TB30

Multimedia Player



Specifications

Change History

Document Version	Release Date	Description
V1.2.4	2026-05-15	• Added a description of the ultra-long screen feature. • Updated the description of the connectors on the front and rear panels.
V1.2.3	2026-01-05	• Updated the certification information. • Updated the playback performance. • Updated the indicator status description. • Updated the media decoding specifications.
V1.2.2	2025-08-29	• Updated the certification information. • Updated the feature description. • Updated the connector description. • Updated the media decoding specifications.
V1.2.1	2024-10-20	Updated the feature description.
V1.2.0	2024-07-24	• Updated the feature description. • Updated the RUN indicator description. • Added the recommended supply power. • Updated the packing information. • Updated the media decoding specifications.

Introduction

The TB30 is a new generation of multimedia player created by NovaStar for full-color LED displays. This multimedia player integrates playback and sending capabilities, allowing users to publish content and control LED displays with a computer, mobile phone, or tablet. Working with our superior cloud-based publishing and monitoring platforms, the TB30 enables users to manage LED displays from an Internet-connected device anywhere, anytime.

Thanks to its reliability, ease of use, and intelligent control, the TB30 becomes a winning choice for commercial LED displays and smart city applications such as fixed displays, lamp-post displays, chain store displays, advertisement players, retail store displays, door head displays, shelf displays, and much more.

Certifications

NBTC, IMDA, PSB, FAC DoC, ENACOM, ICASA, SRRC, NOM-208, EAC DoC, EAC RoHS, RCM, CQC, FCC, UL, IC, KC, CE, UKCA, CB, MIC, PSE, NTRA, PSTI

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

Output

- Loading capacity up to 1,300,000 pixels

  Maximum width: 4096 pixels, maximum height: 4096 pixels
- Maximum width of an ultra-long screen: 23,040 pixels, maximum height of an ultra-long screen: 4096 pixels (maximum capacity per Ethernet port: 650,000 pixels, bit depth: 8 bits)
- 2x Gigabit Ethernet ports

  All these two ports serve as primary by default. Users can also set one as primary and the other as backup.
- 1x 3.5 mm audio output connector

Note

When the multifunction card of NovaStar is connected for audio output:

- In asynchronous mode, the internal audio sampling rate ranges from 8 kHz to 192 kHz and can automatically convert to 48 kHz.
- For embedded audio from HDMI input, please ensure the audio sampling rate is set to 48 kHz.

Input

- 2x Sensor connectors

  Connect to the brightness sensor or temperature and humidity sensor.

Control

- 1x USB 3.0 (Type A) port allowing for USB playback, firmware upgrade and storage expansion
- 1x USB (Type B) port connecting to the control computer for content publishing and screen control
- 1x Gigabit Ethernet port connecting to the control computer, a LAN or public network for content publishing and screen control

Performance

- Powerful processing capacity
  - Quad-core ARM A55 processor @1.8 GHz
  - Support for 4K video decoding
  - 1 GB of onboard RAM
  - 32 GB of internal storage
- Flawless playback

  Support for playback of 1x 4K, 2x 1080p, 5x 720p, 6x 480p, or 6x 360p videos

  Note: Videos with resolutions between 2K and 4K will be converted into 4K videos.

Functionality

- All-round control plans
  - Enables users to publish content and control screens from a computer, mobile phone, or tablet.
  - Allows users to publish content and control screens from anywhere, anytime.
  - Allows users to monitor screens from anywhere, anytime.
- Wi-Fi AP and Wi-Fi Sta can be turned on at the same time
  - Wi-Fi AP

    User terminal devices can be connected to the built-in Wi-Fi hotspot of the multimedia player. The default SSID is “Model+Last 8 digits of SN” and the default password is printed on the SSID label.
  - Wi-Fi AP+Wi-Fi Sta

Users can connect the multimedia player to a Wi-Fi network and turn on the Wi-Fi hotspot at the same time.

- Synchronous playback across multiple screens

  Enabling synchronous playback halves the number of videos that can be played simultaneously within the decoding capability of the device.

  - NTP time synchronization
  - GPS time synchronization (The specified 4G module must be installed.)
  - RF time synchronization (The specified RF module must be installed.)

- Support for 4G modules
  - The device ships without a 4G module. Users have to purchase 4G modules separately if needed.
  - Network connection priority: Wired network > Wi-Fi network > 4G network

    When multiple networks are available, the device will choose a network according to the priority order.

