



Synchronous asynchronous Android control box M70BS

Product Specification

Version: Ver.1.1

Statement

Dear user friend, thanks for choosing SHENZHEN SYSOLUTION TECHNOLOGY CO.,LTD (hereinafter referred to as Xixun Technology) as your LED advertising equipment control system. The main purpose of this document is to help you quickly understand and use the product. We strive to be precise and reliable when writing the document, and the content may be modified or changed at any time without notice.

Copyright

The copyright of this document belongs to Xixun Technology. Without the written permission of our company, no unit or individual may copy or extract the content of this article in any form.

Trademark



is a registered trademark of Xixun Technology.

Update Record

No.	Version	Updates	Revision Date
1	Ver.1.0	Initial Release	2022.08.25

The document is subject to change without prior notice.

SHENZHEN SYSOLUTION TECHNOLOGY CO., LTD

Product Introduction

M70BS series adopts industrial grade quad core processor, integrates four cortex-a35, dual core mali-g31 GPU, quad core main frequency 1.5GHz, can withstand -30 °C ~+75 °C temperature range and can operate stable, the memory supports 1gb+8gb (compatible with 2gb+16gb) LPDDR3. The chip can support GSM, WCDMA, TD-SCDMA, EVDO, TDD-LTE, FDD-LTE and other systems. It is a highly integrated product.

SHENZHEN SYSOLUTION TECHNOLOGY CO., LTD.

Function Characteristics

1. Two Gigabit network ports are output, and one network port is used as backup to ensure the stability of image transmission;
2. Support the external connection of eight element environmental sensor R68 through 485 interface to display environmental information without secondary development;
3. Support optional 4G modules. The models of modules in different countries are different. Please provide the country of use for shipment. Support optional 4G modules. Different models fits for different countries. Please confirm the country before shipment;
4. support switch sync/asynchronous mode;
5. Lora wireless timing multi screen synchronization;
6. Onboard WiFi module for wireless communication;
7. Support AP mode and Station mode;
8. Support cluster remote control through web platform;
9. Built in web server, it supports local web page production, program release and display control of PC, mobile phone, pad and other user terminals, cluster remote program release and display control, and cluster remote monitoring of screen status;
10. The user terminal connects to the WiFi hotspot of M70BS. The default SSID is "SN number" and the default password is "12345678";
11. The timing switch, volume and brightness can be set centrally through the management system;
12. Support to play programs according to the program list;

13. The timing switch, volume and brightness can be set centrally through the management system;
14. Support USB camera;
15. Support NTP precise automatic timing;
16. Software kit: AIPS4.0 Cloud publishing platform, PC software LedOk Express, mobile APP:
LedOK Kit.

