations are prohibited when the power is on.
- Ensure safe grounding of the product.
- Beware of electric shock hazards.
- Always wear a wrist band and insulating gloves.
- Do not place the product in an area having frequent or strong shake.
- Perform dust removing regularly.

- Contact NovaStar for maintenance at any time, rather than have the product disassembled and maintained by non-professionals without authorization.
- Replace faulty parts only with the spare parts supplied by NovaStar.

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2 Overview

The MCTRL4K is a 4K×2K independent controller developed by NovaStar. With up to 3840×2160@60Hz loading capacity of a single unit, it can support any custom resolution within this range as required, thus meeting the on-site configuration requirements of super-long or super-large LED displays.

In Multi-card mode, the MCTRL4K can be used as two independent controllers, making the images of two input sources perfectly displayed on the screen.

What's more, the MCTRL4K supports HDR function and can work with A8s/A10s to greatly enhance the image quality of the screen, presenting more vivid and clearer images.

The MCTRL4K is mainly applied to concert control centers, live events, security monitoring, Olympic Games and various sports centers.

3 Features

- Provides complete input connectors, including 1 × DP 1.2, 2 × dual-link DVI and 1 × HDMI 2.0.
- Supports 16 × Gigabit Ethernet ports and 4 × fiber optical outputs.
- Supports 3 video bit depths: 8-bit, 10-bit and 12-bit.
- Supports both Mosaic and Multi-card modes when dual-link DVI is used.
- Supports HDR10 which can greatly enhance the image quality of the screen, presenting more vivid and clearer images.
- Supports super high resolution settings with NVIDIA graphics card.
- Adopts innovative architectural design to enable smart configuration, which can greatly shorten the stage preparation time.
- Adopts NovaStar G4 engine to realize a perfect image display with no flickering and scanning lines, but fine quality and good sense of depth.
- Supports the new generation of pixel level calibration technology of NovaStar to bring a fast and efficient calibration process.
- Implements white balance calibration and color gamut mapping to ensure colors are faithfully reproduced.
- Supports screen configuration at any time without a PC.
- Supports easy and quick manual adjustment of screen brightness.
- Supports screen configuration via Web interface.
- Supports cascading multiple controllers for uniform control.
- Supports various video formats. For details, see [Table 3-1](#).

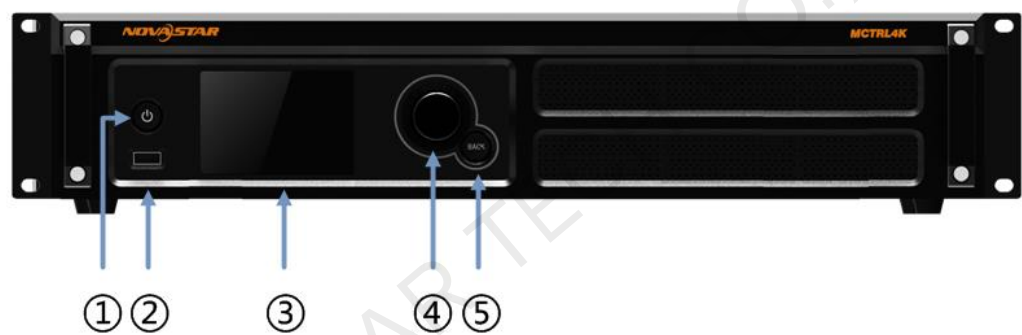
Table 3-1 Supported video formats

Resolution Format		3840x2160@60Hz	3840x1080@60Hz	1920x1080@60Hz
8Bit	RGB444	✓	✓	✓
	YCbCr444	✓	✓	✓
	YCbCr422	✓	✓	✓
	YCbCr420	✓	✓	✓
10Bit	RGB444	✗	✓	✓

	YCbCr444	✖	✓	✓
	YCbCr422	✓	✓	✓
	YCbCr420	✓	✓	✓
12Bit	RGB444	✖	✓	✓
	YCbCr444	✖	✓	✓
	YCbCr422	✓	✓	✓
	YCbCr420	✓	✓	✓

4 Appearance

Front Panel



No.	Name	Description
①	Power button	Pressing it powers on the device, while holding it down for 4–5seconds powers off the device.
②	USB	Connects a USB drive only (PC cannot be connected).
③	LCD screen	Displays the menu.
④	Knob	Pressing the knob enters a menu or confirms an option or operation, while rotating the knob selects a menu item or adjusts a parameter.
⑤	BACK	Returns to the parent menu.

