

TV4

LED Playback Control Processor



Specifications

Introduction

The TV4 is a playback control processor specially designed by Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar) for indoor LED screens. It integrates the Android system and sending card functions into one unit, and allows third-party apps to run on it, featuring powerful interaction and playback control capabilities.

The TV4 allows users to control the LED screen with a remote and supports wireless screen mirroring from Windows, macOS, iOS, and Android devices. It offers four different modes tailored for various applications, ensuring the best display quality for document presentations, video playback, and remote meetings.

The TV4 has no requirements of redesigning or changing the screen structure and can be mounted on the wall or placed on a surface, allowing for quick environment setup and use. It can be widely used in corporate exhibition halls, meeting rooms, government and corporate educational halls, hotel lobbies, telemedicine consultation and other LED single-screen application scenarios.

Features

Inputs and Outputs

- 2x HDMI 1.3 inputs
- 3x USB 2.0 inputs for multimedia playback and function extension
- 4x Ethernet outputs, capacity up to 2.6 million pixels
- 2x audio outputs
 - 1x SPDIF digital audio output
 - 1x 3.5-mm audio output
- Output image scaling
 - Width range: 64 to 4096 pixels
 - Height range: 64 to 1920 pixels
 - Total device load capacity \leq 2.6 million pixels

System Functions

- Android 11 based desktop UI system, supporting third-party apps
- Wireless screen mirroring from multiple platforms
Mirror from Windows, macOS, iOS and Android terminals.
- Screen drawing and commenting
- Working with the ViPlex Handy to achieve reverse control
The speaker can reversely control the LED screen via the terminal.
- Powerful processing performance
 - Quad-core 1.8 GHz ARM A55 processor
 - Support high-definition video decoding of H.264 and H.265 at 4K@60Hz.
 - 2GB of RAM
 - 32GB of storage space
- Excellent playback performance
Supports playback of 1 stream of 4K video, 2 streams of 1080p video, 2 streams of 720p video, 3 streams of 480p video, or 3 streams of 360p video.
- Playback control via different terminals
 - Intelligent control via mobile app: Install ViPlex Handy on your smartphone for program editing and publishing and screen control.
 - Convenient playback control via remote: Perform playback control of local programs and simple program editing on the screen.
 - USB playback: Support standalone playback, plug and play, copy and play.
- Effect adjustment
Offer 4 display modes including standard, soft, cinema and meeting, and allow you to adjust the brightness, color temperature, saturation, contrast, etc.
- Dual Wi-Fi modes
Allow for Wi-Fi and wireless hotspot connections at the same time.
- Eye comfort mode

Device Controls

- Gigabit Ethernet control port with TCP/IP protocol support
- Low-power (less than 0.5 W) mode during standby, and wakeup from standby via Infrared remote
- A relays can be connected for convenient power management of LED screen
- Intelligent control via mobile app
- Download and install VNNOX Care on your smartphone to easily configure the LED screen within just 10 minutes. The app also allows you to scan QR codes to set up screens, connect and adjust the topology using photos, and monitor the status of your devices.

- Control the LED screen with a remote
 - Bluetooth 5.0
- Can connect to the Bluetooth voice remote, Bluetooth mouse, Bluetooth keyboard, Bluetooth sound system and other common peripherals.
- Support peripherals such as camera, sound system and infrared touch frame.
- Please contact NovaStar technical support for information on supported peripheral device models.

