

# MCTRL700

## LED Display Controller



Specifications

## Change History

Document Version	Release Date	Description
V1.2.3	2026-04-17	<ul style="list-style-type: none"> <li>Updated the accessory information.</li> <li>Updated the packing box dimensions.</li> </ul>
V1.2.2	2025-06-11	Updated the resolution information and packing box dimensions.
V1.2.1	2021-08-02	Updated the packing information.
V1.2.0	2020-07-08	<ul style="list-style-type: none"> <li>Added the hot backup verification function.</li> <li>Added the 10-bit Gamma adjustment function.</li> <li>Changed the minimum width of the Ethernet port loading capacity from 256 pixels to 128 pixels.</li> <li>Changed the number of receiving cards loaded by each Ethernet port from 1024 to 512.</li> <li>Fixed the problem that the backup between Ethernet ports 5 and 6 does not take effect.</li> <li>Changed the Ethernet ports that support audio output from Ethernet ports 1–3 to Ethernet ports 1–2.</li> <li>The default screen configuration information becomes 128×128 after factory reset.</li> <li>Optimized the device cascading solution. Up to 20 devices can be cascaded.</li> <li>Removed the RS232 ports. Devices can be cascaded via UART serial port.</li> <li>Canceled the scaling function.</li> <li>Canceled the virtual function.</li> </ul>
V1.1.0	2019-05-15	<ul style="list-style-type: none"> <li>Changed the document style.</li> <li>Optimized the document content.</li> </ul>

## Introduction

The MCTRL700 is an LED display controller developed by Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). It supports 1x DVI input, 1x HDMI input, 1x audio input, and 6x Ethernet outputs. The maximum loading capacity of a single MCTRL700 is 1920×1200@60Hz.

The MCTRL700 communicates with PC via Type-B USB port. Multiple MCTRL700 units can be cascaded via UART port.

The MCTRL700 can be mainly used in the rental and fixed applications, such as concerts, live events, security monitoring centers, Olympic Games and various sports centers.

## Certifications

FCC, CE, RoHS, IC, PSE, NTRA, CB

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

## Features

- 3x types of input connectors
  - 1x SL-DVI (IN-OUT)
  - 1x HDMI 1.3 (IN-OUT)
- 1x AUDIO
- 6x Gigabit Ethernet outputs
- 1x type-B USB control port

- 2x UART control ports  
They are used for device cascading. Up to 20 devices can be cascaded.
- Pixel level brightness and chroma calibration

Working with NovaLCT and calibration platform, the controller supports brightness and chroma calibration on each LED, which can effectively remove color discrepancies and greatly improve LED display brightness and chroma consistency, allowing for better image quality.

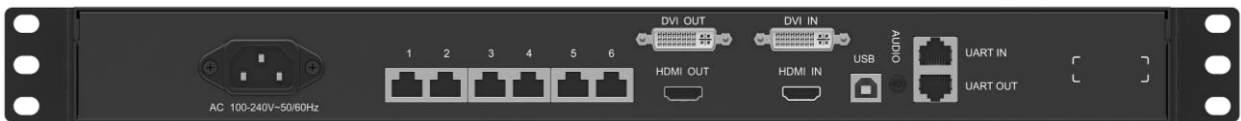
## Appearance

### Front Panel



Indicator	Status	Description
RUN (Green)	Slow flashing (flashing once in 2s)	No video input is available.
	Normal flashing (flashing 4 times in 1s)	The video input is available.
	Fast flashing (flashing 30 times in 1s)	The screen is displaying the startup image.
	Breathing	The Ethernet port redundancy has taken effect.
STA (Red)	Always on	The power supply is normal.
	Off	The power is not supplied, or the power supply is abnormal.

