

Taurus Series Multimedia Player



TB4 Specifications

Change History

Document Version	Release Date	Description
V1.8.0	2021-07-16	<ul style="list-style-type: none"> Updated rear panel picture. Deleted the relevant content of audio.
V1.7.0	2021-06-18	<ul style="list-style-type: none"> Updated processor specifications. Updated front panel picture.

Introduction

The TB4 is the second generation of multimedia player launched by NovaStar for full-color LED displays. This multimedia player integrates playback and sending capabilities, allowing for solution publishing and screen control via various user terminal devices such as PC, mobile phones and tablets. The TB4 also supports the cloud publishing and monitoring platforms to easily enable cross-regional cluster management of screens.


The TB4 supports synchronous playback across multiple screens and can play solutions imported from a USB drive, satisfying various playback demands. Multiple protection measures such as terminal authentication and player verification are taken to keep the playback secure.

Thanks to its security and stability, ease of use, smart control, etc., the TB4 widely applies to commercial display and smart cities such as lamp-post displays, chain store displays, advertisement players, mirror displays, retail store displays, door head displays, vehicle-mounted displays, and displays without requiring a PC.

Features

- Loading capacity up to 1,300,000 pixels with a maximum width of 3840 pixels and a maximum height of 4080 pixels
- 2x Gigabit Ethernet outputs
- 1x HDMI 1.3 output, allowing for HDMI Loop
- 1x HDMI 1.3 input, accepting HDMI input and allowing content to auto fit to screen
- 2x USB 2.0, capable of playing solutions imported from a USB drive
- On-board brightness sensor connector, allowing for automatic and scheduled smart brightness adjustment
- Synchronous playback across multiple screens
- Powerful processing capacity
 - 4 core 1.6 GHz processor
 - Hardware decoding and playback of H.265 4K HD videos
 - Hardware decoding of 1080p videos
 - 2 GB of RAM
 - 32 GB of internal storage (28 GB available)
- All-round control plans
 - Solution publishing and screen control via user terminal devices such as PC, mobile phones and tablets
 - Remote cluster solution publishing and screen control
 - Remote cluster screen status monitoring
- Synchronous and asynchronous modes
 - When the internal video source is used, the TB4 works in asynchronous mode.
 - When the HDMI video source is used, the TB4 works in synchronous mode.
- Built-in Wi-Fi AP

User terminal devices can connect to the built-in Wi-Fi hotspot of the TB4. The default SSID is “AP+Last 8 digits of SN” and the default password is “12345678”.



```

graph LR
    subgraph Devices
        direction TB
        P[Phone]
        T[Tablet]
        L[Laptop]
    end
    Devices -.- Wi-Fi --> Taurus[Taurus]
      
```
- Support for 4G modules
 - The TB4 ships without a 4G module. Users have to purchase 4G modules separately if needed.
 - Wired network is prior to 4G network. When both networks are available, the TB4 will choose signals automatically according to the priority.

Appearance

Front Panel



Note: All product pictures shown in this document are for illustration purpose only. Actual product may vary.

Name	Color	Status	Description
PWR	Red	Staying on	The power supply is working properly.
SYS	Green	Flashing once every 2 seconds	The Taurus is functioning normally.
		Flashing once every second	The Taurus is installing the upgrade package.
		Flashing once every 0.5 second	The Taurus is downloading data from the Internet or copying the upgrade package.
		Staying on/off	The Taurus is abnormal.
CLOUD	Green	Staying on	The Taurus is connected to the Internet and the connection is available.
		Flashing once every 2 seconds	The Taurus is connected to VNNOX and the connection is available.
RUN	Green	Flashing once every second	No video signal
		Flashing once every 0.5 second	The FPGA is functioning normally.
		Staying on/off	The FPGA is abnormal.
SWITCH	Green	Staying on	Synchronous mode
		Off	Asynchronous Mode

Rear Panel



Note: All product pictures shown in this document are for illustration purpose only. Actual product may vary.

Name	Description
TEMP	Temperature sensor connector
LIGHT	Light sensor connector
WiFi-AP	Wi-Fi antenna connector
COM1	A reserved connector

Name	Description
COM2	A reserved connector
ETHERNET	Connects to the network or control PC.
USB	2x USB 2.0 Imports solutions from a USB drive for playback Only the FAT32 file system is supported and the maximum size of a single file is 4 GB.
HDMI IN	1x HDMI 1.3 Video input connector in synchronous mode Content can be scaled and displayed to fit the screen size automatically in synchronous mode. Requirements of full screen zoom in synchronous mode: <ul style="list-style-type: none"> • 64 pixels ≤ Video source width ≤ 2048 pixels • Allows images to be zoomed in only
HDMI OUT	1x HDMI 1.3 HDMI 1.3 output, allowing for HDMI Loop
RESET	Factory reset button Press and hold this button for 5 seconds to reset the product to its factory settings.
LED OUT	2x Gigabit Ethernet output ports
ON/OFF	Power switch
100-240V~,50/60Hz	Power input connector

Applications

The Taurus series products widely apply to commercial display, such as lamp-post displays, chain store displays, advertisement players, mirror displays, retail store displays, door head displays, vehicle-mounted displays, and displays without requiring a PC.

