



Android Control Card Y12

Product specification

Version : Ver.2.1

Statement

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1. CE certification, ROHS certification, FCC certification, quality inspection reports (MA, ilac MRA, CNAS), etc;
2. The information release platform has obtained the third level filing certificate for information system security from the Ministry of Public Security;
3. The material review of the Xinfra platform has passed the registration certificate for the information network dissemination of audio-visual programs;
4. Stable and qualified product certificate through national quality inspection.

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Update Record

No.	Version	Updates	Revision Date
1	Ver.1.0	Initial Release	2022.11.23
2	Ver.1.1	Content update	2024.01.03
3	Ver.1.2	Content update	2024.05.20
4	Ver.2.1	Content update	2024.06.20

The document is subject to change without prior notice.

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Products

Thank you for purchasing our LED control card. We hope you can fully experience the excellent performance of this product. The design of this LED control card complies with international and industry standards, but improper operation may still cause personal injury and property damage. In order to avoid potential hazards from the device and benefit as much as possible from your device, please follow the relevant instructions in this manual when installing and operating the product.

Y12 is a transceiver integrated control card, with an industrial grade quad core processor, running at a main frequency of 1.5GHz, and supporting 1GB+8GB of memory (compatible with 2GB+16GB requires customization) LPDDR3. The performance of industrial grade CPU is generally lower than that of commercial grade CPU, but the maximum temperature difference can reach -40 °C to 95 °C. This configuration performance can fully meet the smooth playback of images, 1080P videos with 2 hard decodes, flash animations, text, and other content simultaneously.

It can be widely used in small load scenarios such as car screens, small traffic screens, community screens, and light pole screens.

Features:

1. Stable and reliable performance, supporting wide temperature range operation from -40 °C to high temperature of 95 °C, with a wide voltage range of 5V-12V, continuous power supply for 7 * 24 hours, and a failure rate of $\leq 0.3\%$.
2. Comes with a hub 75 port, allowing for direct screen display without the need for a receiving card;
3. It can be connected to the network through Ethernet cables, WiFi, or 4G, and can be controlled through a mobile phone to configure wireless networks like a router;
4. The chip can support GSM, WCDMA, TD-SCDMA, EVDO, TDD-LTE, FDD-LTE and other standards;
5. Support accessing cloud platforms to publish programs, easily achieving remote cluster control of display screens;
6. Hardware design fully considers user on-site deployment, operation, and maintenance scenarios, with a simple structure that saves space for users, reduces wiring, and makes installation easier;
7. The software and platform are designed to run stably and maintain efficiently.

