TCC70
Multimedia Player

Specifications

Change History

Document Version	Release Date	Description
V1.0.3	2022-01-12	• Updated the connector descriptions. • Updated the dimension drawings. • Modified the specification table.
V1.0.2	2021-08-20	• Updated the descriptions of 4G and GPS features.
V1.0.1	2021-07-05	• Added relay description. • Updated the product appearance pictures. • Updated the description relating to the RS485 connector. • Updated the input voltage.

Introduction

The TCC70, launched by NovaStar, is a multimedia player that integrates sending and receiving capabilities. It allows for solution publishing and screen control via various user terminal devices such as PC, mobile phone and tablet. The TCC70 can access the cloud publishing and monitoring platforms to easily enable cross-region clustered management of screens.

The TCC70 comes with eight standard HUB75E connectors for communication and supports up to 16 groups of parallel RGB data. On-site setup, operation and maintenance are all taken into account when the hardware and software of the TCC70 were designed, allowing for an easier setup, more stable operation and more efficient maintenance.

Thanks to its stable and secure integrated design, the TCC70 saves space, simplifies cabling, and is suitable for the applications requiring small loading capacity, such as vehicle-mounted displays, small traffic displays, displays in communities, and lamp-post displays.
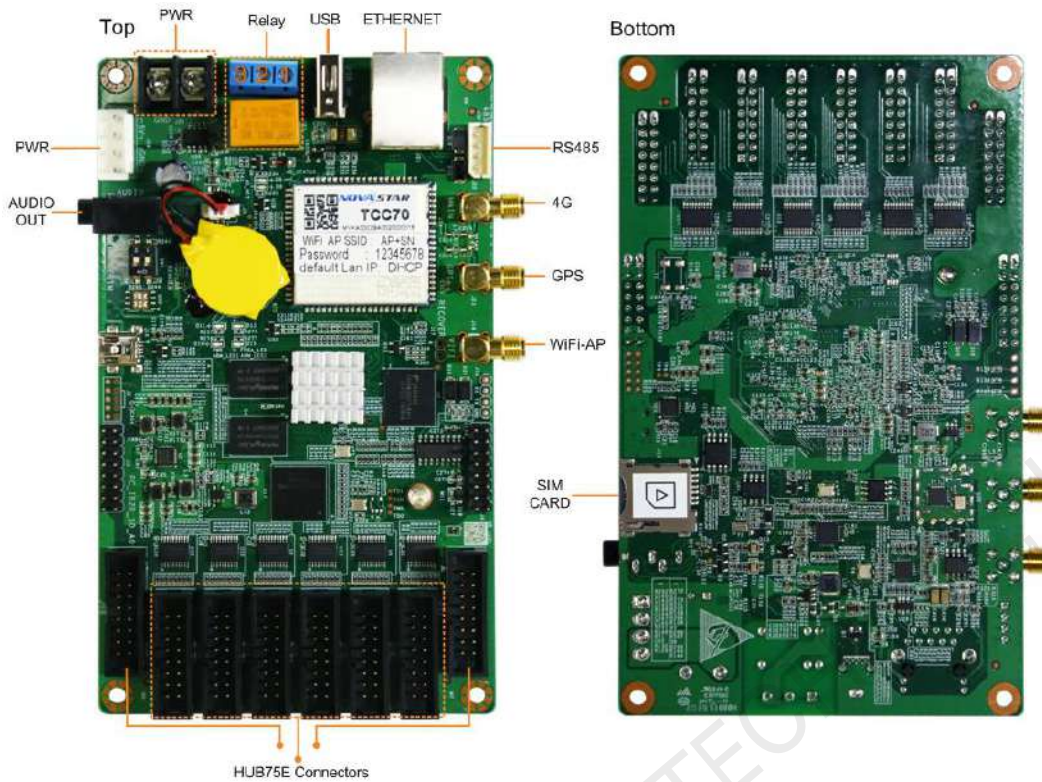
Certifications

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

- Maximum resolution supported by a single card: 512×384
  - Maximum width: 1280 (1280×128)
  - Maximum Height: 512 (384×512)
- 1x Stereo audio output
- 1x USB 2.0 port

