

# Taurus Series Multimedia Player



**TB30 Specifications**

## Change History

Document Version	Release Date	Description
V1.0.6	2023-06-14	Updated the connector descriptions.
V1.0.5	2022-11-18	Updated the certification information.
V1.0.4	2022-06-10	<ul style="list-style-type: none"> <li>Added a description of RF synchronization.</li> <li>Added notes and cautions.</li> <li>Updated the certification information.</li> <li>Updated the indicator descriptions.</li> <li>Updated the accessory descriptions.</li> </ul>
V1.0.3	2022-05-17	Updated the description of the COM 2 connector.
V1.0.2	2021-12-17	<ul style="list-style-type: none"> <li>Updated the descriptions of the USB (Type B) port and Gigabit Ethernet port.</li> <li>Added the gross weight of the product.</li> <li>Added a note for the power consumption.</li> </ul>
V1.0.1	2021-09-30	<ul style="list-style-type: none"> <li>Added certification information.</li> <li>Updated the description of the playback performance.</li> <li>Added net weight.</li> </ul>
V1.0.0	2021-08-31	First release

## 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, mirror displays, 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, UL Smark, CQC, FCC, UL, IC, KC, CE, UKCA, CB, MIC, PSE, NOM

**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 650,000 pixels  
Maximum width: 4096 pixels  
Maximum height: 4096 pixels
- 2x Gigabit Ethernet ports  
One serves as primary and the other as backup.
- 1x Stereo audio connector

The audio sample rate of the internal source is fixed at 48 kHz. The audio sample rate of the external source supports 32 kHz, 44.1 kHz, or 48 kHz. If NovaStar's multifunction card is used for audio output, audio with a sample rate of 48 kHz is required.

### Input

- 2x Sensor connectors

Connect to brightness sensors or temperature and humidity sensors.

### Control

- 1x USB 3.0 (Type A) port  
Allows for USB playback and firmware upgrade over USB.
- 1x USB (Type B) port  
Connects to the control computer for content publishing and screen control.
- 1x Gigabit Ethernet port  
Connects 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 H.264/H.265 4K@60Hz video decoding
  - 1 GB of onboard RAM
  - 16 GB of internal storage
- Flawless playback  
2x 4K, 6x 1080p, 10x 720p, or 20x 360p video playback

### 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.
- Switching between Wi-Fi AP and Wi-Fi STA
  - In Wi-Fi AP mode, the user terminal connects to the built-in Wi-Fi hotspot of the TB30. The default SSID is “AP+*Last 8 digits of SN*” and the default password is “12345678”.
  - In Wi-Fi STA mode, the user terminal and the TB30 are connected to the Wi-Fi hotspot of a router.

- Synchronous playback across multiple screens
  - 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 TB30 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 types of networks are available, the TB30 will choose a signal automatically according to the priority.

## 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	Gigabit Ethernet outputs

## Rear Panel



Name	Description
SENSOR	Sensor connectors Connect to brightness sensors or temperature and humidity sensors.
	RF antenna connector (reserved)
WiFi	Wi-Fi antenna connector 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 Allows for USB playback and firmware upgrade over USB. The Ext4 and FAT32 file systems are supported. The exFAT and FAT16 file systems are not supported.
COM 1	4G antenna connector
AUDIO OUT	Audio output connector
100-240V~, 50/60Hz, 0.6A	Power input connector
ON/OFF	Power switch

