

## Product Specification

product name : intelligent instrument

product model : **X2301-v02**

Design drawing number : **DY-79001**

version number : **v02**

Release date : **2022.12.31.**

Production	C h e n   K a i
Audit	Du Hai qi
Approved	L u o   J i e

number	Change the reason	Change the content	Date	Change the person
1	Meet new energy vehicle standards	CAN Execute the order	2022.8.20.	C h e n K a i
2		Power amplifier 15W to 25W * 2	2022.11.20.	C h e n K a i
3		Radio FM	2022.8.20.	C h e n K a i
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## 1.Scope of application

This specification is applicable to X2301-v02 series on-board multi-media player integrated instrument produced by “New energy vehicle”. Zhongsheng electronic technology (Shenzhen) Co. , Ltd. has the final right of interpretation.

## 2.Reference standards

GB/T 26775-2011	General specification for on-board audio and video systems
GB/T 9384-2011	Environmental test requirements and test methods for broadcast radios, broadcast television set, Tape recorder, audio power amplifiers (amplifiers)
GB/T 13837-2012	Permissible values and methods of measurement of interference characteristics of sound and television broadcasting receivers and related equipment
GB/T 413-2015	Basic technical requirements for automotive electrical equipment
TB/T 3058-2016	Railway applications, electromechanical vehicle equipment, impact and vibration tests
GB18655-2018	Radio disturbance characteristics of vehicles, ships and internal combustion engines
GB/T17619-1998	Limit values and measuring methods for protecting vehicle-mounted receivers
GB 4094-2016	Limits and methods of measurement of electromagnetic radiation
	immunity of automotive electronic and electrical components”
	Automobile controls, indicators and signal device signs ”

## 3.Product Overview

7-inch/8-inch/9-inch/10-inch 12-inch center control screen is a kind of multi-media center control screen which is specially used for the instrument multimedia playing and the vehicle information display of the golf electric vehicle, the product adopts the high-resolution LCD module, uses the rule-level chip as the main control unit, integrates the FM radio, Bluetooth, USB, reversing image modules, etc. , it can be used to control the warning switch, light signal, brake signal, etc. of the vehicle, and can also display the status of the vehicle, fault and other information.

#### 4.Product appearance



#### 5.Functional characteristics

##### 1.Basicfunctions:

- 1 Instrument basic functions: speed, mileage, charging display, power display, headlights, lights, left and right steering, brake display, fault code display.
- 2 USB MP3/MP4 player. Supports formats such as MP3/WMA/JPEG/WMV/AVI/MPG/MPEG/3GP.
- 3 Support for standard video output playback function/support for two-way video playback.
- 4 FM radio function, the vehicle Operation FM radio can continue to keep the radio state, can also be directly out and disconnected.
- 5 GPS Beidou navigation function, support mobile phone interconnection function, can map to the player with the help of mobile phone navigation (V2.1 is not supported).
- 6 Bluetooth function (support hands-free calls, phone book download, Bluetooth music) , Bluetooth connection can be automatically connected the next time.
- 7 Reverse image output.
- 8 Wi-fi connection to the Internet is supported (V02 version is not supported yet) .
- 9 Support vehicle information display function.
- 10 Extensible voice control function (reserved) .
- 11 Support brake control function, when the driver is in motion, video playback does not show.

## 2. System features:

- 2.1, the use of car regulation chip design, full-screen support touch function.
- 2.2, support MP3, MP4 playback.
- 2.3, built-in Bluetooth phone, Bluetooth music connection play function.
- 2.4, support CAN bus control and so on.
- 2.5. Reverse quickly.
- 2.6, support custom CAN protocol control, vehicle data display, fault alarm and other functions.

