FTSC4000

LED Display Controller



XI'AN NOVASTAR TECH CO., LTD.

Specifications

Document Version: V1.1.1

1 Overview

The FTSC4000 is an LED display controller featuring an ultra-large loading capacity of up to 4096×2160@60Hz. It supports any custom output resolutions with the width or height up to 7680 pixels, meeting the on-site configuration requirements of ultra-long or ultra-large LED displays.

The FTSC4000 has multiple working modes, suitable to different applications:

- Support switching between sending card mode and fiber converter mode.

  In sending card mode, when the DVI mode is Dual Link, the FTSC4000 can be used as two LED display controllers. When the DVI mode is Single Link, the FTSC4000 can be used as four LED display controllers.
- Support switching between hot backup mode and copy mode of optical ports.

  In hot backup mode, an FTSC4000 can send the signal to two fiber converters simultaneously and allow for loop backup between the fiber converters and receiving cards, providing an excellent cost-effective solution for the rental market.

The FTSC4000 is stable, reliable and powerful, dedicated to providing users with an ultimate visual experience. It can be mainly used in the rental and fixed installation applications, such as concerts, live events, security monitoring centers, Olympic Games and various sports centers.

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2 Features

2.1 Features

- 1x DP 1.2 and 4x DVI inputs
- 16x Gigabit Ethernet and 4x optical outputs
- Support for 8-bit/10-bit/12-bit video sources
- Support for switching between sending card mode and fiber converter mode
- Support for 3D function when working with the EMT200 3D emitter and 3D glasses to allow for 3D display effects
- Support for individual Gamma adjustment for RGB to 10-bit/12-bit inputs, which effectively controls image non-uniformity under low grayscale and white balance offset to improve image quality
- Support for ultra-high resolution settings with NVIDIA graphics card
- 1x AUX ETH port for connecting stage floor displays
- Support for the pixel level calibration technology, enabling fast and efficient calibration
- Support for cascading of multiple devices, allowing for uniform control
- Support for a variety of input video formats, as shown in Table 2-1

2.2 Video Formats

Table 2-1 Video formats

Format \ Resolution		4096×2160@60Hz (Forced)	3840×2160@60Hz	1920×1080@60Hz
8-bit	RGB 4:4:4	✓	✓	✓
	YCbCr 4:4:4	✓	✓	✓
	YCbCr 4:2:2	✓	✓	✓
	YCbCr 4:2:0	✓	✓	✓
10-bit	RGB 4:4:4	✗	✗	✓

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Format \ Resolution		4096×2160@60Hz (Forced)	3840×2160@60Hz	1920×1080@60Hz
	YCbCr 4:4:4	✖	✖	✓
	YCbCr 4:2:2	✓	✓	✓
	YCbCr 4:2:0	✓	✓	✓
12-bit	RGB 4:4:4	✖	✖	✓
	YCbCr 4:4:4	✖	✖	✓
	YCbCr 4:2:2	✓	✓	✓
	YCbCr 4:2:0	✓	✓	✓

Note:

For 10-bit/12-bit input sources, the bit depth must be set correspondingly in LCT software.

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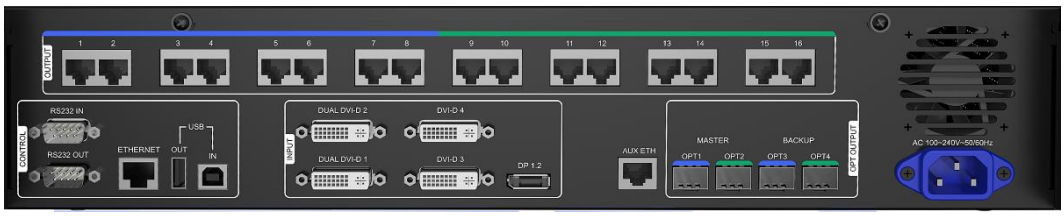
3 Appearance

Front Panel



Name	Description
Power switch	ON/OFF
LCD screen	Display the operation menu.
Knob	Instructions: • Press the knob to enter the submenu or confirm the selection. • Rotate the knob to select a menu item or adjust the parameter value. • Hold down the knob and **BACK** button simultaneously for 5s to lock or unlock the buttons.
BACK button	Go back to the previous menu or exit the current operation.