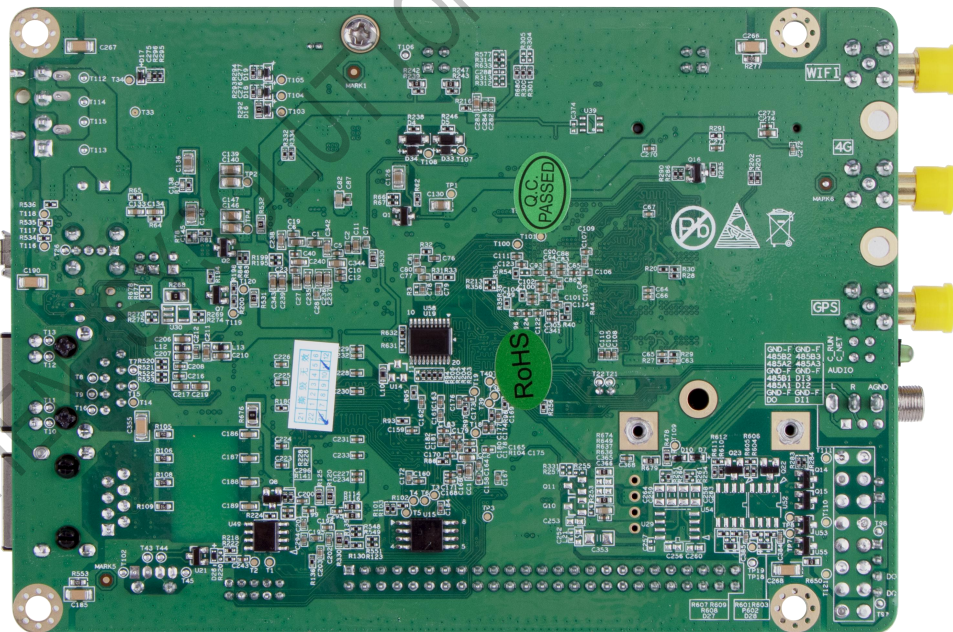
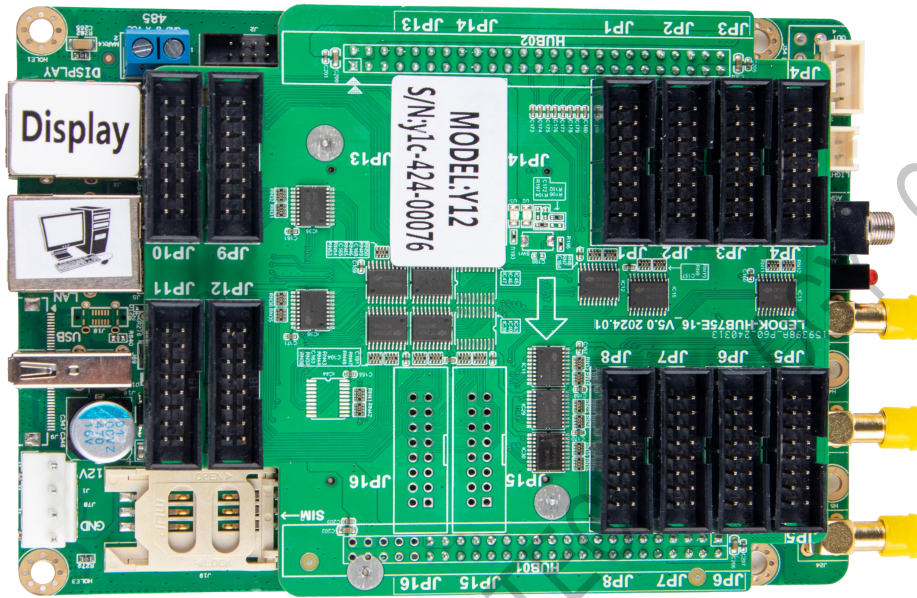
Functional Features

1. 12 Hub75 outputs for direct output, ensuring stable image transmission;
2. The onboard RS485 interface facilitates front-end devices to adjust the brightness of the rear display screen, control the led screen, and perform command operations such as power on/off. An external eight element environmental sensor R68 is connected to display environmental information, eliminating the need for secondary development;
3. Support external GPS positioning and timing modules to ensure synchronized playback of multiple screens;
4. Supports communication methods: wired network, WIFI, and 4G, making it easy to deploy in the on-site environment. The 4G module is optional, and provide specific 4g modem for different countries;
5. Support secondary development and remote cluster control on cloud platforms, such as centralized program release, setting timed power on/off, remote power off, volume, brightness, etc;
6. Support local webpage production, and support various user terminal program publishing and display screen control such as PC, mobile phone, and Pad;
7. Powerful processing performance, 4-core processor with a main frequency of 1.5GHz, supporting 1080P video hard decoding, 1GB of running memory, 8GB of internal storage space, and 4GB available to users;
8. The user terminal connects to the built-in WiFi hotspot of Y12, with a default SSID of "SN number" and a default password of "12345678";

9. Supports GPS timing/synchronization, and NTP precise automatic timing;
10. Y12 can automatically adjust the brightness of the display screen and requires a matching brightness sensor;
11. Support playing programs according to the program schedule;
12. Supports USB cameras;
13. Supporting software: AIPS4.0 cloud release platform, PC software LedOK Express, mobile app: LedOK Lite

