JT100

Traffic Multimedia Player

V3.6.3

Specifications

Introduction

The JT100 is a multimedia player designed by NovaStar for the full-color traffic LED displays. This multimedia player integrates playback and sending capabilities and can apply to the LED displays on expressways, urban roads and parking lots, such as toll station message displays, traffic guidance displays, passenger information displays, etc.

Multiple security measures like terminal authentication and playback verification are used to protect playback. Ethernet port and network redundancy mechanisms are used to ensure long-term and stable playback.

Features

- Loading capacity up to 650,000 pixels with a maximum width of 4096 pixels and a maximum height of 1920 pixels
- 2x Gigabit Ethernet outputs with one serving as the main and the other as the backup by default
- 1x Stereo audio output
- 1x 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
- Powerful processing capacity
  - 8 core 1.5 GHz processor
  - Hardware decoding and playback of H.265 4K HD videos
  - Hardware decoding of 1080P videos
  - 2 GB of RAM
  - 8 GB of internal storage (4 GB available)
- Dual Wi-Fi modes

  Comes with a permanent built-in Wi-Fi AP and supports Wi-Fi Sta.
  - Wi-Fi AP

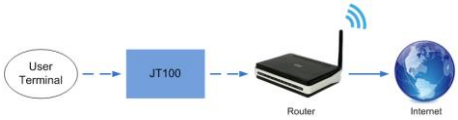
    User terminal devices can connect to the built-in Wi-Fi hotspot of the JT100. The default SSID is “AP+*Last 8 digits of SN*” and the default password is “12345678”.

  - Wi-Fi Sta

    The JT100 and user terminal devices are connected to the Wi-Fi hotspot of a router.

  - Wi-Fi AP+Sta

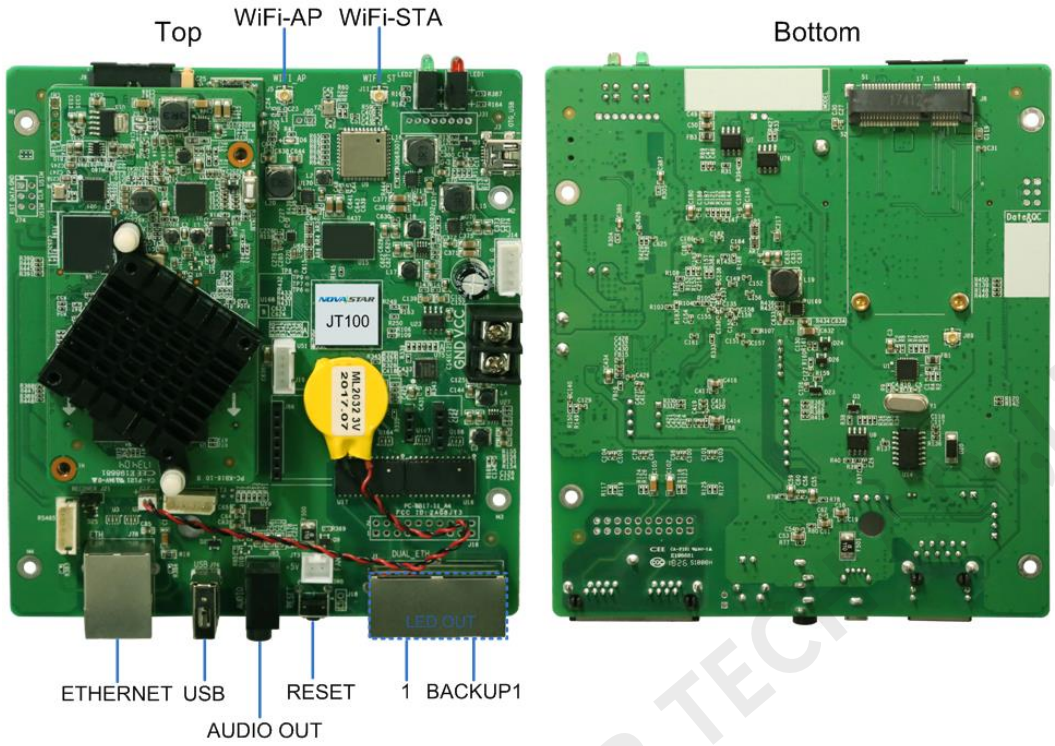
    Users can access the JT100 directly and access the Internet by bridging.



- Support for redundancy
  - Network redundancy: The JT100 connects to the Internet via wired network or Wi-Fi network according to the priority, making the network connection more stable.
  - Ethernet port redundancy: One main Ethernet port and one backup Ethernet port are used for output. This redundancy mechanism increases the transmission reliability.