## 6.Specification parameters

FM frequency range: 87.5-108.0 MHz

- 1) . Step length: 50 kHz
- 2) . The sensitivity of the lock table is  $23 \pm 8$  dB  $\mu$ V
- 3) . Distortion (1 MV input) ; 2%
- 4) . Signal-to-noise ratio (1 MV input) ; 48 dB

AM frequency range: 522-1620 kHz (V02 version not yet supported)

- 1) step size: 9 kHz
- 2) the sensitivity of the lock table was  $36 \pm 10$  dB  $\mu$ V
- 3) distortion (5 mV input) ;  $\leq 2\%$
- 4) signal-to-noise ratio (5 mV input) ;  $\geq 43$

## 3.Audio amplifier parameters

- 1) Standard output distortion:  $\leq 0.3\%$
- 2) Signal-to-noise ratio:  $\geq 45$  dB
- 3) Frequency response: 40Hz-12000Hz

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## 4. Bluetooth

### 1) Hands-free

Hands-free distance: 80~120CM

Output Power: 50W Max

Sound track: dual-zone horn

### 2) Bluetooth music

Noise ratio:  $\geq 50\text{dB}$

Deviation:  $\geq 45\text{dB}$

Frequency response: 20Hz~20KHz  $\pm 3\text{dB}$

Sound track: dual-zone horn

### 3) Host

01) power supply: DC12V (DC9-16V)

02) humidity: 5% ~ 95%

03) working current:  $< 0.2\text{a}$  (when power amplifier is silent) , max  $< 10\text{a}$

04) standby current: 8MA

05) maximum useful output power: output power 20W

06) maximum output power: input voltage 12V, volume knob adjusted to the maximum

output power not more than 50W 2\*25W

07) system settings memory function: memory customer personalized settings, do not lose memory after power off

08) RRB screen resolution: 1024 \* 600

09) screen brightne : 800cd/m<sup>2</sup>

10) touch screen: support multi-poCapacitoriTouchouch

11) video output: backup camCVBSCVBS video signal output

12) working environment temperature: -20--+ C0 ° c

13) storage environment temperature: -20--+ C0 ° c

14) power: less t120W

## 4. Interface Operation Instructions

### 4.1 The main screen is displayed at boot time

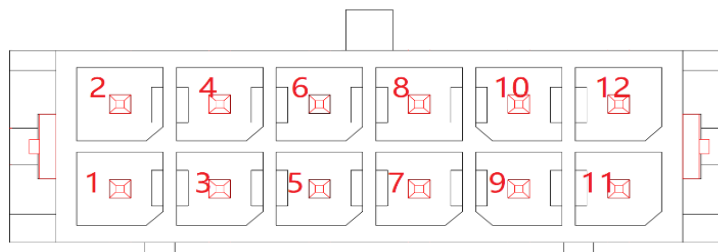


### 4.2 Interface icon description:



## 4.2.1 Interface description

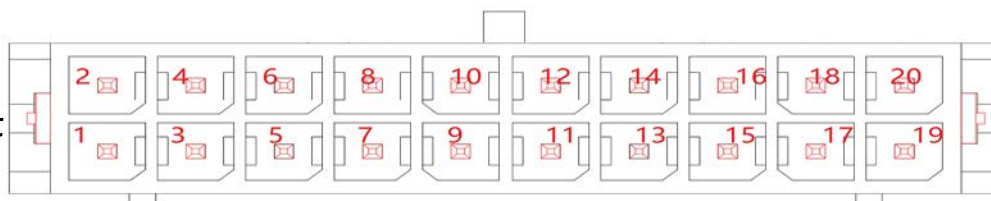
### 12P Port seat



#### 12P Interface Definition

1	Right speaker positive output right channel +	0-16V/≤3A
2	Right speaker negative output right channel	0-16V/≤3A
3	The left speaker is sending out the left track	0-16V/≤3A
4	Left speaker negative output left channel	0-16V/≤3A
5	Empty feet	
6	Empty feet	
7	CVBS image input	1-2 Vpp/ 0-30mA
8	Reverse image detection input	L:0-3V H:12V±1V
9	Ground (Black: reverse image ground wire)	
10	Main power ground wire	
11	Connect the main power supply input of the electric door lock	8-16V/≤5A
12	Long power supply input (for RTC time hold)	8-16V/≥5mA