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Product Appearance



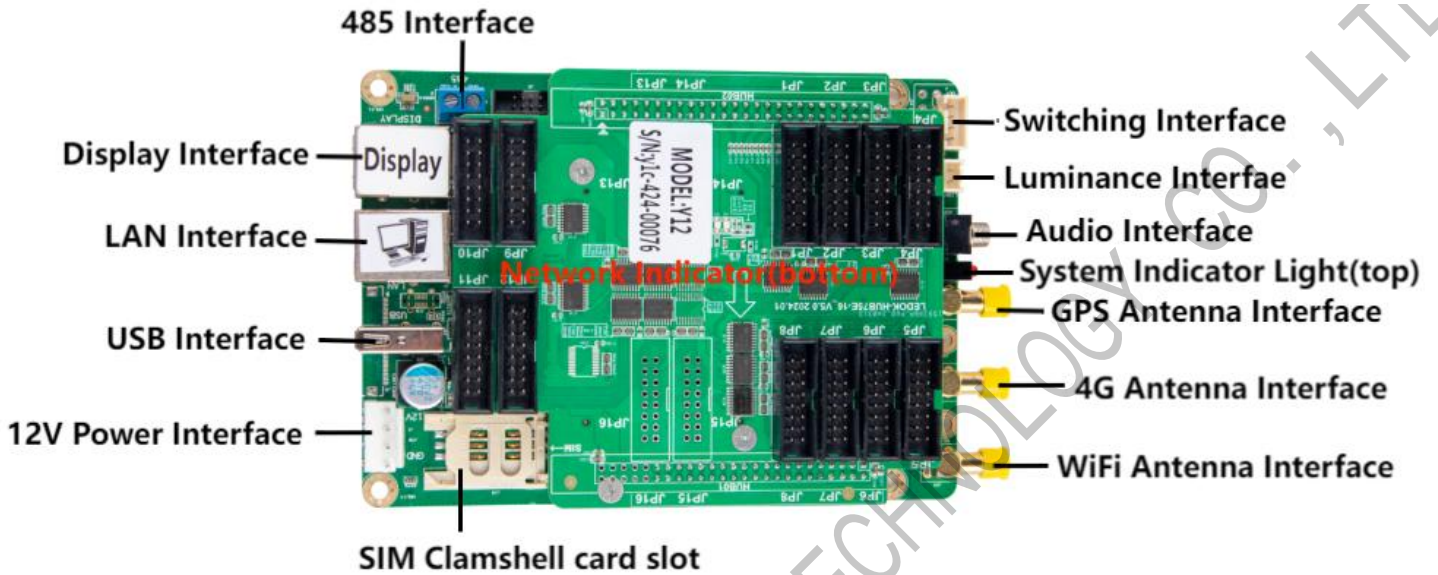
Product Parameters

Product features	Description
Model	Main: Y12 (no 4G), Y12-CH (China 4G all-network), Y12-G (global, recommended abroad) Y12-NA, Y12-EU, Y12-LA (available in bulk with cost in mind, samples are recommended for global models)
Pixel	Y12: 250,000 dots, resolution 1920 (W)or1920 (H) , custom resolution support
Communication methods	Network port, WiFi, USB stick, optional 4G module
CPU	Cortex-A35 quad-core at 1.5GHz
GPU	Mali-G31MP2 OpenGL ES3.2, Vulkan 1.0, OpenCL 2.0 Dvalin-2EE
System memory	8GB Emmc+1GB LPDDR3
Operating systems	Android 9.0
WiFi	IEEE 802.11b/g/n 2.4G
GPS	GNSS GPS/Beidou/Glonass
Other interface support	<ol style="list-style-type: none"> 1 stereo audio output. 1 x USB 2.0 interface. Support for importing and playing programmes from a USB stick. 1 x RS485 interface, 1 x RS232, 1 x TTL serial port. Connection of brightness sensors, other sensors, and connection of other modules for corresponding functions.
Configuration on software	LedOK Express
Supported Bands	

Model	3G/4G bands (optional)	Certification
Y12-CH	-China (China/India) FDD-LTE: B1/3/5/8 TDD-LTE: B38/39/40/41 TDSCDMA: B34/39 WCDMA: B1/8 CDMA 1X/EVDO: BC0 GSM: B3/5/8	Mandatory certification: SRRC/ NAL/ CCC Other: WHQL
Y12-NA	-North America (North America) FDD-LTE: B2/4/5/7/12/13/17 WCDMA: B2/4/5	Carrier certification: AT&T/ T-Mobile/ Rogers/ Telus/Verizon/ AT&T (FirstNet)/ T-Mobile/ U.S. Cellular/ Rogers/ Telus Mandatory/conformance certification: FCC/ IC/ PTCRB Other: WHQL
Y12-EU	-Eurasia (EMEA/Korea/Thailand/India and other Asian countries) FDD-LTE: B1/3/5/7/8/20 TDD-LTE: B38/40/41 WCDMA: B1/5/8 GSM: B3/5/8	Operator certification: Vodafone/Deutsche Telekom/SKT/ Telefónica Mandatory/conformance certification: GCF/ CE/ KC/ NCC/ RCM/ FAC/ NBTC/ ICASA Other: WHQL