Rear Panel



Input	
DUAL DVI-D1, DUAL DVI-D2, DVI-D3, DVI-D4	Receive DVI video inputs. • In Dual Link mode, DUAL DVI-D1 and DUAL DVI-D2 are available (DVI-D3 and DVI-D4 unavailable). Each of them

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	supports resolutions up to 3840×1080@60Hz. • In Single Link mode, all the 4 inputs are available. Each DVI input supports resolutions up to 1920×1200@60Hz. • Do NOT support interlaced signal input. • Support custom resolutions: Maximum width: 3840 pixels Maximum height: 3840 pixels • Supported standard resolutions: 1280×1024@(24/25/30/48/50/60/72/75/85/100/120)Hz 1366×768@(24/25/30/48/50/60/72/75/85/100/120)Hz 1440×900@(24/25/30/48/50/60/72/75/85/100/120)Hz 1600×1200@(24/25/30/48/50/60/72/75/85/100/120)Hz 1920×1080@(24/25/30/48/50/60/72/75/85/100/120)Hz 1920×1200@(24/25/30/48/50/60/72/75/85/100)Hz 1920×2160@(24/25/30/48/50/60)Hz 2560×1600@(24/25/30/48/50/60)Hz 3840×1080@(24/25/30/48/50/60)Hz 3840×2160@(24/25/30)Hz
DP 1.2	• A DP 1.2 connector to receive high-definition video and audio inputs • Do NOT support interlaced signal input. • Support custom resolutions: Maximum width: 7680 pixels Maximum height: 7680 pixels • HDCP 1.3 compliant • Supported standard resolutions: 1280×1024@(24/25/30/48/50/60/72/75/85/100/120)Hz 1366×768@(24/25/30/48/50/60/72/75/85/100/120)Hz 1440×900@(24/25/30/48/50/60/72/75/85/100/120)Hz 1600×1200@(24/25/30/48/50/60/72/75/85/100/120)Hz 1920×1080@(24/25/30/48/50/60/72/75/85/100/120)Hz 1920×1200@(24/25/30/48/50/60/72/75/85/100/120)Hz 1920×2160@(24/25/30/48/50/60/72/75/85/100/120)Hz 2560×1600@(24/25/30/48/50/60/72/75/85/100/120)Hz 3840×1080@(24/25/30/48/50/60/72/75/85/100/120)Hz 3840×2160@(24/25/30/48/50/60)Hz
Output	
1–16	• 16x RJ45 Gigabit Ethernet outputs • Maximum loading capacity of each Ethernet port: – For 8-bit input sources: 650,000 pixels – For 10-bit/12-bit input sources: 320,000 pixels