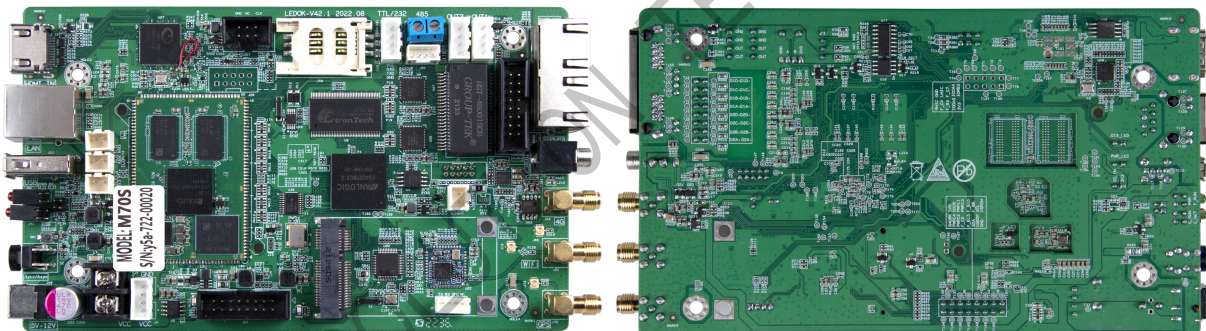
SHENZHEN SYSOLUTION TECHNOLOGY CO., LTD

Product Appearance

Control box M70BS



Naked card M70S



Product Parameters

Features	Description	
Type	M70BS (No 4G) /M70BS-4G Control box, M70S-4G Naked card	
Pixel	M70S: 130 pixels, The widest resolution in pixels1920, Maximum pixel 1920	
Communication mode	Network port、WiFi、USB、optional 4G module	
CPU	Cortex-A35 4 Core main frequency 1.5GHz	
GPU	Mali-G31MP2 OpenGL ES3.2, Vulkan 1.0, OpenCL 2.0 Dvalin-2EE	
System memory	8GB Emmc+1GB LPDDR3	
Operating system	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. 1.1 channel stereo audio output. 2. 1 line HDMI input 3. 1 USB2.0 port. 4. Support play program through USB. 5. 1 RS485 port, 1 RS232、 1 TTL serial port. Connect to light sensor or other sensors, as well as connecting to other modems to realize other functions. 	
Configuration software	LedOK Express	
Support frequency band		
Type	3G/4G (optional)	Certificate

<p>M70BS-CH</p>	<p>-China (China/India)</p> <p>FDD-LTE: B1/3/5/8</p> <p>TDD-LTE: B38/39/40/41</p> <p>TDSCDMA: B34/39</p> <p>WCDMA: B1/8</p> <p>CDMA 1X/EVDO: BC0</p> <p>GSM: B3/5/8</p>	<p>Compulsory Certification: SRRC/ NAL/ CCC</p> <p>Others: WHQL</p>
<p>M70BS-G</p>	<p>-Global</p> <p>FDD-LTE: 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: 4 Frequencies</p>	<p>Operator certification: Deutsche Telekom/ Verizon/ AT&T/ Sprint/U.S. Cellular/ Telus</p> <p>Mandatory/consistent authentication: GCF/ CE/ FCC/ PTCRB/ IC/ Anatel/IFETEL/ SRRC/ NAL/ CCC/ KC/ NCC/ JATE/ TELEC/ RCM/ NBTC/ IMDA/ICASA</p> <p>Others: WHQL</p>

<p>M70BS-NA</p>	<p>-North America</p> <p>FDD-LTE: B2/4/5/7/12/13/17</p> <p>WCDMA: B2/4/5</p>	<p>Operator certification: AT&T/ T-Mobile/Rogers/ TelusVerizon/AT&T (FirstNet)/T-Mobile/U.S.</p> <p>Cellular/Rogers/ Telus</p> <p>Mandatory/consistent</p> <p>authentication: FCC/ IC/ PTCRB</p> <p>Others: WHQL</p>
<p>M70BS-EU</p>	<p>-Eurasi (EMEA/Korea/Thailand/India and other Asian countries)</p> <p>FDD-LTE: B1/3/5/7/8/20</p> <p>TDD-LTE: B38/40/41</p> <p>WCDMA: B1/5/8</p> <p>GSM: B3/5/8</p>	<p>Operator certification: Vodafone/Deutsche Telekom/SKT/ Telefónica</p> <p>Mandatory/consistent</p> <p>authentication: GCF/ CE/ KC/ NCC/RCM/ FAC/ NBTC/ICASA</p> <p>Others: WHQL</p>
<p>M70BS-LA</p>	<p>-Latin America (LA/AU/Newsland)</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>Compulsory Certification: GCF/ FCC/ Anatel/ NCC/RCM</p> <p>Others: WHQL</p>

M70BS-J	-Japan FDD-LTE: B1/3/8/18/19/26 TDD-LTE: B41 WCDMA: B1/6/8/19	Operator certification: NTT DOCOMO/SoftBank/ KDDI Compulsory Certification: JATE/ TELEC others: WHQL
----------------	--	---