<p>Y12-LA</p>	<p>-Latin America (Latin America / Australia / New Zealand)</p> <p>FDD-LTE: B1/3/5/7/8/28</p> <p>TDD-LTE: B40</p> <p>WCDMA: B1/2/5/8</p> <p>GSM: B2/3/5/8</p>	<p>Mandatory certification: GCF/ FCC/ Anatel/ NCC/ RCM</p> <p>Other: WHQL</p>
<p>Y12-G</p>	<p>-Global (Global)</p> <p>FDD-LTE:</p> <p>B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28</p> <p>TDD-LTE: B38/39/40/41</p> <p>WCDMA: B1/2/4/5/8/6/19</p> <p>GSM: Quad-band</p>	<p>Carrier certification: Deutsche Telekom/ Verizon/ AT&T/ Sprint/ U.S. Cellular/ Telus</p> <p>Mandatory/conformance certification: GCF/ CE/ FCC/ PTCRB/ IC/ Anatel/ IFETEL/ SRRC/ NAL/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ NBTC/ IMDA/ ICASA</p> <p>Other: WHQL</p>
<p>Y12-J</p>	<p>-Japan (Japan)</p> <p>FDD-LTE: B1/3/8/18/19/26</p> <p>TDD-LTE: B41</p> <p>WCDMA: B1/6/8/19</p>	<p>Carrier certification: NTT DOCOMO/SoftBank/ KDDI</p> <p>Mandatory certification: JATE/ TELEC</p> <p>Other: WHQL</p>

Interface Labelling



Interface characteristics		Description
Input interface	Power connector	+12V power supply
	LAN port	Gigabit network input
	USB port	USB2.0 interface, support for U disk programme import and playback, Debug interface
	Brightness line interface	RL2
	Remote control interface	Remote power off
Output Connector	485 interface	Baud rate 9600
	GPS interface	GNSS GPS/Beidou/Glonass
	WIFI interface	IEEE 802.11b/g/n 2.4G
	4G interface	4G antenna interface

	Audio output connector	Stereo audio output External operation indicator light and external reset
	Display interface	Gigabit network output
	HUB75 interface	Default with 12 HUB75E ports, special can be 16 hub75E ports

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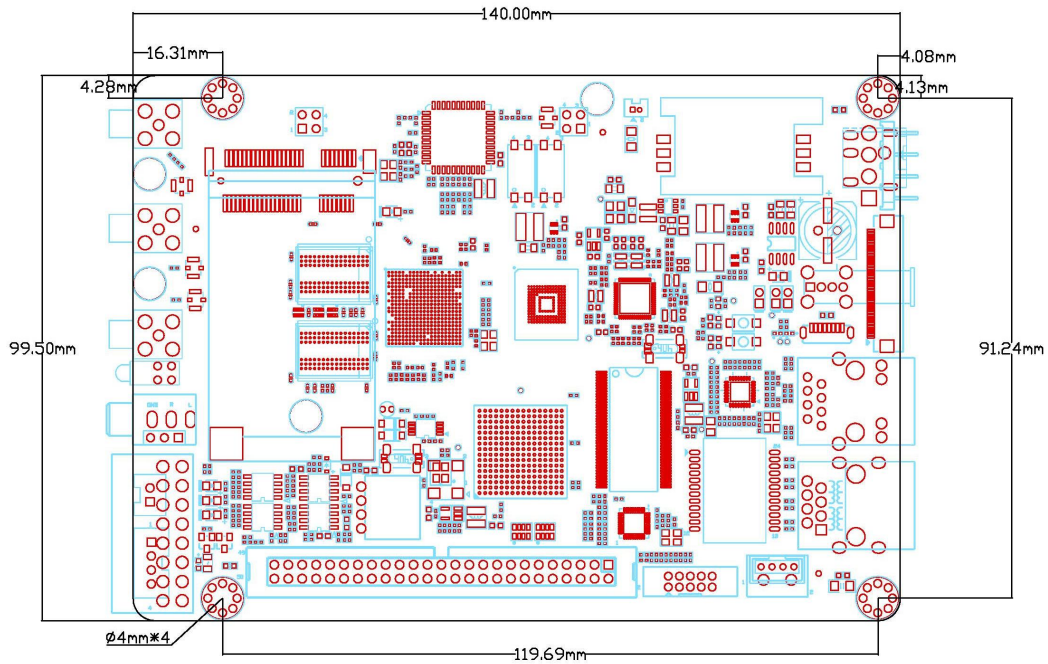
Working Conditions

Working parameters	
Operating voltage (V)	12V
Operating current (A)	0.9A Max: 3A
Maximum operating power consumption (W)	15
Operating temperature (°C)	-40°C to +95°C
Storage temperature (°C)	-40°C ~75°C, recommended 5°C ~35°C
Humidity of the working environment (%)	10% ~ 90%, no condensation
Size (mm)	170cm x 99.5cm

