JT50
Traffic Multimedia Player
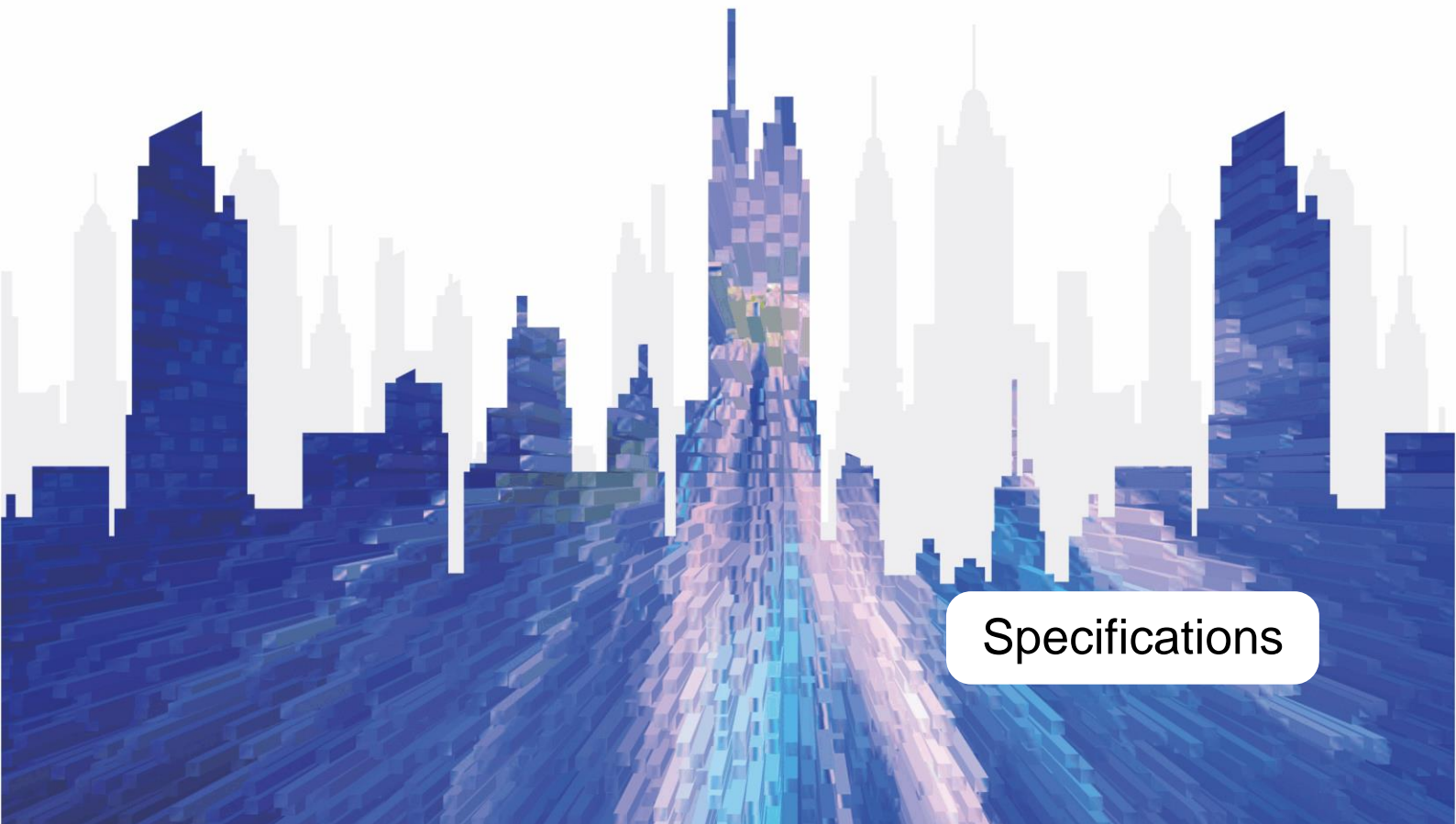
Specifications

Change History

Version	Release Date	Description
V1.2.2	2023-06-14	• Deleted the antenna dimension drawing. • Updated the packing information. • Added the connection method of relays.
V1.2.1	2022-01-15	• Updated the feature descriptions. • Updated the indicator descriptions.
V1.2.0	2021-12-03	• Updated the appearance pictures. • Updated the connector descriptions. • Added a note for power consumption.
V1.1.0	2021-09-10	• Updated the appearance pictures. • Added the certification description.

Introduction

The JT50 is a multimedia player designed by NovaStar for 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.

The JT50 can play content 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.

Certifications

None

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

• 1x Gigabit Ethernet port

Loading capacity up to 650,000 pixels with a maximum width of 1920 pixels and a maximum height of 1080 pixels

• 1x Stereo audio connector

Control

• 1x USB 2.0 (Type A) port,

Allows for playback of content imported from a USB drive.