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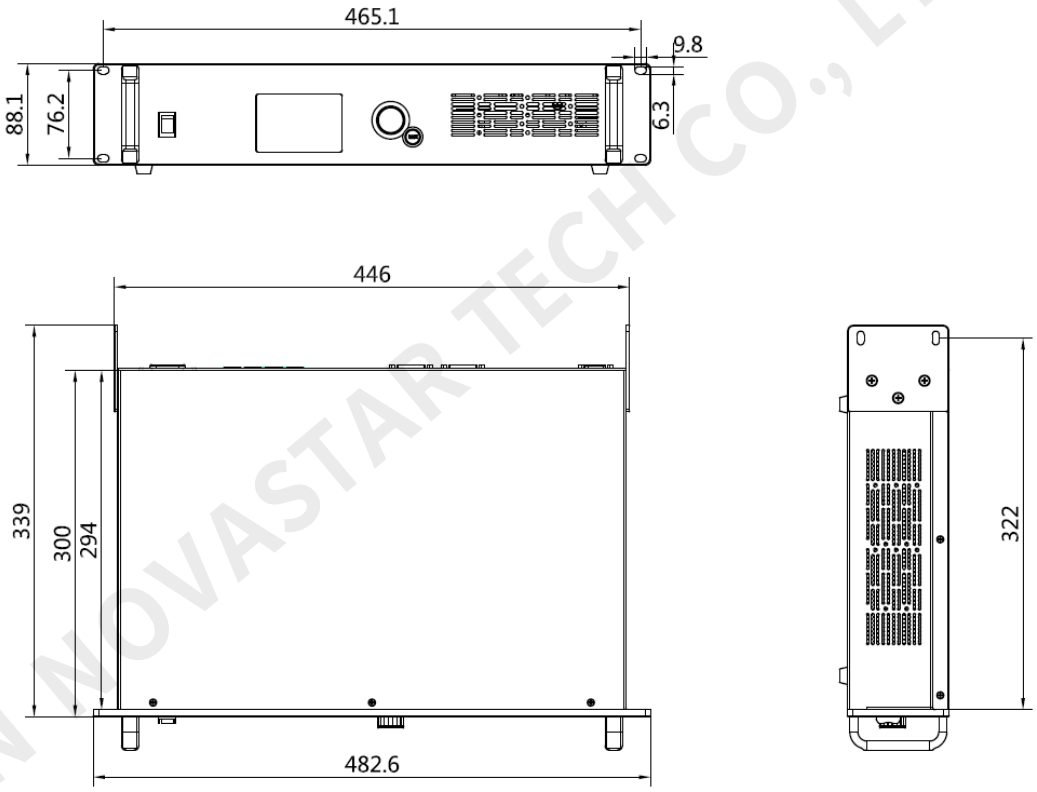
	• Support backup between Ethernet ports.
OPT1–OPT4	• 10G optical ports – Single-mode twin-core fiber: Support LC optical connectors; wavelength: 1310 nm; transmission distance: 10 km; OS1/OS2 recommended – Dual-mode twin-core fiber: Support LC optical connectors; wavelength: 850 nm; transmission distance: 300 m; OM3/OM4 recommended • The maximum loading capacity of a single optical port equals to that of 8 Ethernet ports. • 4x optical inputs/outputs – OPT1 and OPT2 are master input/output ports. OPT1 corresponds to Ethernet ports 1–8 and OPT2 corresponds to Ethernet ports 9–16. – OPT3 and OPT4 are backup input/output ports. OPT3 is the backup of OPT1, and OPT4 is the backup of OPT2. • In sending card mode, the 4 optical ports and 16 Ethernet ports are all used as output ports. Optical ports and Ethernet ports output the same image. • In fiber converter mode, when the optical ports are used as input ports, the Ethernet ports are used as output ports. When the Ethernet ports are used as input ports, the optical ports are used as output ports.
Control	
ETHERNET	A Fast Ethernet port to connect the control computer, TCP/IP supported
USB IN	An input port to cascade devices, or connect the control computer
USB OUT	An output port to cascade devices
RS232 IN	A reserved central control port, baud rate at 115200 bps
RS232 OUT	
AUX ETH	A port to connect the stage floor display
Power	
AC 100V~240V-50/60Hz	AC power connector

Note:

The type-A USB port is prohibited from being connected to the control computer directly.

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4 Dimensions



Unit: mm

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5 Specifications

Electrical Parameters	Input voltage	AC 100V~240V-50/60Hz
	Rated power consumption	30 W
Operating Environment	Temperature	–20°C to +60°C
	Humidity	0% RH to 90% RH, non-condensing
Storage Environment	Temperature	–20°C to +70°C
Physical Specifications	Dimensions	482.6 mm × 363.0 mm × 88.1 mm
	Net weight	5.2 kg
	Rackmount	2U
Packing Information	Carrying case	530 mm × 193 mm × 420 mm
	Accessory box	405 mm × 290 mm × 48 mm Accessories: 1x power cord, 1x Ethernet cable, 1x USB cable, 4x DVI cables, 1x DP cable
	Packing box	550 mm × 440 mm × 210 mm

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