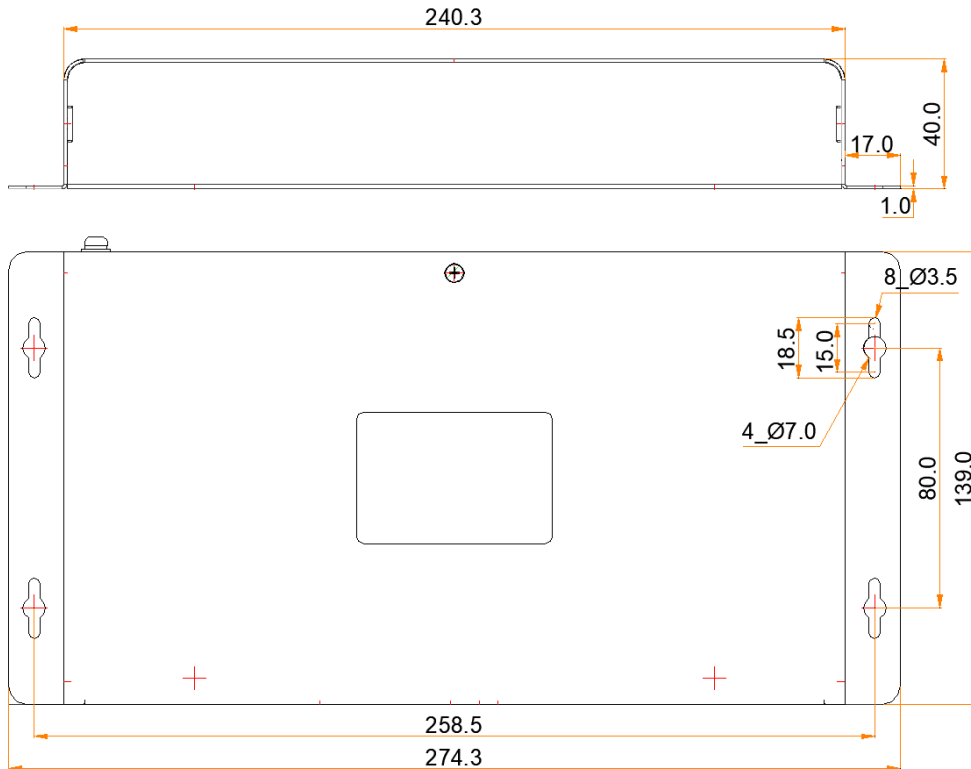
## Indicators

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.
		Staying on/off	The operating system is malfunctioning.
CLOUD	Green	Staying on	The TB30 is connected to the Internet and the connection is available.
		Flashing once every 2s	The TB30 is connected to VNNOX and the connection is available.
		Flashing once every second	The TB30 is upgrading the operating system.
		Flashing once every 0.5s	The TB30 is copying the upgrade package.

Name	Color	Status	Description
RUN	Green	Flashing once every second	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

### Product Dimensions



Tolerance:  $\pm 0.3$  Unit: mm

## Specifications

Electrical Parameters	Input power	100-240V~, 50/60Hz, 0.6A
	Maximum power consumption	18 W
Storage Capacity	RAM	1 GB
	Internal storage	16 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 80% RH, non-condensing
Physical Specifications	Dimensions	274.3 mm x 139.0 mm x 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	<ul style="list-style-type: none"> <li>• 1x Wi-Fi omnidirectional antenna</li> <li>• 1x AC power cord</li> <li>• 1x Quick Start Guide</li> <li>• 1x Packing list</li> </ul>
IP Rating	IP20 Please prevent the product from water intrusion and do not wet or wash the product.	
System Software	<ul style="list-style-type: none"> <li>• Android 11.0 operating system software</li> <li>• Android terminal application software</li> <li>• FPGA program</li> </ul> Note: Third-party applications are not supported.	

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

## Media Decoding Specifications

### Image

Category	Codec	Supported Image Size	Container	Remarks
JPEG	JFIF file format 1.02	96×32 pixels to 817×8176 pixels	JPG, JPEG	No support for non-interlaced scan Support for SRGB JPEG Support for Adobe RGB JPEG
BMP	BMP	No Restriction	BMP	N/A
GIF	GIF	No Restriction	GIF	N/A
PNG	PNG	No Restriction	PNG	N/A
WEBP	WEBP	No Restriction	WEBP	N/A

### Video

Category	Codec	Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MPEG-1/2	MPEG-1/2	48×48 pixels to 1920×1088 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support for field coding
MPEG-4	MPEG4	48×48 pixels to 1920×1088 pixels	30fps	38.4Mbps	AVI, MKV, MP4, MOV, 3GP	No support for MS MPEG4 v1/v2/v3, GMC

Category	Codec	Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
H.264/AVC	H.264	48x48 pixels to 4096x2304 pixels	2304p@60fps	80Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support for field coding and MBAFF
MVC	H.264 MVC	48x48 pixels to 4096x2304 pixels	2304p@60fps	100Mbps	MKV, TS	Support for Stereo High Profile only
H.265/HEVC	H.265/HEVC	64x64 pixels to 4096x2304 pixels	2304p@60fps	100Mbps	MKV, MP4, MOV, TS	Support for Main Profile, Tile & Slice
GOOGLE VP8	VP8	48x48 pixels to 1920x1088 pixels	30fps	38.4Mbps	WEBM, MKV	N/A
GOOGLE VP9	VP9	64x64 pixels to 4096x2304 pixels	60fps	80Mbps	WEBM, MKV	N/A
H.263	H.263	SQCIF (128x96) QCIF (176x144) CIF (352x288) 4CIF (704x576)	30fps	38.4Mbps	3GP, MOV, MP4	No support for H.263+
VC-1	VC-1	48x48 pixels to 1920x1088 pixels	30fps	45Mbps	WMV, ASF, TS, MKV, AVI	N/A
MOTION JPEG	MJPEG	48x48 pixels to 1920x1088 pixels	60fps	60Mbps	AVI	N/A

## 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.

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20cm entre le radiateur et votre corps.

### Others

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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