### Rear Panel



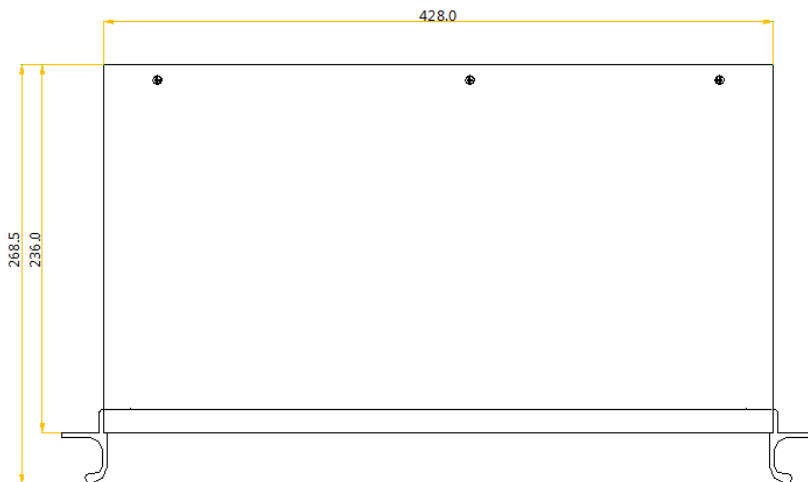
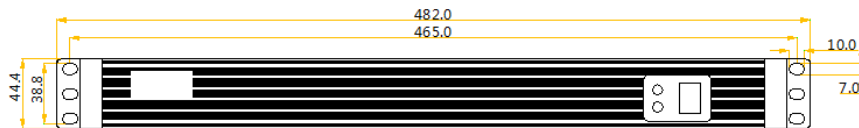
Connector Type	Connector Name	Description
Input	DVI IN	1x SL-DVI input connector <ul style="list-style-type: none"> <li>• Resolutions up to 1920x1200@60Hz</li> <li>• Custom resolutions supported Maximum width: 3840 (3840x600@60Hz) Maximum height: 3840 (500x3840@60Hz)</li> <li>• HDCP 1.4 compliant</li> <li>• Does NOT support interlaced signal input.</li> </ul>
	HDMI IN	1x HDMI 1.3 input connector <ul style="list-style-type: none"> <li>• Resolutions up to 1920x1200@60Hz</li> <li>• Custom resolutions supported Maximum width: 3840 (3840x600@60Hz) Maximum height: 3840 (500x3840@60Hz)</li> <li>• HDCP1.4 compliant</li> <li>• Does NOT support interlaced signal input.</li> </ul>
	AUDIO	Audio input connector
Output	1-6	6x RJ45 Gigabit Ethernet ports <ul style="list-style-type: none"> <li>• Capacity per port up to 650,000 pixels</li> </ul>

		<ul style="list-style-type: none"> <li>Redundancy between Ethernet ports supported</li> </ul>
	HDMI OUT	1x HDMI 1.3 output connector for cascading
	DVI OUT	1x SL-DVI output connector for cascading
Control	USB	Type-B USB 2.0 port to connect to PC
	UART IN/OUT	Input and output ports to cascade devices. Up to 20 devices can be cascaded.
Power	AC 100-240V~50/60Hz	

**Note:**

This product can only be placed horizontally. Do not mount vertically or upside-down.

## Dimensions



Tolerance:  $\pm 0.3$  Unit: mm

## Specifications

Electrical Specifications	Input voltage	AC 100-240V~50/60Hz
	Rated power consumption	12 W
Operating Environment	Temperature	-20°C to +60°C
	Humidity	10% RH to 90% RH, non-condensing
Physical Specifications	Dimensions	482.0 mm x 268.5 mm x 44.4 mm
	Net weight	2.6 kg

		Note: It is the weight of a single device only.
	Rackmount	1U
Packing Information	Packing box	586 mm x 465 mm x 353 mm Note: Each packing box can hold up to 5 devices.
	Carrying case	565 mm x 88 mm x 328 mm
	Accessory	<ul style="list-style-type: none"> <li>• 1x power cord</li> <li>• 1x USB cable</li> <li>• 1x HDMI cable</li> </ul>

## Video Source Features

Input Connector	Features		
	Bit Depth	Sampling Format	Max. Input Resolution
HDMI 1.3	8bit	RGB 4:4:4	1920x1200@60Hz
Single-link DVI	8bit	RGB 4:4:4	1920x1200@60Hz

## FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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