

Taurus Series

Multimedia Players



T3 Specifications

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Change History

Version	Release Date	Description
V1.0.0	2017-07-20	First release.

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1 Safety

This chapter illustrates Taurus series products safety to ensure storage, transportation, installation and usage safety of the products.

Safety description is applicable to all personnel that contact or use the products. First, pay attention to following points:

- Read throughout the description.
- Save the whole description.
- Be complied with the whole description.

1.1 Storage and Transport Safety

- Pay attention to dust and water prevention.
- Avoid long-term direct sunlight.
- Do not place the products at the position near fire and heat.
- Do not place the products in an area containing explosive materials.
- Do not place the products in strong electromagnetic environment.
- Place the products at a stable position to prevent damage or personal injury caused by dropping.
- Save the packing box and materials which will come in handy if you ever have to ship your products. For maximum protection, repack your product as it was originally packed at the factory.

1.2 Installation and Use Safety

- Only trained professionals may install the products.
- Do not insert and unplug (power cord plug) when the power is on.
- Ensure the safe grounding of the device.
- Be careful about electric shock risk. Built-in power supply.
- Always wear a wrist band and insulating gloves.
- Do not place the products in an area having more or strong shake.
- Perform dust removing regularly.
- Do not maintain the products without authorization but contact NovaStar as soon as possible.

- Replace spare parts only with the same parts supplied by NovaStar.

2 Overview

2.1 Introduction

Taurus series products are the second generation of multimedia players dedicated to small and media size LED full color display developed by NovaStar.

T3 of the Taurus series products (herein after referred to as "T3") feature following advantages, better satisfying users' requirements:

- Loading capacity up to 650,000 pixels
- Synchronization display
- Powerful processing capability
- Omnidirectional control plan
- Dual-Wi-Fi mode
- 4G module
- Redundant backup

Note:

If the user has a high demand on synchronization, the time synchronization module is recommended. For details, please consult our technical staff.

In addition to program publishing and screen control via PC, mobile phones and LAN, the omnidirectional control plan also supports remote centralized publishing and monitoring.

If 4G network is required, please buy the 4G module based on the 4G network service requirements in the country or region, and install it in advance.

2.2 Application

Taurus series products can be widely used in LED commercial display field, such as bar screen, chain store screen, advertising machine, mirror screen, retail store screen, door head screen, on board screen and the screen requiring no PC.

Classification of Taurus' application cases is shown in Table 2-1.

Table 2-1 Application

Classification	Description
Market type	<ul style="list-style-type: none">• Advertising media: To be used for advertising and information

Classification	Description
	<p>promotion including bar screen and advertising machine.</p> <ul style="list-style-type: none">• Digital signage: To be used for signage display in retail stores including retail store screens and door head screens.• Commercial display: To display commercial information of hotel, cinema and shopping mall, such as chain store screens.
Networking mode	<ul style="list-style-type: none">• Independent screen: Use a PC or the client software of a mobile phone to enable single-point connection and management of a screen.• Cluster screen: Use the cluster solution developed by NovaStar to realize centralized management and monitor of multiple screens.
Connection type	<ul style="list-style-type: none">• Wired connection: A PC connects to Taurus through the Ethernet cable or LAN.• Wi-Fi connection: PC, Pad and mobile phone can connect to Taurus through Wi-Fi, which can be enabled in the case without PC in conjunction with ViPlex software.

3 Features

3.1 Synchronous Display

The T3 support switching on/off function of synchronous display.

When synchronous display is enabled, the same content can be played on different displays synchronously if the time of different T3 units are synchronous with one another and the same program is being played.

3.2 Powerful Processing Capability

The T3 feature powerful hardware processing capability:

- 1.5 GHz eight-core processor
- Support for H.265 4K high-definition video hardware decoding playback
- Support for 1080P video hardware decoding
- 2 GB operating memory and 8 GB internal storage space

3.3 Omnidirectional Control Plan

Table 3-1 Control Plan

Control Plan	Connecting Mode	Client Terminal	Related Software
Program publishing and screen control through PC	Connection via network line Connection via Wi-Fi	PC	ViPlex Express NovaLCT-Taurus
Program publishing and screen control through LAN	Connection via LAN	PC	ViPlex Express NovaLCT-Taurus
Program publishing and screen control through mobile phone	Connection via Wi-Fi	Mobile phone and Pad	ViPlex Handy

