User manual

Model: 30C21

Part 1 Style figure

Part 2 Statement & Notice

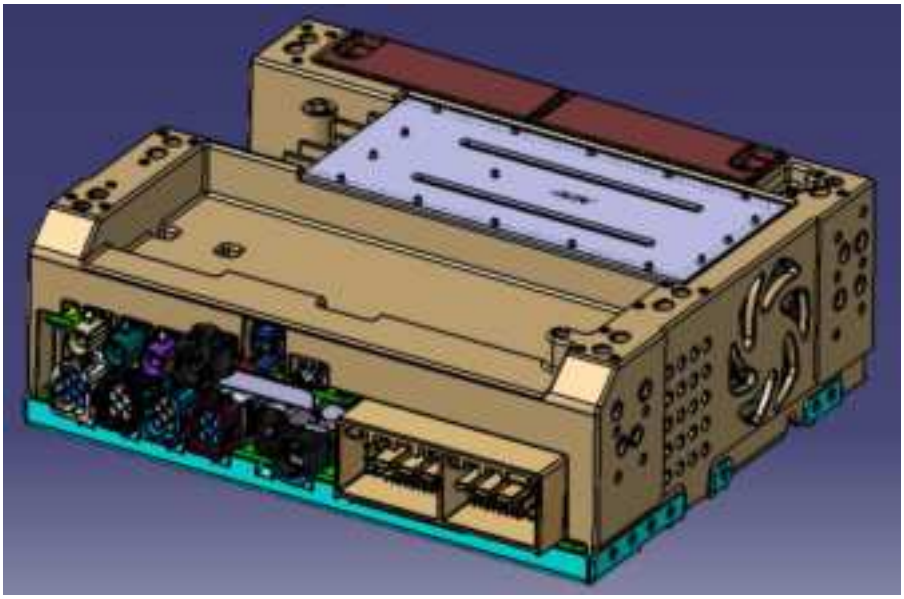
Part 3 Function List

Part 4 Warning

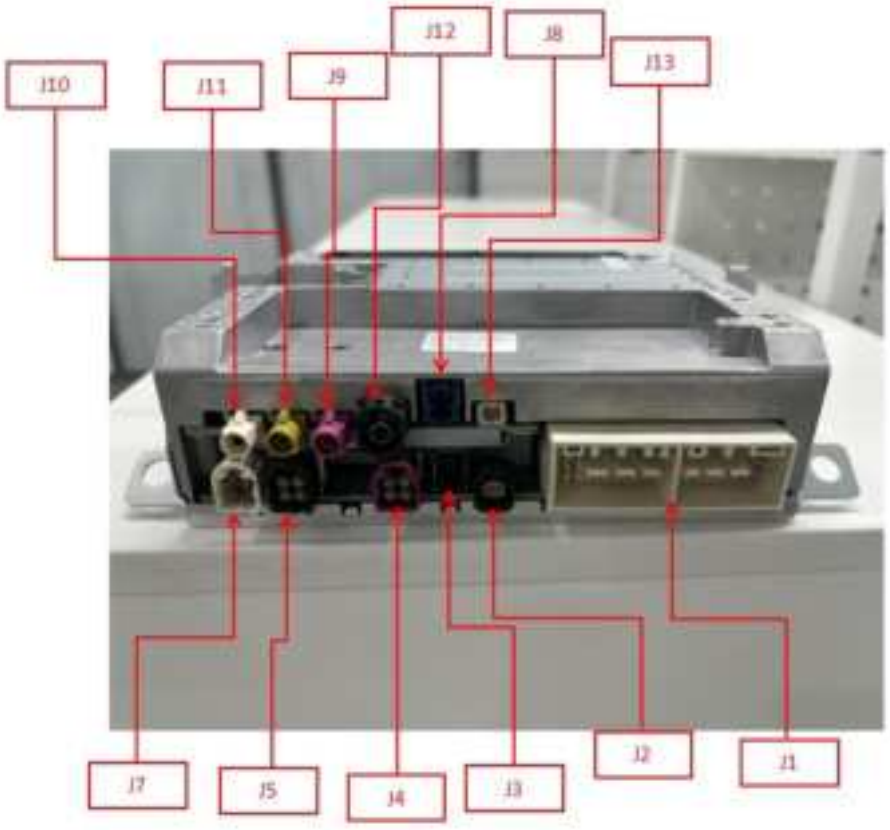
Manufacturer: Wuxi Auto-Link World Information Technology Co., LTD