Appearance

Top View and Bottom View



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

Table 1-1 JT100 connectors and buttons

Name	Description
WiFi-STA	Wi-Fi antenna connector
WiFi-AP	Wi-Fi antenna connector
ETHERNET	Connects to the network or control PC.
USB	1x USB 2.0 Imports solutions from a USB drive for playback The NTFS (maximum file size: 2 TB) and FAT32 (maximum file size: 4 GB) file systems are supported. The exFAT file system is not supported.
AUDIO OUT	Audio output
RESET	Factory reset button Press and hold this button for 5 seconds to reset the product to its factory settings.
1	Ethernet output
BACKUP1	Backup Ethernet output

Side View

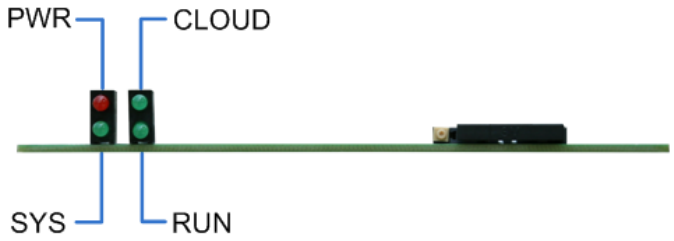


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Table 1-2 JT100 indicators

Name	Color	Status	Description
PWR	Red	Staying on	The power supply is working properly.
SYS	Green	Flashing once every 2 seconds	The JT100 is functioning normally.
		Flashing once every second	The JT100 is installing the upgrade package.
		Flashing once every 0.5 second	The JT100 is downloading data from the Internet.
		Staying on/off	The JT100 is abnormal.
CLOUD	Green	Staying on	The JT100 is connected to the Internet and the connection is available.
		Flashing once every 2 seconds	The JT100 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.

Applications

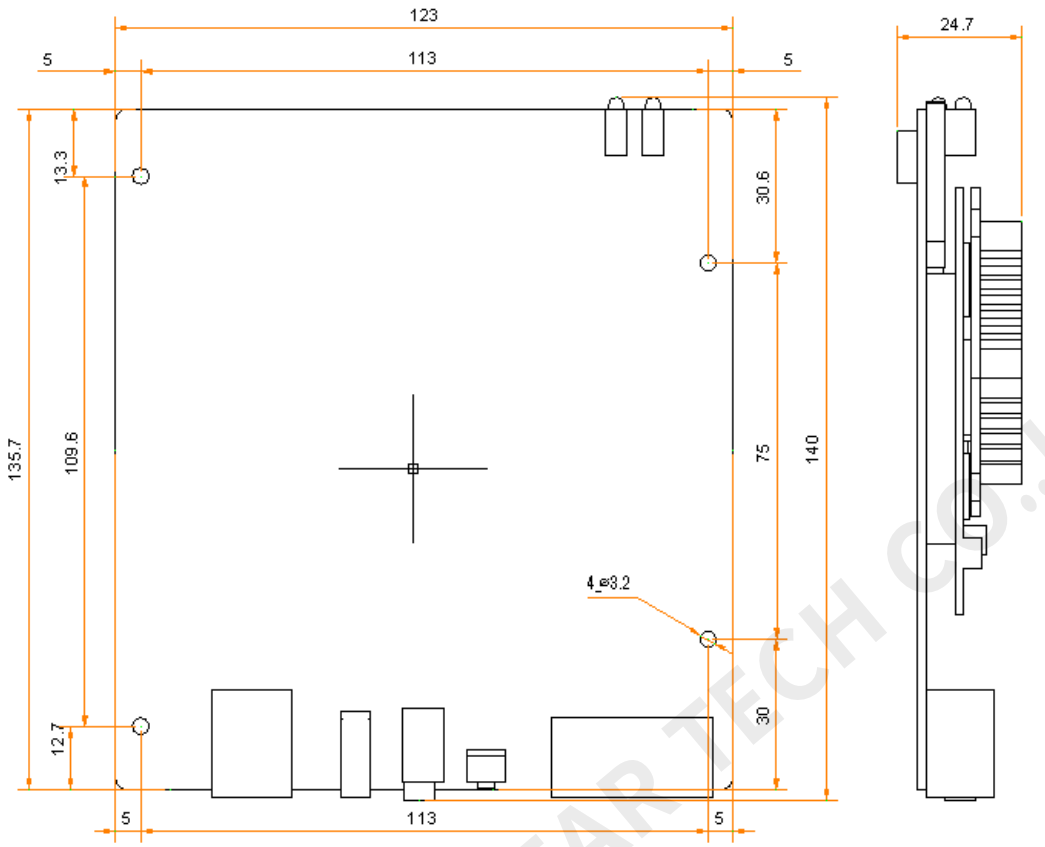
The JT100 can apply to traffic LED displays, as shown in Table 1-3.