Appearance

Front Panel



Name	Description
SIM CARD	SIM card slot Capable of preventing users from inserting a SIM card in the wrong orientation.
RESET	Factory reset button Press and hold this button for 5 seconds to reset the product to its factory settings.
USB	USB (Type B) port Connects to the control computer for content publishing and screen control.
LED OUT	2x Gigabit Ethernet outputs Standard RJ45 connector (with no built-in LEDs)

Rear Panel



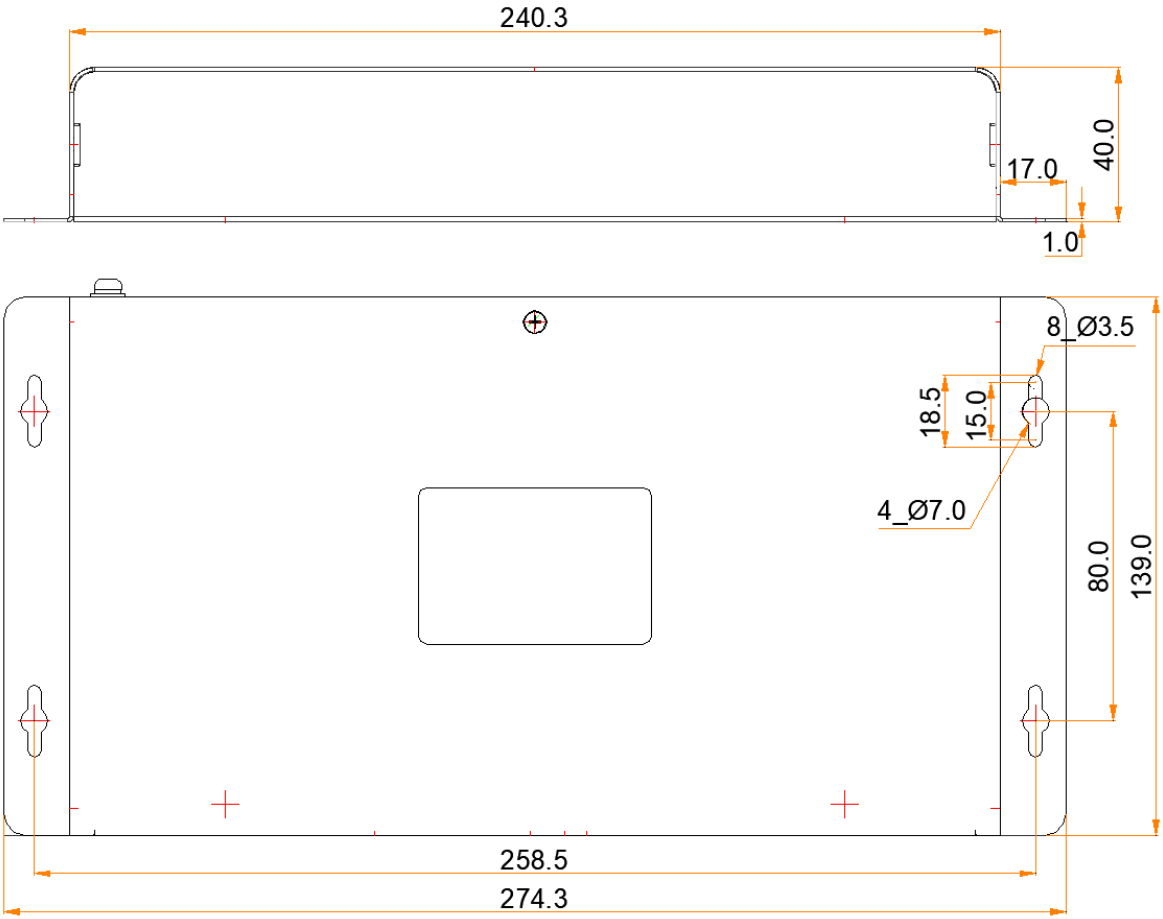
Name	Description
SENSOR	Sensor connectors Connect to the brightness sensor or temperature and humidity sensor.
	Reserved RF antenna connector
WiFi	Wi-Fi antenna connector (2.4 GHz Wi-Fi supported) Support for switching between Wi-Fi AP and Wi-Fi Sta
ETHERNET	Gigabit Ethernet port Connects to the control computer, a LAN or public network for content publishing and screen control.
COM 2	GPS antenna connector
USB 3.0	USB 3.0 (Type A) port for USB playback, firmware upgrade and storage expansion • Supported file systems: FAT32/NTFS • USB drive capacity range: 2 GB to 128 GB • The size of a single file must be greater than 0 KB and less than 4 GB.
COM 1	4G antenna connector
AUDIO OUT	3.5 mm audio output connector Note: Three-pole audio jacks can be connected, but audio input is not supported.
100-240V~, 50/60Hz, 0.6A	Power input connector
ON/OFF	Power switch

Indicators

Name	Color	Status	Description
PWR	Red	Staying on	The power supply is working properly.
SYS	Green	Flashing once every 2s	The operating system is functioning normally.