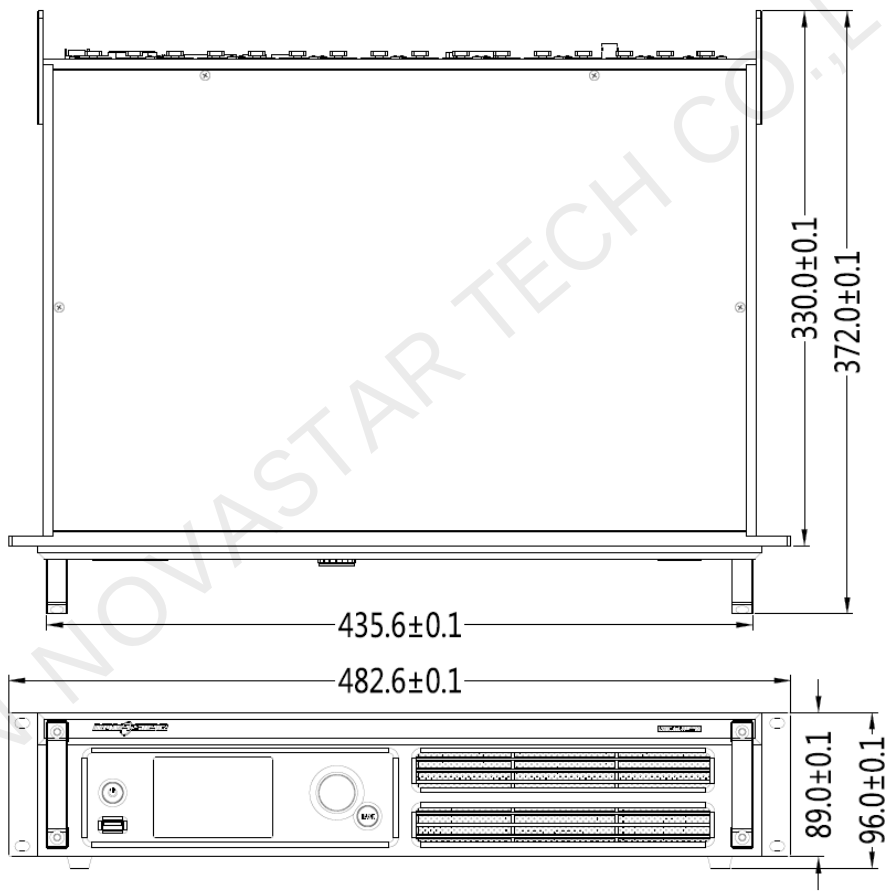
Rear Panel



Input	
DP 1.2	DP 1.2 connector
HDMI 2.0	HDMI 2.0 connector
DUAL DVI-D1 DUAL DVI-D2	Dual-link DVI connectors
Output	
1–16	16 × Neutrik (NE8FBH) Gigabit Ethernet outputs
OPT1–4	4 × Fiber optical outputs OPT1 corresponds to Ethernet ports 1–8, while OPT2 corresponds to Ethernet ports 9–16. OPT3 serves as the backup for OPT1, while OPT4 serves as the backup for OPT2.
Control	
ETHERNET	For PC connection
USB IN	Input port for cascading devices, or for PC connection
USB OUT	Output port for cascading devices
GENLOCK	
IN	GENLOCK type: Blackburst. It is the GENLOCK synchronization signal which is used to ensure synchronization between the LED screen display and external GENLOCK source.
LOOP	GENLOCK loop output
Power Connector	
AC 100-240 V–50/60 Hz	AC power input

Note: Type-A USB port is prohibited from being connected to the upper computer directly.

5 Dimensions



Unit: mm

6 Specifications

Input voltage	AC 100-240 V–50/60 Hz
Rated power consumption	30 W
Operating temperature	-20°C–60°C
Operating humidity	10% RH–90% RH
Dimensions	482.6 mm × 372.0 mm × 96.0 mm
Weight	4.6 kg
Certifications	• FCC • RoHS • UL&CUL • EAC • CB • IC • CE
Packing	Each MCTRL4K unit is equipped with a suitcase, an accessory box and a large carton. Packing dimensions: Suitcase: 530 mm × 193 mm × 420 mm, white cardboard box printed with NOVASTAR, one unit in a suitcase. Accessory box: 405 mm × 290 mm × 48 mm, white cardboard box printed with Accessory Box. Accessories include 1 × power cord, 1 × Ethernet cable, 1 × USB cable, 1 × HDMI cable and 1 × DP cable. Carton: 550 mm × 440 mm × 210 mm, craft paper box printed with NOVASTAR. Packing rules: Product and accessory box (containing related cables) packed in the suitcase and the suitcase packed in the large carton.

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