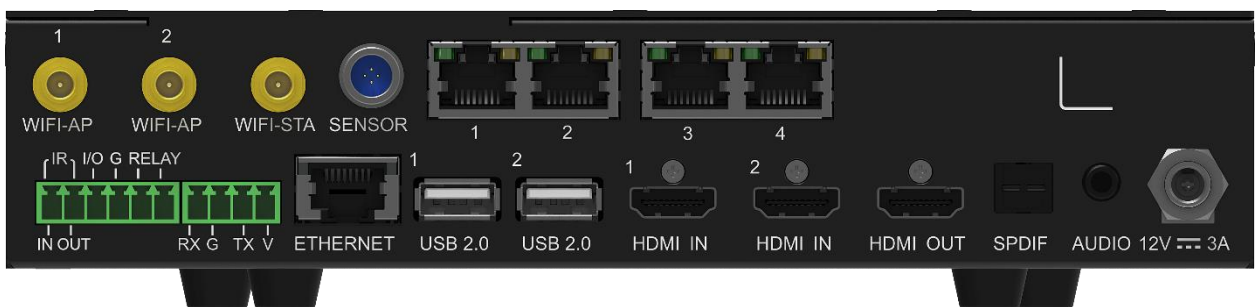
Appearance

Front Panel




Name	Description
Status LED	<ul style="list-style-type: none"> ● Solid green: The device is running normally. ● Off: The device is not running.
Standby button	<ul style="list-style-type: none"> ● Press the button to power on the device or put it on standby. ● Hold down the button to restart the device.
USB 2.0	<p>Support a mouse, keyboard, USB drive and other common USB devices.</p> <ul style="list-style-type: none"> ● Supported image formats: *.jpg, *.bmp, *.png, *.gif, *.webp ● Supported video formats: *.avi, *.mpg, *.vob, *.mov, *.mkv, *.mp4, *.ts, *.flv, *.3gp, *.asf, *.webm ● Support FAT32 and NTFS file systems. Do not support exFAT or FAT16 file system.

Rear Panel



Type	Connector	Description
Input	HDMI IN 1-2	<p>2x HDMI 1.3 (Type A)</p> <ul style="list-style-type: none"> ● Max resolution: 2048x1152@60Hz ● Min resolution: 800x600@60Hz ● Custom resolutions supported Width range: 800-3840 pixels (Forced) Height range: 600-3840 pixels (Forced)

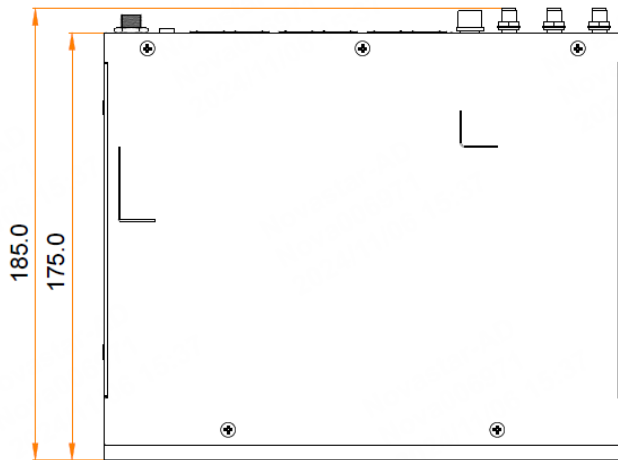
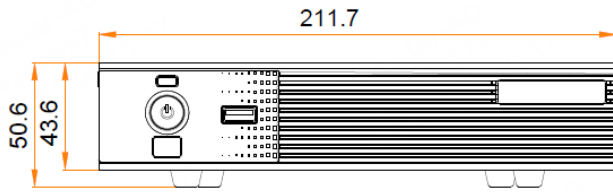
		<ul style="list-style-type: none"> Supported frame rates: 30 Hz, 50 Hz, 60 Hz Do NOT support interlaced signal input. HDCP 1.4 compliant, backwards compatible
	USB 2.0 1–2	<p>2x USB 2.0 to support a mouse, keyboard, USB drive and other common USB devices</p> <ul style="list-style-type: none"> Supported image formats: *.jpg, *.bmp, *.png, *.gif, *.webp Supported video formats: *.avi, *.mpg, *.vob, *.mov, *.mkv, *.mp4, *.ts, *.flv, *.3gp, *.asf, *.webm Supported file systems: FAT32, NTFS; not supported: exFAT, FAT16
Output	1–4	4x RJ45 (1Gps)
	HDMI OUT	Support output of standard 1080p video.
	AUDIO	3.5-mm audio output
	SPDIF	For digital fiber optic audio output
Control	ETHERNET	Connect to external network or to the NovaLCT software on the control PC.
	SENSOR	<p>Sensor connector to connect to light, temperature or humidity sensors.</p> <p> Note</p> <p>It is recommended to use NovaStar products for light, temperature, and humidity sensors.</p>
	Phoenix connector (4 pins)	<p>1x RS232 central control connector (4 pins) to connect to the central control device</p> <ul style="list-style-type: none"> Baud rate: 115200 bps Data bits: 8; stop bits: 1; no parity bit; no flow control
	Phoenix connector (6 pins)	<ul style="list-style-type: none"> 1x IR IN (Reserved) 1x IR OUT (Reserved) 1x I/O (Reserved) 1x RELAY <ul style="list-style-type: none"> Connect to a relay to control the switch on and off of the connected device. Voltage: 30 V DC; max current: 3 A 1x GND <p>A grounding connector</p>
Antenna	Wi-Fi AP 1–2	Specifications: 2T2R. Connect to the Wi-Fi antenna and Bluetooth antenna.
	Wi-Fi STA	Specifications: 1T1R. Connect to the Wi-Fi antenna
Power	DC 12 V ± 10%	

 **Note**

When using the scaling function, the maximum load capacity is 2.6 million pixels, while the maximum pixel load for pixel-to-pixel display is 2.25 million. For any questions, please contact NovaStar technical support.