Address:No. 2, Gaokai Road, Economic Development Zone, Wuxi City, Jiangsu Province.China

Part 1 Style figure



1.1 Pin definition



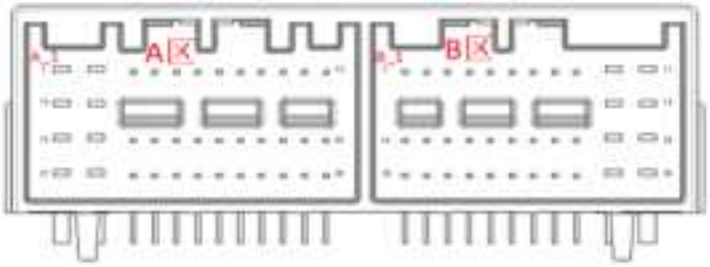
1.1.1 Connector model list

Connector number	Items	Description	Model
J1（Main board）	Main connector	Taike	2420419-2
J2（Main board）	Ethernet	Rosenberger	E6S20A-40MT5A-A
J3（Main board）	USB2.0	C&R	CZ0652A
J4（Main board）	LVDS OUT	Rosenberger	AMS29D-40MZ5-D

J5（Main board）	LVDS in	Rosenberger	AMS29D-40MZ5-A
J6（Main board）	LVDS in/LVDS out	Rosenberger	AMS29D-40MZ5-C
J7（Main board）	LVDS in	Rosenberger	AMS29D-40MZ5-B
J8（Sub board）	USB2.0	C&R	CZ0652B
J9（Sub board）	GNSS	ECT	818016525
J10（Sub board）	AM/FM	ECT	818016519
J11（Sub board）	DAB	ECT	818016527
J12（Sub board）	TBox	ECT	818021777
J13（Sub board）	A2B	MoLex	5023520200

1.1.2 J1-Main Connector

1.1.2.1 Diagram



1.1.2.2 Pin Definition

No.	Pin No.	Function Description	Signal Type	Rated Current	Remark
1	A01	Left rear door speaker +	Audio analog signal	/	With the A02 twisted pair
2	A02	Left rear door speaker-	Audio analog signal	/	With the A01 twisted pair
3	A03	IF_CAN_L	communication signals	0.07	With the A04twisted pair
4	A04	IF_CAN_H	communication signals	0.07	With the A03 twisted pair
5	A05	left anterior MIC-	aural signal	/	With the A06 twisted pair
6	A06	left anterior MIC+	aural signal	/	With the A05 twisted pair
7	A07	Right frontMIC-	aural signal	/	With the A08 twisted pair
8	A08	Right frontMIC+	aural signal	/	With the A07 twisted pair
9	A09	Right behindMIC-	aural signal	/	With the A10 twisted pair