  Allows for USB playback.
- 1x RS485 connector

  Connects to a sensor such as light sensor, or connects to a module to implement corresponding functions.
- Powerful processing capability
  - 4 core 1.2 GHz processor
  - Hardware decoding of 1080p videos
  - 1 GB of RAM
  - 8 GB of internal storage (4 GB available)
- A variety of control schemes

  - Solution publishing and screen control via user terminal devices such as PC, mobile phone and tablet
  - Clustered remote solution publishing and screen control
  - Clustered remote screen status monitoring
- Built-in Wi-Fi AP

  User terminal devices can connect to the built-in Wi-Fi AP of the TCC70. The default SSID is "AP+*Last 8 digits of SN*" and the default password is "12345678".
- Support for 4G networks (CAT1 by default)

  Currently, 4G networks can be accessed in China and India only.
- Support for GPS positioning and GPS time synchronization
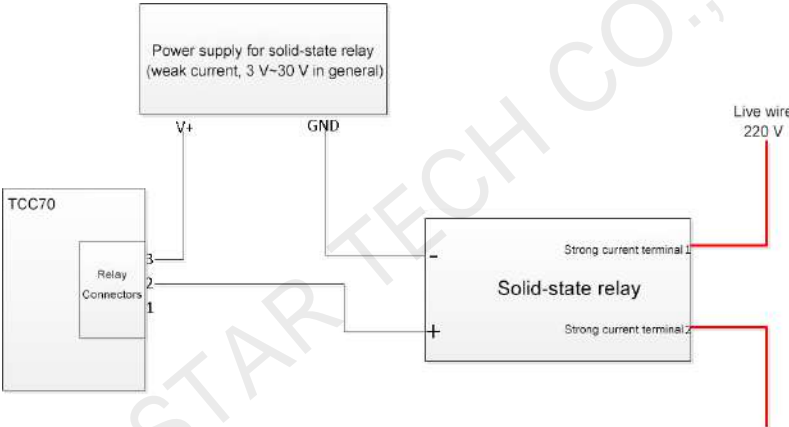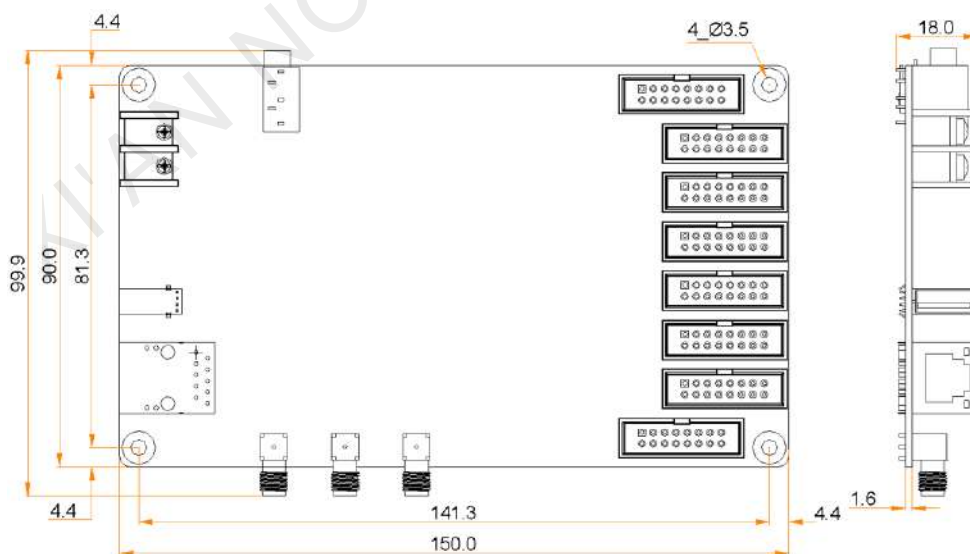- Support for relays (maximum DC 30 V 3 A)

Appearance

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

Table 1-1 Connectors and buttons

Name	Description
ETHERNET	Ethernet port Connects to a network or the control PC.
USB	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.
PWR	Power input connector
AUDIO OUT	Audio output connector
HUB75E Connectors	HUB75E connectors Connect to a screen.
SIM CARD	SIM card slot
WiFi-AP	Wi-Fi AP antenna connector
GPS	GPS antenna connector
4G	4G antenna connector
RS485	RS485 connector Connects to a sensor such as light sensor, or connects to a module to implement