• 1x USB 2.0 (Type B) port

Connects to a PC for content publishing and screen control.

Performance

• Powerful processing capacity
    – 4-core 1.2 GHz processor

    – Support for hardware decoding of 1080p videos
    – 1 GB of RAM
    – 32 GB of internal storage (28 GB available)

Functionality

• A variety of control plans
    – Content publishing and screen control via various devices such as PC, mobile phones and tablets
    – Content publishing and screen control from anywhere, anytime
    – Screen status monitoring from anywhere, anytime

• Built-in Wi-Fi AP

Devices can connect to the built-in Wi-Fi hotspot of the JT50. The default SSID is "AP+*Last 8 digits of SN*" and the default password is "12345678".

- Remote screen on/off

  During the hardware connection, the maximum input voltage of the relay is DC 24 V and the maximum current is 3 A.

- Support for 4G modules

− The JT50 ships without a 4G module. Users have to purchase 4G modules separately if needed.

− Wired network is prior to 4G network. When both of the networks are available, the JT50 will choose a signal automatically according to the priority.

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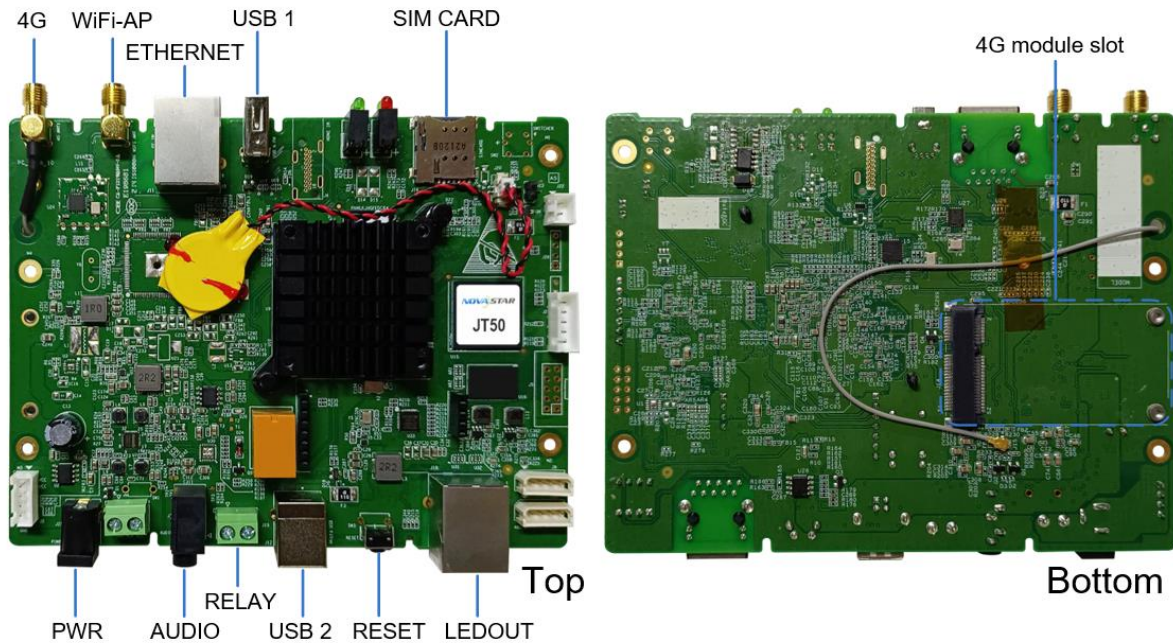
All product pictures shown in this document are for illustration purpose only. Actual product may vary.

Name	Description
4G	4G antenna connector
WiFi-AP	Wi-Fi AP antenna connector
ETHERNET	Fast Ethernet port Connects to a network or control PC.
USB 1	USB 2.0 (Type A) port Allows for playback of content imported from a USB drive. Only the FAT32 file system is supported and the maximum size of a single file is 4 GB.
SIM CARD	SIM card slot
PWR	Power input connector
AUDIO	Audio output connector
USB 2	USB 2.0 (Type B) port
RESET	Factory reset button Press and hold this button for 5 seconds to reset the product to its factory settings.
LEDOUT	Gigabit Ethernet output port

Name	Description
RELAY	Connection method: The connection method of pins 1 and 2 is not fixed. On the power control page of ViPlex Express, turn on the circuit to connect pin 1 to pin 2, and turn off the circuit to disconnect pin 1 from pin 2. Note: The JT50 uses DC power supply. Using the relay to directly control AC is not recommended. If it is required to control AC, the following connection method is recommended.