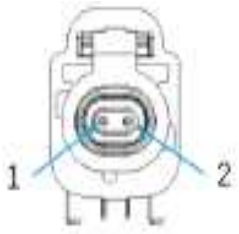
No.	Pin No.	Function Description	Signal Type	Rated Current	Remark
10	A10	Right behindMIC+	aural signal	/	With the A09 twisted pair
11	A11	Left behindMIC-	aural signal	/	With the A12 twisted pair
12	A12	Left behindMIC+	aural signal	/	With the A11 twisted pair
13	A13	Left front door speaker+	Audio analog signal	/	With the A14 twisted pair
14	A14	Left front door speaker-	Audio analog signal	/	With the A13 twisted pair
15	A15	Right front door speaker+	Audio analog signal	/	With the A16 twisted pair
16	A16	Right front door speaker-	Audio analog signal	/	With the A15twisted pair
17	A17	T-BOX Audio in –	communication signals	0.02	Connect the TBOX PIN28 LINE OUT-to the A18 twisted pair
18	A18	T-BOX Audio in +	direct-current (DC)	0.02	Connect the TBOX PIN8 to the A17 twisted pair
19	A19	T-BOX Audio GND	Audio from the analog signal	/	Connect to the shielding layer, PIN 01, PIND07
20	A20	T-BOX Audio Mute In silent input line (reserved)	direct-current (DC)	/	linkage TBOXPIN32
21	A21	HUD Screen Control enabled (HUD _ DIS _ EN) (reserved)	communication signals	0.02	
22	A22	Instrument control control (Cluster _ DIS _ EN)	communication signals	0.02	
23	A23	Central control screen control enable (IHU _ DIS _ EN)	communication signals	0.02	
24	A24	LHR control enabled (Rear seat _ DIS _ EN) (reserved)	communication signals	0.02	Back seat screen
25	A25	NA	communication signals	NA	
26	A26	NA	NA	/	NA
27	A27	Right rear door speaker +	Audio from the analog signal	/	With the A28 twisted pair
28	A28	Right rear door speaker-	Audio from the analog signal	/	With the A27 twisted pair
29	A29	NA	/	/	

No.	Pin No.	Function Description	Signal Type	Rated Current	Remark
30	A30	NA	/	/	
31	A31	NA	/	/	
32	A32	Backlit Control Signal (ILLU) (Cancel)	PWM	/	
33	A33	Left headrest speaker + (10W)	Audio from the analog signal	0.5	
34	A34	Left headrest speaker- (10W)	Audio from the analog signal	0.5	
35	A35	current source Switch (including reset) (cancel)	communication signals	0.01	
36	A36	Right headrest speaker + (10W)	Audio from the analog signal	0.5	
37	A37	Right head rest speaker- (10W)	communication signals	0.5	T 1J version six connected ZDC, with 120 ohm terminal resistance
38	A38	NA	/	/	
39	B01	AVM key input signal (cancel)	direct-current (DC)	/	Connect the AVM button for a low-level effect
40	B02	First passenger seat belt alarm signal input	analog signal	0.0012	Low level is effective
41	B03	Rear row left seat belt alarm signal input	analog signal	0.0012	Low level is effective
42	B04	NA	/	/	
43	B05	NA	/	/	
44	B06	NA	/	/	
45	B07	NA	/	/	
46	B08	Right-side seat belt alarm signal input in the rear row	analog signal	0.0012	Low level is effective
47	B09	Back rear seat belt alarm signal input	analog signal	0.0012	Low level is effective
48	B10	Working / Memory current source (VBAT _ 1)	current source	3	12V
49	B11	Working / Memory current source (VBAT _ 1)	current source	3	12V
50	B12	current source Ground(GND)	current source Ground	3	
51	B13	current source Ground(GND)	current source Ground	3	
52	B14	BD_CAN_L	communication signals	0.07	With the B15 twisted-pair wire
53	B15	BD_CAN_H	communication signals	0.07	With the B14 twisted-pair wire
54	B16	Driving Mode Switch Input ECO SWITCH (Cancel)	analog signal		