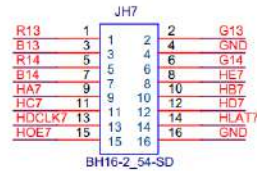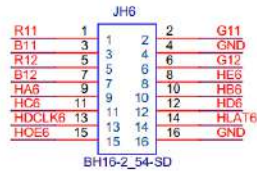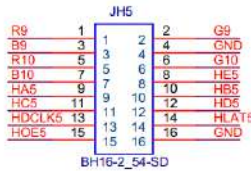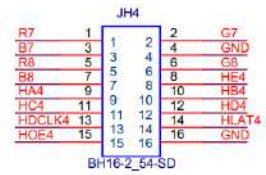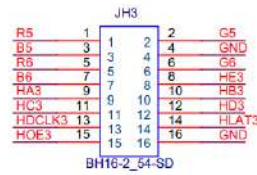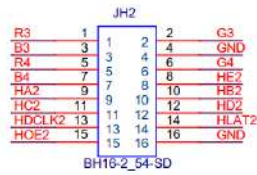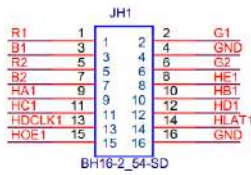| Name	Description
	corresponding functions.
Relay	3-pin relay control switch
	DC: Maximum voltage and current: 30 V, 3 A
	AC: Maximum voltage and current: 250 V, 3 A
	Two connection methods:
	Common switch: The connection method of pins 2 and 3 is not fixed. Pin 1 is not connected to the wire. On the power control page of ViPlex Express, turn on the circuit to connect pin 2 to pin 3, and turn off the circuit to disconnect pin 2 from pin 3.
	Single pole double throw switch: The connection method is fixed. Connect pin 2 to the pole. Connect pin 1 to the turn-off wire and pin 3 to turn-on wire. On the power control page of ViPlex Express, turn on the circuit to connect pin 2 to pin 3 and disconnect pin 1 form pin 2, or turn off the circuit to disconnect pin 3 from pin 2 and connect pin 2 to pin 1.
	Note: The TCC70 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.

Dimensions

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

Tolerance: ±0.3   Unit: mm

Pin Definition

Pin Definitions					
/	R	1	2	G	/
/	B	3	4	GND	Ground
/	R	5	6	G	/
/	B	7	8	HE	Line decoding signal
Line decoding signal	HA	9	10	HB	
	HC	11	12	HD	
Shift clock	HDCLK	13	14	HLAT	Latch signal
Display enable	HOE	15	16	GND	Ground

Specifications

Maximum Supported Resolution	512×384 pixels	
Electrical Parameters	Input voltage	DC 4.5 V~5.5 V
	Maximum power consumption	10 W
Storage Space	RAM	1 GB
	Internal storage	8 GB (4 GB available)
Operating Environment	Temperature	–20ºC to +60ºC
	Humidity	0% RH to 80% RH, non-condensing
Storage Environment	Temperature	–40ºC to +80ºC
	Humidity	0% RH to 80% RH, non-condensing
Physical Specifications	Dimensions	150.0 mm × 99.9 mm × 18.0 mm

	Net weight	121.3 g
Packing Information	Dimensions	278.0 mm × 218.0 mm × 63.0 mm
	List	• 1x TCC70 • 1x Omnidirectional Wi-Fi antenna • 1x 4G antenna • 1x Quick Start Guide
System Software	• Android operating system software • Android terminal application software • FPGA program	

The power consumption may vary according to the setup, environment and use of the product as well as many other factors.

Audio and Video Decoder Specifications

Image

Item	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

Item	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 codec 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

Item	Codec	Channel	Bit Rate	Sampling Rate	File Format	Remarks
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	Resolution	Maximum Frame Rate	Maximum Bit Rate (Under Ideal Conditions)	Type	Codec
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, 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, MBAFF
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	38.4 Mbps	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

Type	Codec	Resolution	Maximum Frame Rate	Maximum Bit Rate (Under Ideal Conditions)	Type	Codec
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 by H.264.

Statement

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