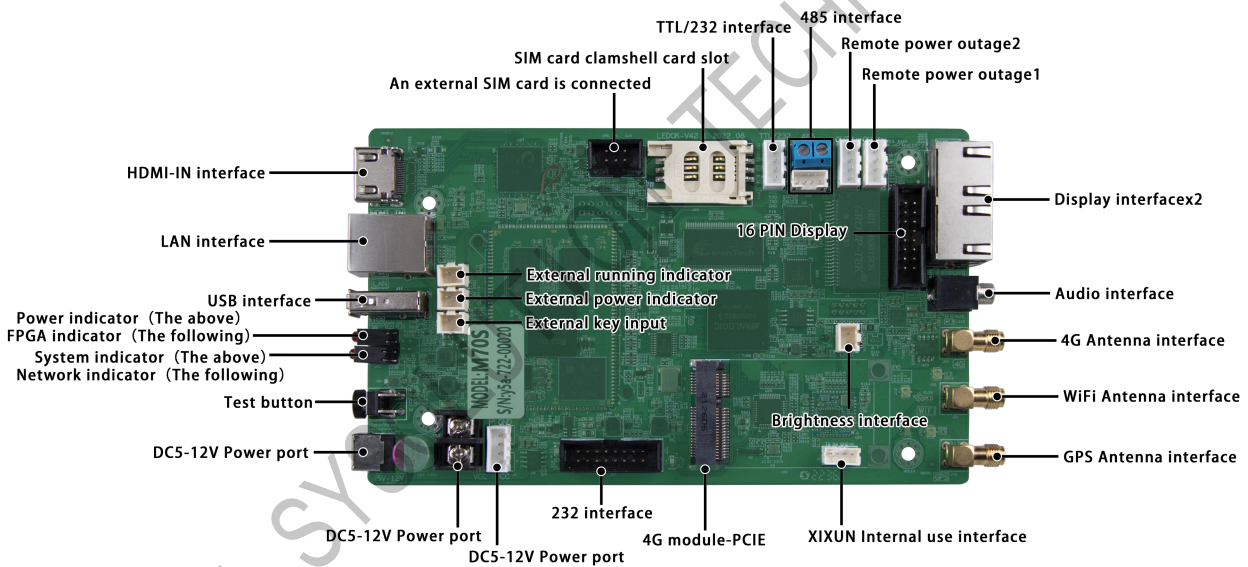
SHENZHEN SYSOLUTION TECHNOLOGY CO., LTD

Interface Parameters/Define

Control box M70BS





Bare card labeling M70S



Inside interfaces definition in the below:


Power-DC 5-12V IN Interface (Three input modes: DC, 3.84 2P, 2.54 4P)

No.	Definition	Attribute	Description
1	GND	Power ground wire	Power ground wire

2	GND	Power ground wire	Power ground wire	 
3	5-12V IN	Power input	5-12V Power input	
4	5-12V IN	Power input	5-12V Power input	


SIM socket interface (PH2.54 2*3Side seat)

No.	Definition	Attribute	Description
1	VCC	Power cord	Power cord
2	GND	Power ground wire	Power ground wire
3	RESET	Reset pin	5-12V Power input
4	NC	empty	empty
5	DATA	data pin	data cable
6	CLK	clock pin	clock cable



USB DEBUGFunction skip socket (2.00MM Vertical contact pin)

No.	Definition	Attribute	Description
up	USB	USB	USB
down	DEBUG	DEBUG	debug



--	--	--	--	--

HDMI input (horizontal)


No.	Definition	Attribute	Description
1	HDMI0_RX2P	Data entry	TMDS 2+
2	GND	GND	
3	HDMI0_RX2N	Data entry	TMDS 2-
4	HDMI0_RX1P	Data entry	TMDS 1+
5	GND	GND	
6	HDMI0_RX1N	Data entry	TMDS 1-
7	HDMI0_RX0P	Data entry	TMDS 0+
8	GND	GND	
9	HDMI0_RX0N	Data entry	TMDS 0-
10	HDMI0_CLKP	Data entry	TMDS clock+
11	GND	GND	
12	HDMI0_CLKN	clock input	TMDSclock-
13	HDMI0_CEC	CEC	
14	ARC	HEC	
15	HDMI0_DDC_SCL	clock	DDCSerial clock
16	HDMI0_DDC_SDA	data	DDCSerial clock
17	GND	GND	
18	HDMI_5V	+5V Power supply	