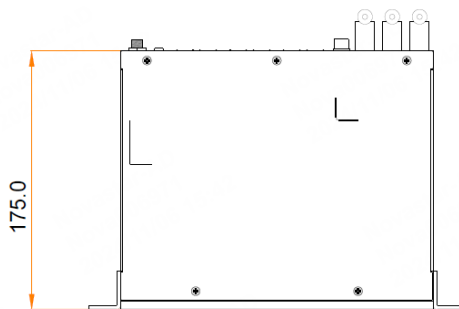
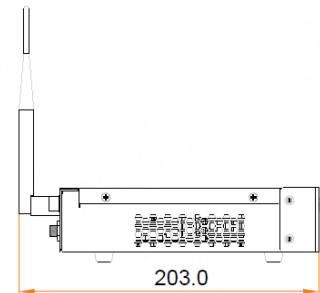
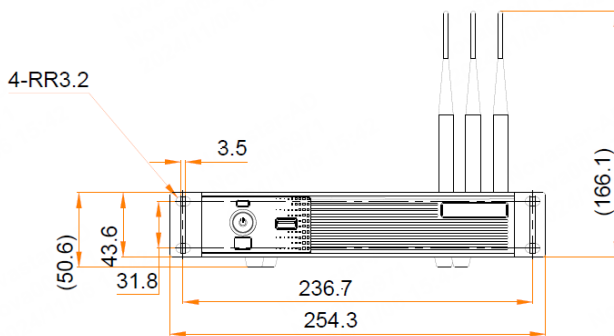
Dimensions

TV4



Tolerance: ± 0.3 Unit: mm

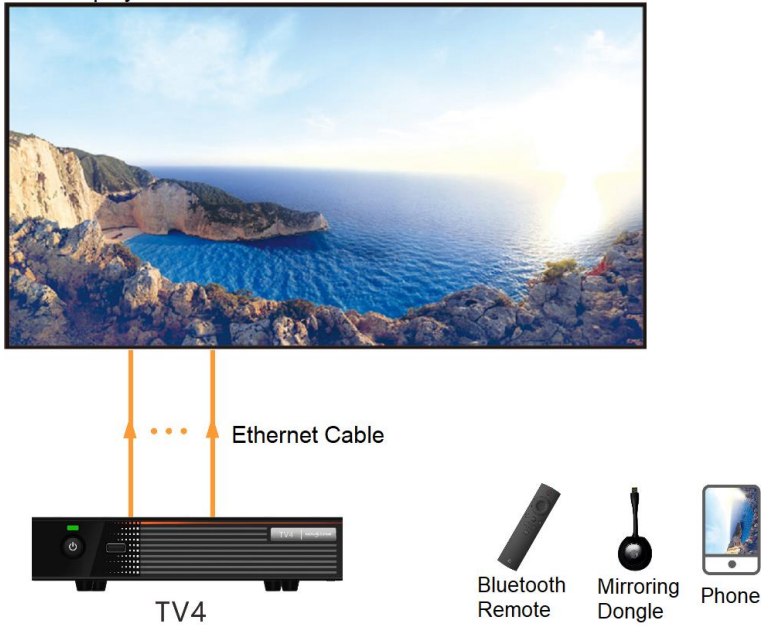
TV4 with Antennas and Hanging Brackets Installed



Tolerance: ± 0.3 Unit: mm

Applications

LED Display



Note

The TV4 product package in this diagram is described in the packing list in the specifications table.

The TB1304 mirroring dongle (Type-C connector) is not included with the TV4 product package and must be purchased separately. To use the TB1304 dongle with the TV4, you will need to connect it using a Type-C to USB adapter (provided with the TB1304).