No.	Pin No.	Function Description	Signal Type	Rated Current	Remark
55	B17	LDW / LKA Switch input (Cancel)	analog signal	0.0012	Low-level input is valid
56	B18	Main pump level sensor "+" (fuel input signal)	analog signal	0.02	
57	B19	Main pump level sensor (fuel auxiliary input signal)	analog signal	0.02	
58	B20	The brake fluid level is low	analog signal	0.0012	Low-level input is valid
59	B21	NA	/	/	
60	B22	NA	/	/	
61	B23	Medium speakers +	Audio from the analog signal	/	With the B24 twisted pair
62	B24	Medium speakers -	Audio from the analog signal	/	With the B23 twisted pair
63	B25	Level sensor '-' (fuel oil site)	Ground	0.02	
64	B26	Secondary pump fluid level sensor “+”	analog signal	0.0012	
65	B27	Oil pressure signal inputoil Pressure	analog signal	0.0012	Low level is effective
66	B28	Secondary pump level sensor " Output calibration signal	analog signal	0.0002	
67	B29	Generator charge and discharge signal is input to Alternator	analog signal	0.2	
68	B30	Third-row left seat belt signal	digit signal	0.0012	Low level is effective
69	B31	Hand brake signal input Hand Brake (cancel)	analog signal	0.0012	Low level is effective
70	B32	Main seat belt alarm signal is input to Main Seat Belt	analog signal	0.0012	Low level is effective
71	B33	Main seat belt alarm signal is input to Main Seat Belt	analog signal	0.0012	resistance value
72	B34	IGN（KL15）	signal wire	3	Voltage 12V
73	B35	ACC	Trigger the current source signal	0.01	

1.1.3 J2-100M Ethernet (Reserved)

1.1.3.1 Diagram

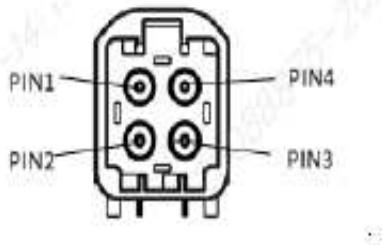


1.1.3.2 Pin Definition

No.	Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	1	1-Ethernet_TRD+	I/O	Differential Signal	100mA	100Ω Impedance
2	2	1-Ethernet_TRD-	I/O	Differential Signal	100mA	100Ω Impedance

1.1.4 J5-Camera IN_0

1.1.4.1 Diagram

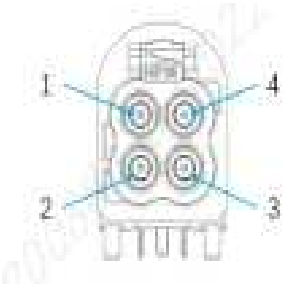


1.1.4.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	FRONT_LVDS+ /APA	I/O	Databus	<150mA@8.5v	50Ω Impedance
2	LEFT_LVDS+ /RVC	I/O	Databus	<150mA@8.5v	50Ω Impedance
3	RIGHT_LVDS+	I/O	Databus	<150mA@8.5v	50Ω Impedance
4	REAR_LVDS+	I/O	Databus	<150mA@8.5v	50Ω Impedance

1.1.5 J7-Camera IN_1 (Reserved)

1.1.5.1 Diagram

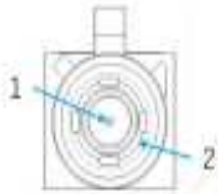


1.1.5.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	DMS	I/O	Databus	<500mA@12v	50Ω Impedance
2	OMS	I/O	Databus	<500mA@12v	50Ω Impedance
3	NA				
4	AR	I/O	Databus	<500mA@12v	50Ω Impedance

1.1.6 J10-Tuner Ant.

1.1.6.1 Diagram

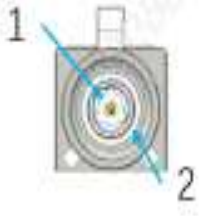


1.1.6.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	收音信号/current source	I	Frequency	60mA@10v	Braided shielded coaxial cable, single-ended impedance 50Ω
2	GND	I	Frequency	60mA@10v	Braided shielded coaxial cable, single-ended impedance 50Ω

1.1.7 J11-DAB Ant.

1.1.7.1 Diagram

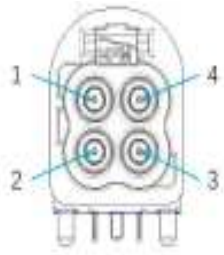


1.1.7.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	DAB signal/current source	I	Frequency	60mA@10v	Braided shielded coaxial cable, single-ended impedance 50Ω
2	GND	I	Frequency	60mA@10v	Braided shielded coaxial cable, single-ended impedance 50Ω