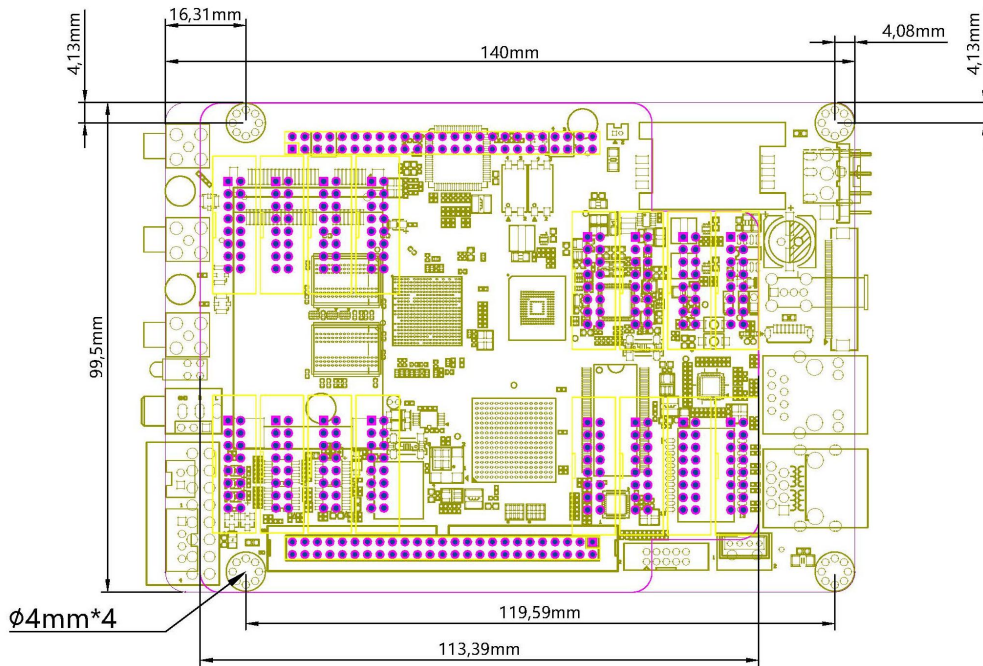
1. It is recommended that the control card be powered by a separate (12V/3A or higher) power supply.
2. High operating temperatures can cause a dramatic drop in power supply efficiency. If the control card and module share the same power supply, please ensure that the control card has a stable voltage and a reasonable actual current supply.

Dimensional Drawings

No HUB 75 plate size



With HUB 75 adaplate size



Unit: mm

Accessories

Standard accessories	Size/quantity
WiFi Patch Antenna	1.5m*1
4G Suction Cup Antenna	1.5m*1
Optional accessories	Accessory functions
Humidity line RH1	For detecting the current humidity of the external environment
Luminance line RL2	For sensing the brightness of the current environment
Optional multifunction card RS5 with integrated synchronisation module, 5-way voltage detection, door and smoke interface (optional RD1 door sensor, RM1 smoke sensor)	Power supply detection
8 in 1 Environmental Sensor R68 / 6 in 1	Temperature, humidity, illuminance, PM2.5, PM10, noise, wind speed, wind direction
Power statistics RM1275	View daily electricity consumption in real time
G11 GMous Multimode	GPS positioning module
30W speaker*2 RLB1	2 remote broadcasts per screen with real-time shouting
Matching accessories available (optional for the above, additional models to be ordered on request)	

Cautions

1. The input voltage of the power supply of this product is 12V and the voltage range is 5V ~ 12.5V. Please strictly ensure the quality of the power supply of Y12 series.
2. When connecting or disconnecting any signal or control cables, make sure all power cables are unplugged beforehand.
3. Make sure all signal and power cables are unplugged beforehand when you want to add hardware devices to or remove hardware devices from the product.
4. Before any hardware operation, please turn off the power of the control card and discharge the static electricity on your body by touching a grounded surface.
5. Please use the product in a clean, dry and ventilated environment, do not put the product into high temperature, humidity and other environments.
6. This product is an electronic product, please keep it away from fire, water and flammable, explosive dangerous goods.
7. There are high-voltage parts in this product, please do not open the case or repair the equipment by yourself.
8. If you find smoke, odor and other abnormalities, please immediately turn off the power switch and contact the dealer.