19	HDMI0_HPDP	Hot plug detection		
----	------------	--------------------	--	--


MATSR download interface (PH2.00 4P Straight socket)

No.	Definition	Attribute	Description
1	NC	empty	
2	GND	GND	GND
3	RX	receiver	receiver side
4	TX	send	send side



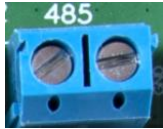
TTL/232 interface (PH2.54 4P White pin holder)


No.	Definition	Attribute	Description
1	VCC	Power supply	5V/NC3V3
2	RXD	receiver side	
3	TXD	send side	
4	GND	GND	




485 interface (two connection ways: 2P blue pins and PH2.00 4P straight socket)

No.	Definition	Attribute	Description
1	RS485_B	data	
2	RS485_A	data	




1	5V	Power supply		
2	RS485_A	data		
3	RS485_B	data		
4	GND	GND		

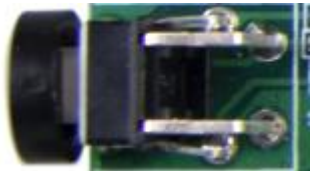
Remote cut power interface1 (PH2.54 4P white pin holder)

No.	Definition	Attribute	Description
1	GND	GND	
2	GND	GND	
3	VCC	Power supply	
4	VCC	Power supply	

Remote cut power interface 2 (PH2.54 4P white pin holder)


No.	Definition	Attribute	Description
1	GND	GND	
2	GND	GND	
3	VCC	Power supply	
4	VCC	Power supply	

Test and Sync/Async key


No.	Definition	Attribute	Description	
1	short press	switch async/sync	sync light on, asynch light off	
2	long press	test	enter test mode after 3 seconds,	

			light flashing	
3	single click under test mode	test	switch test image	
4	all test images loop and finish	test	exit test mode	


3.5mm earphone socket

No.	Definition	Attribute	Description
1	GND	GND	
2	R	right channel	
3	L	left channel	


Antenna sockets Outer bolt and inner hole of elbow

No.	Definition	Attribute	Description
1	4G	4G	
2	WIFI	WIFI	
3	GPS	GPS	


Brightness sensor interface (2.54MM2P white hook seat)

No.	Definition	Attribute	Description
1	VCC	Power supply	
2	ADC	ADC	


External key interface (2.54MM2P white hook seat)

No.	Definition	Attribute	Description	
1	VCC	Power supply		
2	CPU_RESERVED_3	IO	external key interface	


External operation indicator interface (2.54MM2P white hook seat)

No.	Definition	Attribute	Description	
1	VCC	Power supply		
2	CPU_DISPLAY	IO	External operation indicator	

External power indicator interface (2.54MM2P white hook seat)

No.	Definition	Attribute	Description	
1	VCC	Power supply		
2	GND	GND	External power indicator	

RS5 interface (divide into two parts in the two sides, PH2.54 one is 16P 2x8 socket, another is 10P 2X5 socket)

No.	Definition	Attribute	Description	
1	5V	power	power	
2	SMORK	IO	RS5 sensor interface	
3	DOOR	IO	RS5 sensor	

			interface	
4	PWRCHERK4	singlechip ADC	ADC4	
5	PWRCHERK1	singlechip ADC	ADC1	
6	PWRCHERK2	singlechip ADC	ADC2	
7	PWRCHERK3	singlechipv ADC	empty	
8	FPGA_C9	IO	reserved interface	
9	FPGA_B10	IO	reserved interface	
10	FPGA_B15	IO	reserved interface	
11	FPGA_B8	IO	reserved interface	
12	CPU_I2C_SDA	I2C	data cable	
13	CPU_I2C_SCL	I2C	clock cable	
14	USB_encrypt_DP	IO	RS5 USB encryption	
15	USB_encrypt_DM	IO	RS5 USB encryption	
16	GND	GND	GND	
1	3V3	Power supply	Power supply	