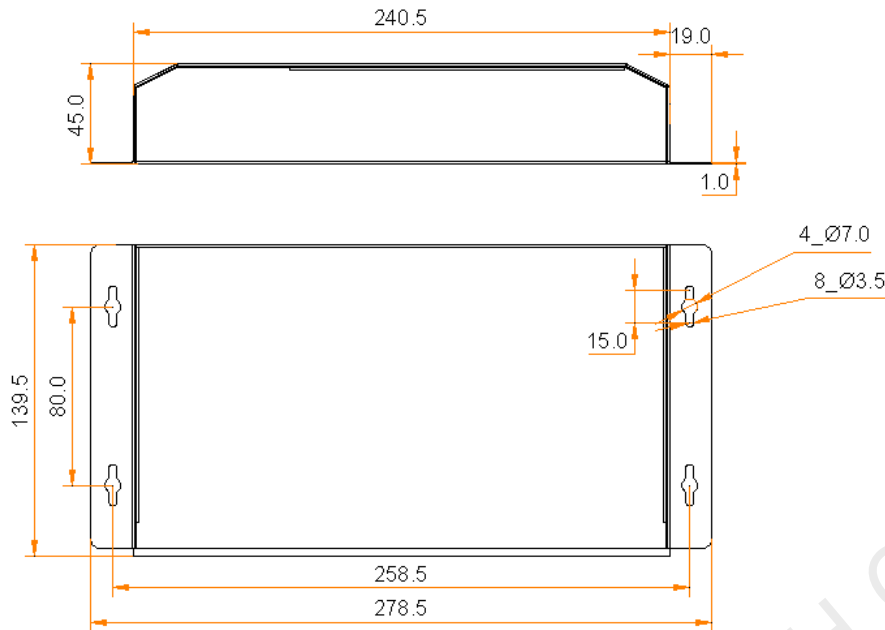
Table 1-1 lists the application scenarios of the Taurus.

Table 1-1 Applications

Category	Description
Market type	<ul style="list-style-type: none"> • Advertising media: Used for advertisement and information promotion, such as lamp-post displays and advertisement players. • Digital signage: Used for digital signage displays in retail stores, such as retail store displays and door head displays. • Commercial display: Used for the display of business information of hotels, cinemas, shopping malls, etc., such as chain store displays.
Networking method	<ul style="list-style-type: none"> • Independent screen: Connect to and manage a screen by using a PC or mobile client software. • Screen cluster: Manage and monitoring multiple screens in a centralized manner by using the cluster solutions of NovaStar.
Connection method	<ul style="list-style-type: none"> • Wired connection: The PC and Taurus are connected via Ethernet cable or LAN. • Wi-Fi connection: The PC, tablet and mobile phone are connected to the Taurus via Wi-Fi. Working with ViPlex, the Taurus can apply to the scenarios where no PC is required.

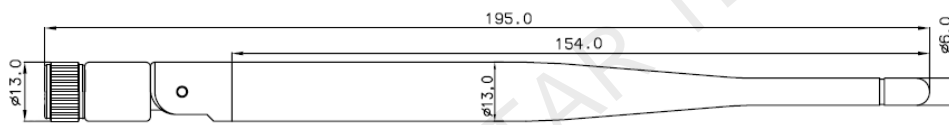
Dimensions

TB4



Tolerance: ± 0.1 Unit: mm

Antenna



Tolerance: ± 0.1 Unit: mm

Specifications

Electrical Parameters	Input voltage	AC 100 V~240 V
	Maximum power consumption	18 W
Storage Capacity	RAM	2 GB
	Internal storage	32 GB (28 GB available)
Storage Environment	Temperature	-40°C to +80°C
	Humidity	0% RH to 80% RH, non-condensing
Operating Environment	Temperature	-20°C to +60°C
	Humidity	0% RH to 80% RH, non-condensing
Packing Information	Dimensions (LxWxH)	375 mm x 280 mm x 108 mm
	List	<ul style="list-style-type: none"> • 1x TB4 • 1x Wi-Fi omnidirectional antenna • 1x AC power cord • 1x Quick Start Guide

Dimensions (LxWxH)	278.5 mm x 139.5 mm x 45.0 mm
Net Weight	1301.9 g
IP Rating	IP20 Please prevent the product from water intrusion and do not wet or wash the product.
Certifications	CCC Note: If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please apply for the certifications yourself or contact NovaStar to apply for them.
System Software	<ul style="list-style-type: none"> • Android operating system software • Android terminal application software • FPGA program Note: Third-party applications are not supported.

Video Decoder Specifications

Image

Category	Codec	Supported Image Size	File Format	Remarks
JPEG	JFIF file format 1.02	48x48 pixels~8176x8176 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	Supported Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MPEG-1/2	MPEG-1/2	48x48 pixels ~ 1920x1080 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support for field coding
MPEG-4	MPEG4	48x48 pixels ~ 1920x1080 pixels	30fps	38.4Mbps	AVI, MKV, MP4, MOV, 3GP	No support for MS MPEG4 v1/v2/v3, GMC, and DivX3/4/5/6/7.../10
H.264/AVC	H.264	48x48 pixels ~ 4096x2304 pixels	4K@25fps, 1080P@60fps	100Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support for field coding and MBAFF
MVC	H.264 MVC	48x48 pixels ~ 1920x1080 pixels	60fps	38.4Mbps	MKV, TS	Support for Stereo High Profile only

Category	Codec	Supported Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
H.265/HEVC	H.265/HEVC	64x64 pixels ~ 4096x2304 pixels	4K@60fps, 1080P@60fps	100Mbps	MKV, MP4, MOV, TS	Support for Main Profile, Tile & Slice
GOOGLE VP8	VP8	48x48 pixels ~ 1920x1080 pixels	30fps	38.4Mbps	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 ~ 1920x1080 pixels	30fps	45Mbps	WMV, ASF, TS, MKV, AVI	N/A
MOTION JPEG	MJPEG	48x48 pixels ~ 1920x1080 pixels	30fps	38.4Mbps	AVI	N/A

Note: The output data format is YUV420 semi-planar, and YUV400 (monochrome) is also supported for H.264.

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