### 20P Port seat



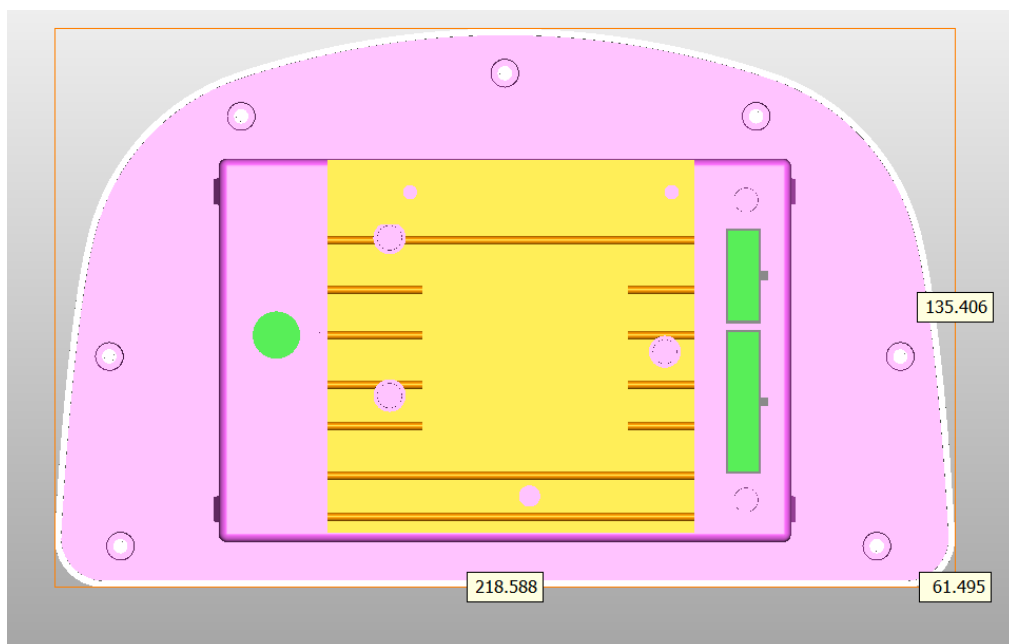
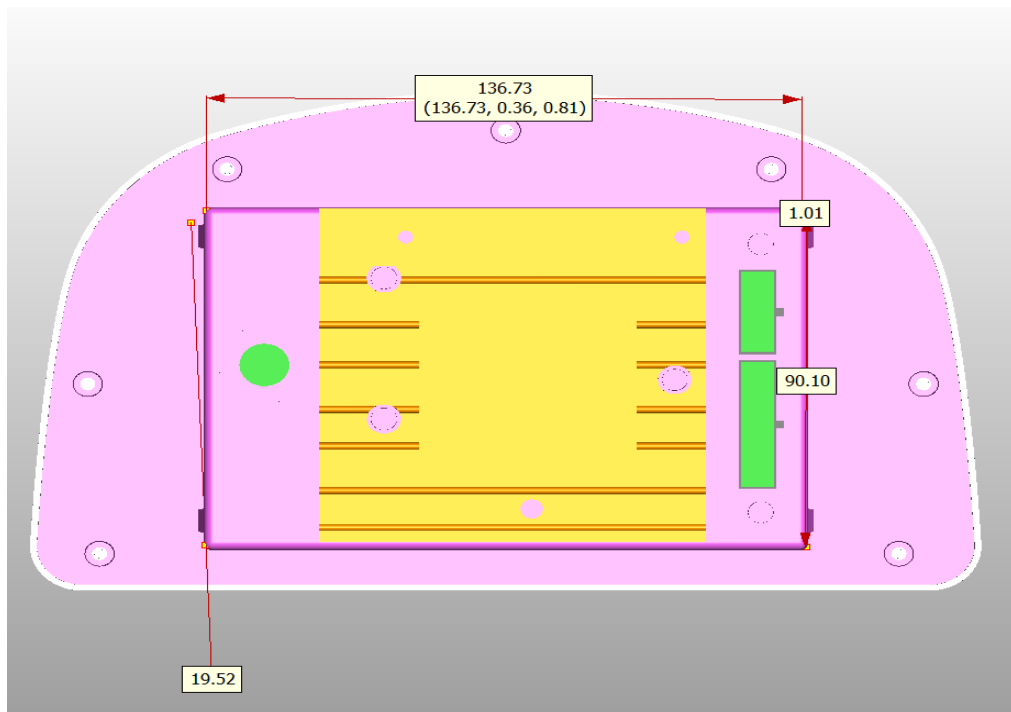
#### 20P Interface Definition