2	CPU_RESERVED_1	IO	reserved interface
3	CPU_RESERVED_2	IO	reserved interface
4	CPU_RESERVED_3	IO	external key
5	FPGA_B5	IO	reserve interface
6	CPU_GD32_TX	serial port	serial port
7	CPU_GD32_RX	serial port	serial port
8	ES8388_LIN	IO	Reserved microphone interface
9	ES8388_RIN	IO	Reserved microphone interface
10	GND	GND	GND

16P display interface

No.	Definition	Attribute	Description
1	GIGE_MX_A+		
2	GIGE_MX_A-		
3	GIGE_MX_B+		
4	GIGE_MX_B-		
5	GIGE_MX_C+		
6	GIGE_MX_C-		
7	GIGE_MX_D+		

8	GIGE_MX_D-			
9	GIGE0_MX_A+			
10	GIGE0_MX_A-			
11	GIGE0_MX_B+			
12	GIGE0_MX_B-			
13	GIGE0_MX_C+			
14	GIGE0_MX_C-			
15	GIGE0_MX_D+			
16	GIGE0_MX_D-			

FPGA download interface

No.	Definition	Attribute	Description
1	TCK	IO	
2	CPU_DEBUG_TX	serial port	
3	TDO	IO	
4	3V3	Power supply	
5	TMS	IO	
6	CPU_DEBUG_RX	serial port	
7	GD32_DIO	IO	
8	GD32_CLK	IO	

9	TDI	IO		
10	GND	GND		

SHENZHEN SYSOLUTION TECHNOLOGY CO., LTD

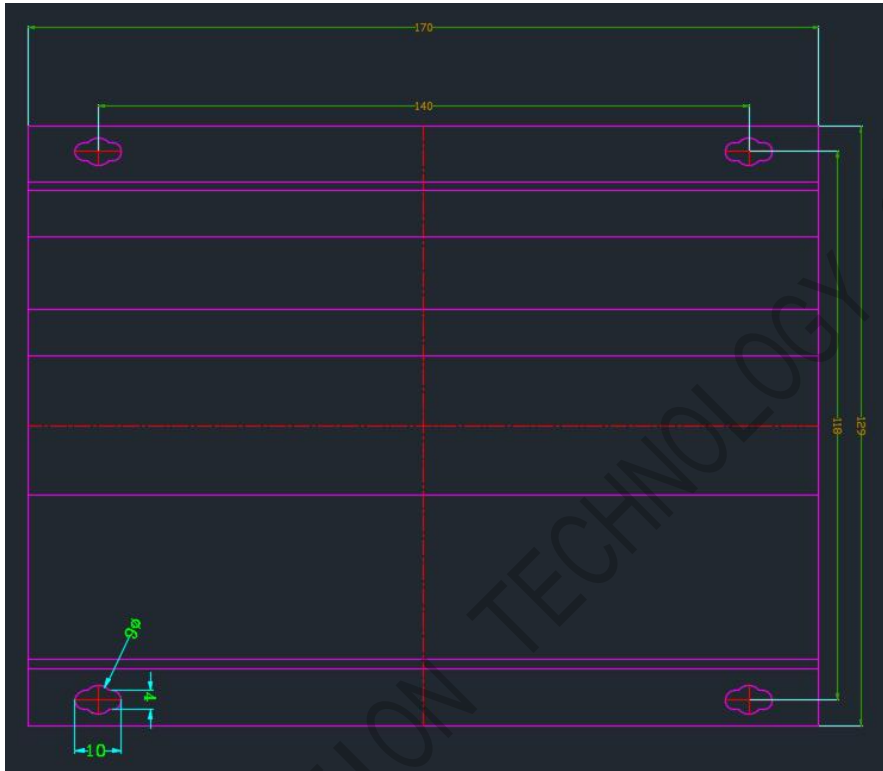
Working Parameters

Working parameters	
Working voltage (V)	12V
Working current (A)	0.9A Max: 3A
Maximum working power consumption (W)	10
working temperature (°C)	- 30°C ~ +75°C
Storage temperature (°C)	-40°C ~75°C, Recommend 5°C ~35°C
Humidity of working environment (%)	10% ~ 90%, No condensation
Size (mm)	Naked card: 170.5mm×100.02mm box: 170mmx129mm
Net weight (g)	Naked card: 135g, box: 467g
Packaging information	Accessories: HDMI cable x1, WiFi Antenna x1