Indicators

| Name	Color	Status	Description
PWR	Red	Staying on	The power supply is working properly.
SYS	Green	Flashing once every 2 seconds	The JT50 is functioning normally.
		Flashing once every second	The JT50 is installing the upgrade package.
		Flashing once every 0.5 second	The JT50 is downloading data from the Internet or copying the upgrade package.
		Staying on/off	The JT50 is abnormal.
CLOUD	Green	Staying on	The JT50 is connected to the Internet 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 JT50 can apply to traffic LED displays, as shown in Table 1-1.

Table 1-1 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

JT50
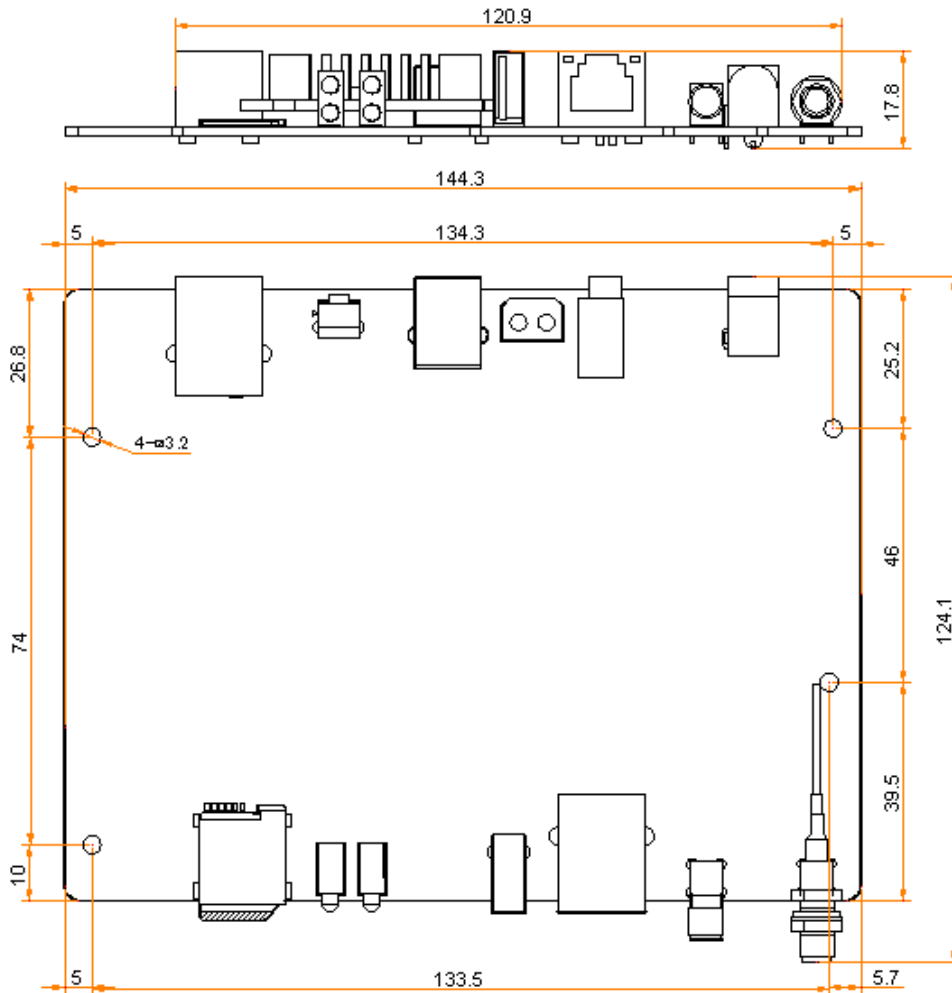
If you want to make molds or trepan mounting holes, please contact NovaStar for structural drawings with higher precision.

Tolerance: ±0.3   Unit: mm

Specifications

Electrical Parameters	Input voltage	DC 5 V~12V
	Maximum power consumption	15 W
Storage Space	RAM	1 GB
	Internal storage	32 GB (28 GB available)
Operating Environment	Temperature	−20ºC to +60ºC
	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	144.3 mm × 124.1 mm × 17.8 mm
	Net weight	148.5 g
Packing Information	Dimensions	260.0 mm × 210.0 mm × 56.0 mm
	List	• 1x JT50 • 1x Wi-Fi omnidirectional antenna • 1x Quick Start Guide • 1x Packing List
System Software	• Android operating system software • Android terminal application software • FPGA program 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.

Audio and Video Decoder Specifications

[Image]

Type	Codec	Supported Image Size	Container	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

Type	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
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

Type	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 ~ 1920×1080 pixels	1080P@60fps	57.2Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support for field coding and MBAFF

Type	Codec	Supported Resolution	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MVC	H.264 MVC	48×48 pixels ~ 1920×1080 pixels	60fps	38.4Mbps	MKV, TS	Support for Stereo High Profile only
H.265/HEVC	H.265/HEVC	64×64 pixels ~ 1920×1080 pixels	1080P@60fps	57.2Mbps	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.

Statement

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