1	485B/RX Communication 485 interface		0-6V/≤50mA
2	Canh Comms Canh signal	CANH	0-6V/≤50mA
3	485A/TX Communication 485 interface		0-6V/≤50mA
4	CANL communication CANL signal	CANL	0-6V/≤50mA
5	Instrument Ground (battery ground)		8-16V/1A
6	Analog detect ADC input		0-5V/≤3mA
7	Far-beam input	Positive control	L:0-3V H:12V±1V/≤5mA
8	Analog detect ADC input		0-5V/≤3mA
9	Left turn input	Positive control	L:0-3V H:12V±1V/≤5mA
10	Positive and negative control 1 input		L:0-3V H:12V±1V/≤5mA
11	Right turn input	Positive control	L:0-3V H:12V±1V/≤5mA
12	Profile light input		L:0-3V H:12V±1V/≤5mA
13	File-enter		L:0-3V H:12V±1V/≤5mA
14	Positive and negative control 2 input brake positive control input	Brake+	L:0-3V H:12V±1V/≤5mA
15	File-enter		L:0-3V H:12V±1V/≤5mA
16	Positive and negative control 3 input (d-positive control input)	Positive control	L:0-3V H:12V±1V/≤5mA
17	D-input (available for voltage selection, grounded at 60V, suspended at 48/72V)		L:0-3V H:12V±1V/≤5mA
18	Line speed input (DC motor line speed input)		0-90V/0-5mA
19	Houle input		0-16V/≤5mA
20	Battery voltage (battery voltage acquisition)		ADC input 0-90V/0-5mA



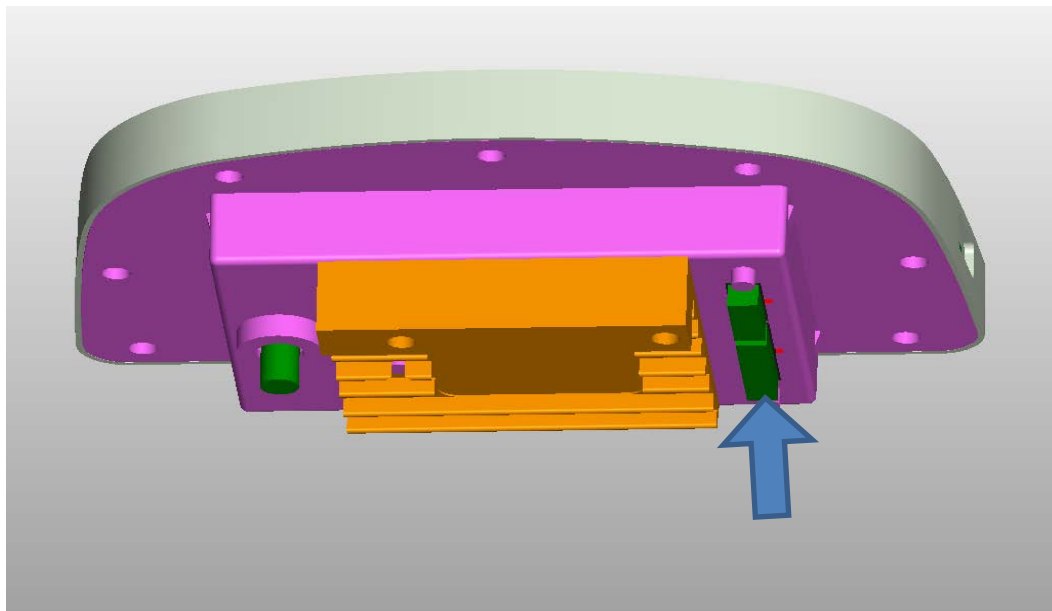
## 5. Installation structure dimensions and Interfaces