Name	Color	Status	Description
		Staying on/off	The operating system is malfunctioning.
CLOUD	Green	Off	The device is not connected to the Internet.
		Staying on	The device is connected to the Internet and the connection is available.
		Flashing once every 2s	The device is connected to VNNOX and the connection is available.
		Flashing once every second	The device is upgrading the operating system.
		Flashing once every 0.5s	The device is copying the upgrade package or files from the USB drive.
RUN	Green	Flashing once every 4s	The FPGA has no video source.
		Flashing once every 0.5s	The FPGA is functioning normally.
		Staying on/off	The FPGA loading is abnormal.

Dimensions



Tolerance: ±0.3 Unit: mm

Specifications

Electrical Parameters	Input power	100–240V~, 50/60Hz, 0.6A
	Maximum power consumption	18 W
	Recommended supply power	25 W
Storage Capacity	RAM	1 GB
	Internal storage	32 GB
Operating Environment	Temperature	–20°C to +60°C
	Humidity	0% RH to 80% RH, non-condensing
Storage	Temperature	–40°C to +80°C

Environment	Humidity	0% RH to 80% RH, non-condensing
Physical Specifications	Dimensions	274.3 mm × 139.0 mm × 40.0 mm
	Net weight	1228.9 g
	Gross weight	1648.5 g Note: It is the total weight of the product, accessories and packing materials packed according to the packing specifications.
Packing Information	Dimensions	385.0 mm × 280.0 mm × 75.0 mm
	Accessories	• 1x Wi-Fi omnidirectional antenna • 1x AC power cord • 1x QR code • 1x Certificate of Approval
IP Rating	IP20 Please prevent the product from water intrusion and do not wet or wash the product.	
System Software	• Android 11 operating system software • Android terminal application software • FPGA program	

The amount of power consumption may vary depending on various factors such as product settings, usage, and environment.

Media Decoding Specifications

Image

Category	Codec	Resolution	Format	Remarks
JPEG	JFIF file format 1.02	64×64 pixels to 4096×2304 pixels	JPG, JPEG	Support for interlaced scan only Support for SRGB JPEG Support for Adobe RGB JPEG
BMP	BMP	64×64 pixels to 4096×2304 pixels	BMP	N/A
GIF	GIF	64×64 pixels to 1920×1088 pixels	GIF	At a resolution of 1280×720, the supported frame rate range is 1fps to 30fps. At a resolution of

Category	Codec	Resolution	Format	Remarks
				1920×1088, the supported frame rate range is 1fps to 10fps.
PNG	PNG	64×64 pixels to 4096×2304 pixels	PNG	N/A
WEBP	WEBP	64×64 pixels to 4096×2304 pixels	WEBP	N/A

Video

Codec	Resolution	Max Frame Rate	Max Bit Rate (Ideal Case)	Format
H.264	64×64 pixels to 4096×2304 pixels	30fps	80Mbps	MP4, AVI, MKV, MOV
H.265/HEVC	64×64 pixels to 4096×2304 pixels	60fps	100Mbps	MP4, MKV, MOV
MPEG4	64×64 pixels to 1920×1088 pixels	30fps	38.4Mbps	MP4, AVI, MKV, MOV
VP8	64×64 pixels to 1920×1088 pixels	30fps	38.4Mbps	MKV, WEBM
VP9	64×64 pixels to 4096×2304 pixels	60fps	60Mbps	MKV, WEBM

Notes and Cautions

FCC Caution

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 B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with

the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IC Caution

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: 1) L'appareil ne doit pas produire de brouillage; 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements Industry Canada limites établies pour un environnement non contrôlé.

Radiation Exposure Statement

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Cetéquipementestconforme Canada limitesd'exposition aux radiations dans un environnement non contrôlé. Cetéquipementdoitêtreinstallé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.

Cautions

This is Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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Statement

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