Control Plan	Connecting Mode	Client Terminal	Related Software
Cluster remote program publishing and screen control	Wi-Fi AP+Sta/wired/4G	Mobile phone, Pad and PC	VNNOX ViPlex Handy ViPlex Express
Cluster remote monitoring	Wi-Fi AP+Sta/wired/4G	Mobile phone, Pad and PC	NovaiCare ViPlex Handy ViPlex Express

Cluster control plan is a new internet control plan featuring following advantages:

- More efficient: Use the cloud service mode to process services through a uniform platform. For example, VNNOX is used to edit and publish programs, and NovaiCare is used to centrally monitor display status.
- More reliable: Ensure the reliability based on active and standby disaster recovery mechanism and data backup mechanism of the server.
- More safe: Ensure the system safety through channel encryption, data fingerprint and permission management.
- Easier to use: VNNOX and NovaiCare can be accessed through Web. As long as there is internet, operation can be performed anytime and anywhere.
- More effective: This mode is more suitable for the commercial mode of advertising industry and digital signage industry, and makes information spreading more effective.

3.4 Dual-Wi-Fi Mode

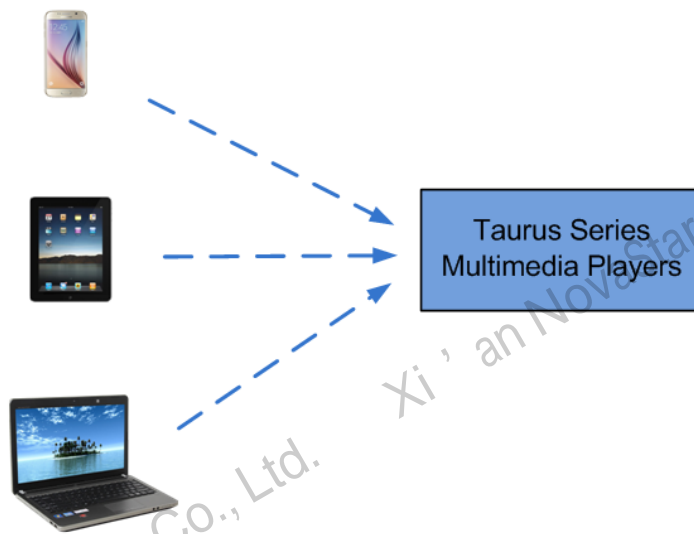
The T3 have permanent Wi-Fi AP and support the Wi-Fi Sta mode, carrying advantages as shown below:

- Completely cover Wi-Fi connection scene. The T3 can be connected to through self-carried Wi-Fi AP or the external router.
- Completely cover client terminals. Mobile phone, Pad and PC can be used to log in T3 through wireless network.
- Require no wiring. Display management can be managed at any time, having improvements in efficiency.

T3's Wi-Fi AP signal strength is related to the transmit distance and environment. Users can change the Wi-Fi antenna as required.

3.4.1 Wi-Fi AP Mode

Users connect the Wi-Fi AP of a T3 to directly access the T3. The SSID is "**AP + the last 8 digits of the SN**", for example, "**AP10000033**", and the default password is "**12345678**".



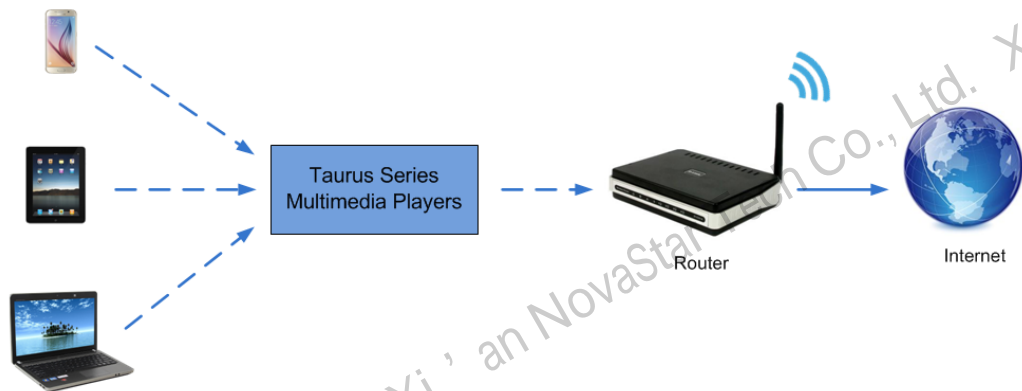
3.4.2 Wi-Fi Sta Mode

Configure an external router for a T3 and users can access the T3 by connecting the external router. If an external router is configured for multiple T3 units, a LAN can be created. Users can access any of the T3 via the LAN.