### 5.1 Dimensions of mounting structure

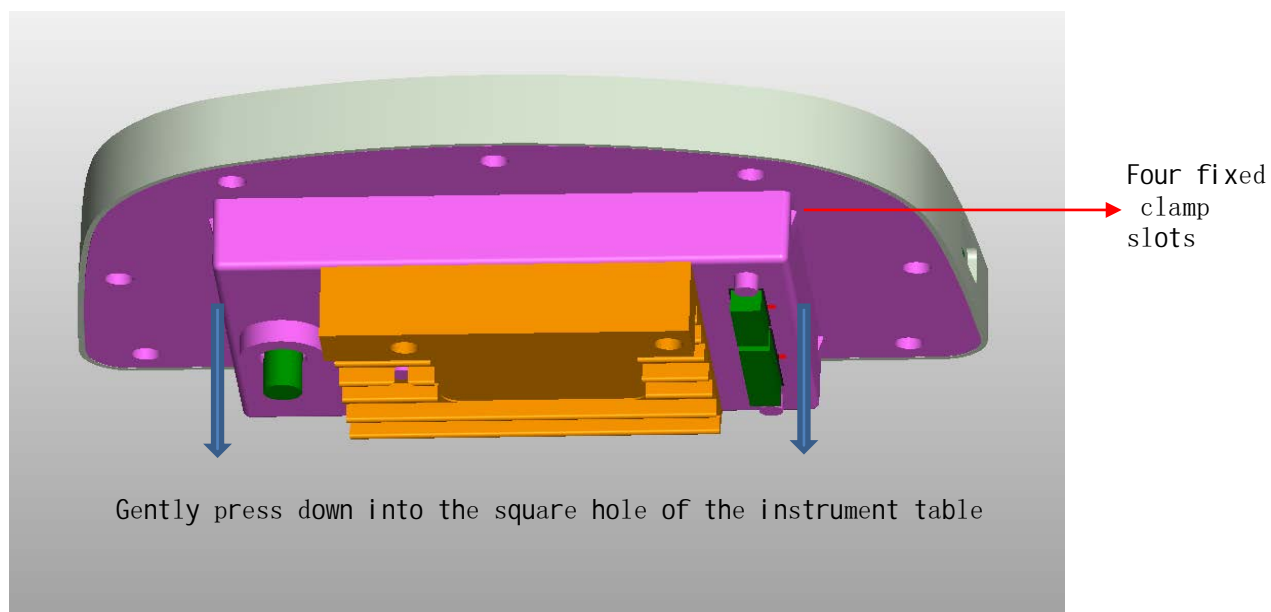


## 6. Installation Instructions

1. The multimedia instrument assembly taken out from the packing box defines the direction according to the corresponding interface of the whole car wiring harness, plugs into place, and confirms that the inverted hook has been completely fixed without falling off.



2. Press the back base of the multimedia instrument to the direction shown in the drawing, embed the body into the square hole of the instrument table, as shown in the drawing below.



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## 7. FCC warnings

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.