1.1.8 J4-HSD-CSD

1.1.8.1 Diagram

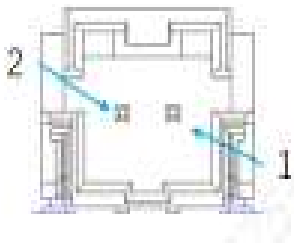


1.1.8.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	HUD	O	Digital	100mA	
2	IHU	O	Digital	100mA	
3	Cluster Display	O	Digital	100mA	
4	Passager/Rearseat	O	Digital	100mA	

1.1.9 J13- A2B. (Reserved)

1.1.9.1 Diagram



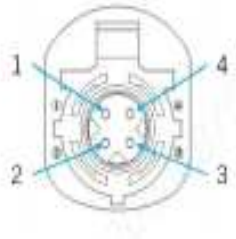
1.1.9.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	TRX_AN	I/O	Digital	20mA	The total distance of non-stranded ends of a single A2B node connector and wire harness is within 30 mm; the sum of non-stranded distance of two or more A2B loop is within 60 mm and the total non-stranded distance of the A2B loop is

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
					within 60 mm
2	TRX_AP	I/O	Digital	20mA	The harness twisted impedance is 100 Ω

1.1.10 J12-4G TBOX (Reserved)

1.1.10.1 Diagram

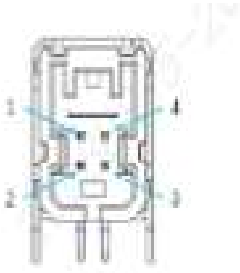


1.1.10.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	VBUS	OUT	Power	100mA	
2	USB D+	I/O	Digital		
3	GND	OUT	Power	100mA	
4	USB D-	I/O	Digital		

1.1.11 J3-USB2.0

1.1.11.1 Diagram

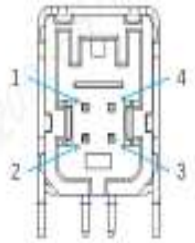


1.1.11.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	USB supply electricitycurrent source Power		POWER	2.1A	50Ω coaxial cable
2	GND		POWER	2.1A	50Ω coaxial cable
3	USB D-	I/O	BUS	20mA	50Ω coaxial cable
4	USB D+	I/O	BUS	20mA	50Ω coaxial cable

1.1.12 J8-USB2.0 (Reserved)

1.1.12.1 Diagram



1.1.12.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	USB 供电 current source Power		POWER	150mA	50Ω coaxial cable
2	GND		POWER	150mA	50Ω coaxial cable
3	USB D-	I/O	BUS	20mA	50Ω coaxial cable
4	USB D+	I/O	BUS	20mA	50Ω coaxial cable

1.1.13 J9- GPS Ant

1.1.13.1 Diagram

1.1.13.2 Pin Definition

Pin No.	Pin Name	Input/Output	Signal Type	Rated Current	Remark
1	The GPS signal / current source	IN	GPS Signal	30mA	50Ω coaxial cable
2	GND	IN	GND	30mA	50Ω coaxial cable

Part 2 Product information

1. It is forbidden for users to change the device privately.

1.1Data protection, network security, and wireless aspects

In order to consider the security aspects of data and software of products and components installed in vehicles, the product properties of related measures are described here.

1.2 Safety and Warning

The product is provided and approved for a rated voltage of 12 volts. Short circuits must be securely prevented, even in the event of a fault. Creeping short-circuits in particular lead to high arc energies that cannot be switched off by conventional melting fuses. If other rated voltages are present in the vehicle (e.g. 24/48 V for example in hybrid vehicles, or 400/800 V in electric vehicles) we recommend that safety precautions are taken in the vehicle itself (e.g. additional insulation of high voltage lines and the use of edge protectors when passing through sharp-edged areas, in order to prevent short circuits to inputs/outputs of our device, e. g. to loudspeaker lines).
The product is intended, and has been approved, for installation and operation in automobiles, motor homes, commercial vehicles.
Only connecting cables and external devices that are appropriate for the device in question may be used (e.g.: proper current carrying capability, proper EMC shielding, flammability verified with appropriate certificates). Compliance with the applicable standards can no longer be guaranteed if the device – including the software – is modified without the agreement of Bosch and Autolink.
Do not cover ventilation openings and heat sinks. Otherwise a build-up of heat that could lead to malfunction may occur in the device.
Do not insert foreign bodies into the insertion slots or openings of the device. Injury, or damage to the device, may occur otherwise.