3.4.3 Wi-Fi AP+Sta Mode

In Wi-Fi AP+ Sta connection mode, users can either directly access the T3 or access internet through bridging connection. Upon the cluster solution, VNNOX and NovaCare can realize remote program publishing and remote monitoring respectively through the Internet.



3.5 4G Module

The T3 supports 4G module, allowing complete covering of the internet connection.

From high to low, the priority includes:

- Wired network
- Wi-Fi Sta
- 4G network

T3 automatically selects signals according to the priority.

When mobile data network is enabled for client software ViPlex and priority requirements are met, T3 with 4G module can connect to the internet.

3.6 Redundant Backup

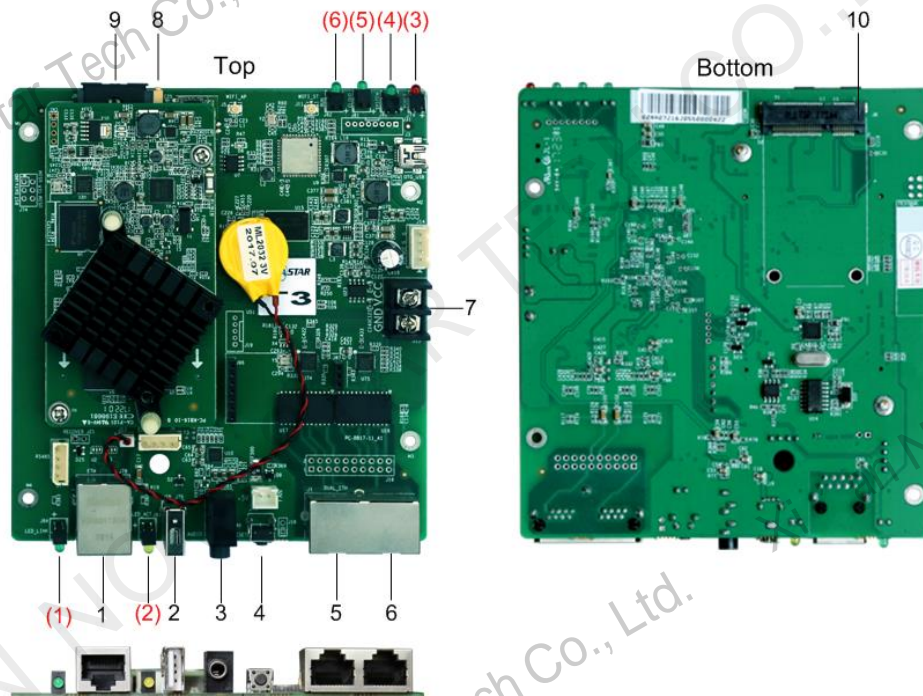
T3 support network redundant backup and Ethernet port redundant backup.

- Network redundant backup: The T3 automatically selects internet connection mode among wired network, Wi-Fi Sta or 4G network according to the priority.
- Ethernet port redundant backup: The T3 enhances connection reliability through active and standby redundant mechanism for the Ethernet port used to connect with the receiving card.

4 Hardware Structure

4.1 Appearance

Figure 4-1 Appearance of T3



Note: Product images provided in this file are for reference only, and the actual products shall prevail.

1	Gigabit Ethernet port	6	Backup for Ethernet port
2	USB2.0 port	7	Power input
3	Audio output	8	SIM card eject button
4	Factory reset button, hold down for 5 seconds to reset to factory defaults	9	SIM card slot
5	Ethernet port	10	4G module slot