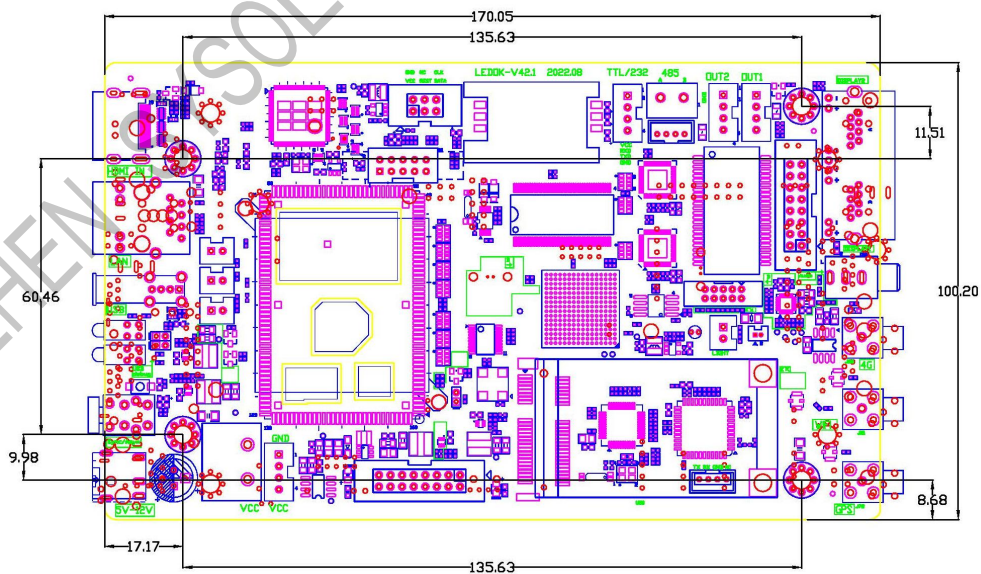
1. It is recommended to use an independent (12V/3A or above) power supply for the control card;
2. High working temperature will cause a sharp decline in power efficiency. If the control card and the module share the same power supply, please ensure that the control card has a stable voltage and a reasonable actual current supply.

Dimensional Drawing

Installation dimensions of control box M70BS



Installation dimensions of bare card M70S



Unit: mm

Accessories

Standard accessories	Size/Quantity
WiFi Patch antenna	1.5m*1
4G Sucker antenna	3m*1
Optional accessories	Accessory function
Humidity lineRH1	Used to detect the humidity of the current external environment
Brightness lineRL2	Used to sense the brightness of the current environment
Optional multi-function card RS5 integrated synchronization module, 5-way voltage detection, door opening and closing and smoke interface (optional RD1 door sensor, RM1 smoke sensor)	Power detection
Eight in one environmental sensor R68	Temperature, humidity, illumination, PM2.5, PM10, noise, wind speed, wind direction
Electric quantity statistics RM1275	Real-time view of daily electricity consumption
G11 GMous multimode	GPS Positioning module
33W horn*2 RLB1	Two remote broadcasts per screen, real-time shouts
Matching accessories (the above options, according to the order needs to place another corresponding model)	

Notes

1. It is strictly forbidden to disassemble and assemble the product by yourself.
2. It is strictly forbidden to plug and unplug the SIM card with power.
3. It is strictly forbidden to use improper voltage for power supply.
4. It is strictly forbidden to share the 200w/5v switching power supply of the screen to supply power to the card, which will lead to unstable system operation and low horn sound.

SHENZHEN SYSOLUTION TECHNOLOGY CO., LTD