Table 1-3 Applications

Scenario	Display Type
Expressway	• Toll station message display • Toll station F-shaped display • Live message display • Traffic guidance display
Urban road	Traffic guidance display
High-speed railway station/ subway station	Passenger information display
Parking lot	Parking guidance display

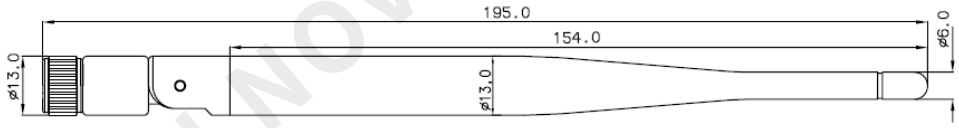
Dimensions

JT100



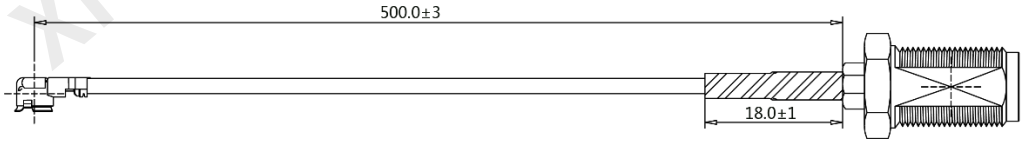
Tolerance: ±0.1 Unit: mm

Antenna



Tolerance: ±0.1 Unit: mm

Antenna Extension Mast



Tolerance: ±0.1 Unit: mm

Specifications

Electrical Parameters	Input voltage	DC 5 V
	Maximum power consumption	18 W 18 W power adapters or higher are recommended.

Storage Capacity	RAM	2 GB
	Internal storage	8 GB (4 GB available)
Storage Environment	Temperature	–40°C to +80°C
	Humidity	0% RH to 80% RH, non-condensing
Operating Environment	Temperature	–20ºC to +60ºC
	Humidity	0% RH to 80% RH, non-condensing
Packing Information	Dimensions (L×W×H)	200 mm × 120 mm × 40 mm
	List	• 1x JT100 • 2x Wi-Fi omnidirectional antennas • 2x IPex to SMA extension cables
Dimensions (L×W×H)	140.0 mm × 123.0 mm × 24.7 mm	
Net Weight	171.9 g	
IP Rating	IP20 Please prevent the product from water intrusion and do not wet or wash the product.	
System Software	• Android operating system software • Android terminal application software • FPGA program Note: Third-party applications are not supported.	

Audio and Video Decoder Specifications

Image

Category	Codec	Supported Image Size	File Format	Remarks
JPEG	JFIF file format 1.02	48×48 pixels ~ 8176×8176 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

Audio

Category	Codec	Channel	Bit Rate	Sampling Rate	File Format	Remarks
MPEG	MPEG1/2/2.5 Audio Layer1/2/3	2	8Kbps~320Kbps, CBR and VBR	8KHz~48KHz	MP1, MP2, MP3	N/A

Category	Codec	Channel	Bit Rate	Sampling Rate	File Format	Remarks
Windows Media Audio	WMA Version 4/4.1/7/8/9, wmapro	2	8Kbps~320Kbps	8KHz~48KHz	WMA	No support for WMA Pro, lossless and MBR
WAV	MS-ADPCM, IMA-ADPCM, PCM	2	N/A	8KHz~48KHz	WAV	Support for 4bit MS-ADPCM and IMA-ADPCM
OGG	Q1~Q10	2	N/A	8KHz~48KHz	OGG, OGA	N/A
FLAC	Compress Level 0~8	2	N/A	8KHz~48KHz	FLAC	N/A
AAC	ADIF, ATDS Header AAC-LC and AAC-HE, AAC-ELD	5.1	N/A	8KHz~48KHz	AAC, M4A	N/A
AMR	AMR-NB, AMR-WB	1	AMR-NB 4.75~12.2kbps @8kHz AMR-WB 6.60~23.85Kbps @16KHz	8KHz, 16KHz	3GP	N/A
MIDI	MIDI Type 0/1, DLS version 1/2, XMF and Mobile XMF, RTTTL/RTX, OTA, iMelody	2	N/A	N/A	XMF, MXMF, RTTTL, RTX, OTA, IMY	N/A

Video

Category	Codec	Supported Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MPEG-1/2	MPEG-1/2	48×48 pixels ~ 1920×1080 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support for field coding
MPEG-4	MPEG4	48×48 pixels ~ 1920×1080 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	48×48 pixels ~ 4096×2304 pixels	4K@25fps, 1080P@60fps	100Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support for field coding and MBAFF
MVC	H.264 MVC	48×48 pixels ~ 1920×1080 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	64×64 pixels ~ 4096×2304 pixels	4K@60fps, 1080P@60fps	100Mbps	MKV, MP4, MOV, TS	Support for Main Profile, Tile & Slice
GOOGLE VP8	VP8	48×48 pixels ~ 1920×1080 pixels	30fps	38.4Mbps	WEBM, MKV	N/A
H.263	H.263	SQCIF (128×96), QCIF (176×144), CIF (352×288), 4CIF (704×576)	30fps	38.4Mbps	3GP, MOV, MP4	No support for H.263+
VC-1	VC-1	48×48 pixels ~ 1920×1080 pixels	30fps	45Mbps	WMV, ASF, TS, MKV, AVI	N/A
MOTION JPEG	MJPEG	48×48 pixels ~ 1920×1080 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.

Trademark

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Statement

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