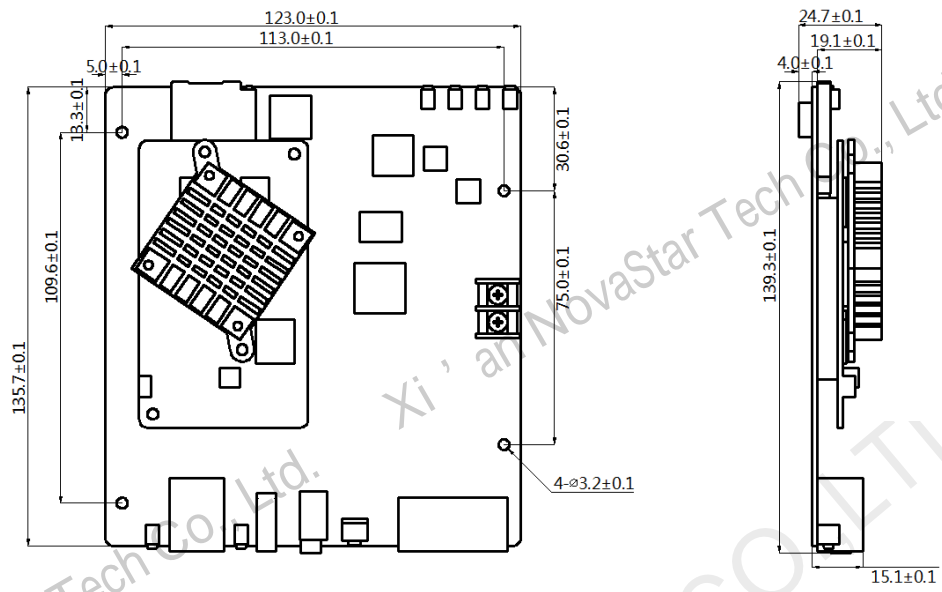
Table 4-1 Indicators of the T3

No.	Indicator Color	Indicator Status	Description
(1)	Green	Both the green and yellow indicators are turned on simultaneously.	The product is connected to the Gigabit Ethernet cable and the connection status is normal.
(2)	Yellow	Always on	The product is connected to the 100M Ethernet cable and the connection status is normal.
(3)	Red	Always on	Power input is normal.
(4)	Green	Flashes once every 2 seconds	The system is operating normally.
		Flashes once every 0.5 second	System is sending data.
		Always on/off	The system is operating abnormally.
(5)	Green	Always on	The product is connected to the Internet and the connection status is normal.
		Flashes once every 2 seconds	The product is connected to VNNOX and the connection status is normal.
(6)	Green	Same as the signal light status of the sending card	FPGA is operating normally.

4.2 Dimensions

The total thickness (board thickness + thickness of the components on the front and back side) is no greater than 25.0mm.

Unit of the dimension chart is "mm". Ground connection is enabled for location hole (GND).



5 Software Structure

5.1 System Software

- Android operating system software
- Android terminal application software
- FPGA program

5.2 Related Configuration Software

Table 5-1 Related configuration software

Software	Description
ViPlex Handy	Mobile phone client software of the T3 includes Android and iOS which are mainly used for screen management, editing, and program publishing.
ViPlex Express	PC client software of the T3 only includes Windows which is mainly used for screen management, editing, and program publishing.
NovaLCT-Taurus	Display screen configuration software works in Windows only, and is used to adjust screens to the best display status.

6 Specifications

T3 Item	Sub-Item	Specifications
Physical specifications	Dimension (H×W×D)	123.0mm×135.7mm×24.7mm
	Weight	166.3g
	Input power supply	DC
	Rated voltage	5V
	Rated current	1.5A
	Maximum power consumption	15W
	Storage temperature	0°C-50°C
	Storage humidity	0%RH-80%RH
	Operating temperature	-40°C-80°C
	Operating humidity	0%RH-80%RH
	Operating memory	2GB
	Internal storage space	8GB
Packing information	Dimension (H×W×D)	200mm×120mm×40mm
	List	<ul style="list-style-type: none"> • One bare card of T3 LED multimedia player • One patch Wi-Fi antenna • One column Wi-Fi omnidirectional antenna • One IPex convert SMA 18cm extension line
Characteristics	<ul style="list-style-type: none"> • Support 650,000 pixel loading capacity, with maximum width of 4096 pixels and maximum height of 1080 pixel. • Support 1-primary 1-standby Ethernet port redundant mechanism. • Support dual-Wi-Fi, and features Wi-Fi AP and Wi-Fi Sta functions. • Support Gigabit wired network. • Support stereo audio output. 	

	<ul style="list-style-type: none">• 1-Way USB Host interface supports USB drive importing display.• Onboard brightness sensor interface supports automatic and timing smart brightness adjustment.
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