The device must not come into contact with hot or burning objects (e.g. cigarettes).
To clean the device, never use hard or sharp objects that could damage the protective pane or housing. Do not use aggressive cleaning agents such as thinners, gasoline, abrasive cleaners, spray cleaners, acidic or alkaline solutions, or wax. Do not spray any liquids onto the device. To clean the housing and protective pane / display, moisten a soft cloth with tepid water and wipe off the dirt.

If the device is to be cleaned before installation in the vehicle, you must make sure the openings (in particular the connector contact points) are kept sealed so that no liquid can enter the device.

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1.3 Material safety requirements

All materials shall be selected according to design, durability and other performance requirements (see drawings and standards). Prohibited and hazardous substances shall meet the 《GB/T30512-2014Disabled material requirements for automobiles》and《Q/JL J160001》. For plastic, rubber and thermoplastic elastomer parts, there should be material identification / recyclability identification.

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2. Operating Parameter

No	CATEGORY	Items	REQUIREMENT	COMMENTS
1	System Requirement	Working Voltage	8~16v	Rated Voltage12V
2		Quiescent current consumption	Sleep mode：<0.5mA	
3			STR: <5mA	
4		Operating temperature	Normal work：-40~80℃	According to DV situation, redefine
5			limited functionality： 80~85℃	

2.1 AM/FM/DAB Antenna Parameters

Parameters – FM/AM ANT	Min	Typ	Max	Unit
current sourcesupply electricity UB	9	12	16	V
current sourceimportI(AM/FM)	45	60	100	mA
current sourceimportI(DAB)	18	26	100	mA
receive frequency FM	87.5	/	108	MHz
receive frequency AM	470	/	1710	KHz
receive frequency DAB	174	/	240	MHz
characteristic impedance	/	50	/	Ω

Part 3 Function List

Item	DHU feature
Central control	15.6 Inch 1920*1080
appearance	10.25 Inch 1920*720
AVM	HD viewing camera * 4 (internal AVM)
Tuner	AM/FM
	DAB (Gulf Edition Requirements)
Audio	Built-in amplifier
Microphone Input	2 MIC Inputs
USB	USB 2.0+OTG
CAN	2CH CAN
Sensor	3D Gyro G-Sensor

Bluetooth	BT5.0
Mobile Phone Connected	carplay
	Android Auto
WiFi	Support 802.11a/b/g/n/ac
	wireless Carplay
	wireless Android Auto

Part 4 Warning

Operation manuals attached to a technical product shall contain:
1. the information indicated in clause 1 hereof; (Information on the label)
2. information on the intended use of the technical product;
3. the features and parameters;
4. rules and conditions regulating the installation of the technical product, its connection to the mains and other technical products, its startup, adjustment and commissioning in case the observance of the said rules and conditions is imperative to ensure the conformity of the technical product with the requirements of these Customs Union Technical Regulations;
5. a notification of restrictions on the application of the technical product in household, commercial and industrial areas taking into account its intended use;
6. rules and conditions of safe operation (use);
7. rules and conditions of storage, haulage (transportation), sale and disposal (and, where appropriate, a specification of requirements to these);
8. information on the measures to be taken in case a malfunction of the technical product is detected;
9. the name and place of the manufacturer (manufacturer' s authorized person) and importer and their contact information;
10. the production month and year of the technical product and/or information on the place where the production year is marked or on the way it can be identified.

FCC Warning:
Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.