Specifications

Electrical Specifications	Input voltage	DC 12V 3A, Negative Outside Positive Inside (power adapter input)
	Rated power consumption	21 W
Storage Space	RAM	2 GB
	Internal storage	32 GB
Operating Environment	Temperature	-20°C to +60°C
	Humidity	0% RH to 80% RH, non-condensing
Storage Environment	Temperature	-40°C to +80°C
	Humidity	0% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	211.7 mm x 185.0 mm x 50.6 mm
	Net weight	1.12 kg
	Gross weight	2.9 kg Note: It is the total weight of the product, accessories, and packing materials packed according to the packing specifications.
Packing Information	Dimensions (LxWxH)	387 mm x 359 mm x 173 mm
	List	<ul style="list-style-type: none"> • 1x TV4 • 1x Power adapter • 1x Bluetooth voice remote • 1x Ethernet cable • 1x HDMI cable • 3x Antennas • 2x Hanging brackets • 1x Certificate of Approval

The current and power consumption may vary depending on the product settings, usage environment and measuring status.

Optional Accessories

Item Code	Description	Note
710010020	Wireless mirroring activation code – 4-split screen	To use the 4-split screen feature, please purchase this item separately.
710010073	Wireless mirroring activation code – 9-split screen	To use the 9-split screen feature, please purchase this item separately.
710010027	Whiteboard activation code	To use the whiteboard feature, please purchase this item separately.
W01010277	MEECUS_Dongle_TB1304	To use the mirroring dongle, please purchase this item separately (it has a Type-C connector but can also be used with a USB port and comes with a Type-C to USB adapter included).

Media Decoding Specifications

Image

Type	Decoding	Resolution	Format	Note
JPEG	JFIF file format 1.02	16×16 pixels to 4096×2160 pixels	JPG, JPEG	Non-interlaced scanning not supported. Support SRGB JPEG Support Adobe RGB JPEG
BMP	BMP	16×16 pixels to 4096×2160 pixels	BMP	N/A
GIF	GIF	16×16 pixels to 4096×2160 pixels	GIF	N/A
PNG	PNG	16×16 pixels to 4096×2160 pixels	PNG	N/A
WEBP	WEBP	16×16 pixels to 4096×2160 pixels	WEBP	N/A

Video

Type	Decoding	Resolution	Max Frame Rate	Max Bit Rate (Ideal Condition)	Format	Note
MPEG-1/2	MPEG-1/2	48×48 pixels to 1920×1088 pixels	30fps	80 Mbps	MPG, VOB, TS	Support field coding
MPEG-4	MPEG4	48×48 pixels to 1920×1088 pixels	30fps	38.4 Mbps	AVI, MKV, MP4, MOV, 3GP	MS MPEG4 v1/v2/v3, GMC not supported
H.264/AVC	H.264	48×48 pixels to 4096×2304 pixels	2304p@60fps	80 Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support field coding, MBAFF
MVC	H.264 MVC	48×48 pixels to 4096×2304 pixels	2304p@60fps	100 Mbps	MKV	Only support stereo high profile
H.265/HEVC	H.265/HEVC	64×64 pixels to 4096×2304 pixels	2304p@60fps	100 Mbps	MKV, MP4, MOV, TS	Support main profile, tile & slice
GOOGLE VP8	VP8	48×48 pixels to 1920×1088 pixels	30fps	38.4 Mbps	WEBM, MKV	N/A
GOOGLE VP9	VP9	64×64 pixels to 4096×2304 pixels	60fps	80 Mbps	WEBM, MKV	N/A
H.263	H.263	SQCIF(128×96) QCIF(176×144) CIF(352×288) 4CIF(704×576)	30fps	38.4 Mbps	3GP, MOV, MP4	H.263+ not supported

Type	Decoding	Resolution	Max Frame Rate	Max Bit Rate (Ideal Condition)	Format	Note
VC-1	VC-1	48x48 pixels to 1920x1088 pixels	30fps	45 Mbps	WMV, ASF, TS, MKV, AVI	N/A

Copyright © 2024 Xi'an NovaStar Tech Co., Ltd. All Rights Reserved.

No part of this document may be copied, reproduced, extracted or transmitted in any form or by any means without the prior written consent of Xi'an NovaStar Tech Co., Ltd.

Trademark

NOVA STAR is a trademark of Xi'an NovaStar Tech Co., Ltd.

Statement

Thank you for choosing NovaStar's product. This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via the contact information given in this document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

| [Official website](http://www.novastar.tech)
| www.novastar.tech

| [Technical support](mailto:support@novastar.tech)
| support@novastar.tech