BYD AUTO COMPANY LIMITED
No.3009, BYD Road, Pingshan, Shenzhen, 518118, P.R.China
www.byd.com

User Guidance for MTCD03

Product name: In-vehicle Multimedia Host

Model Name: MTCD03

Manufacturer: BYD Auto Industry Company Limited

1. Basic Specification

Chipset: Qualcomm SM6125

Operating system: Android 13

Supply: 12V rated voltage, 9V-16V input supply.

Operating Temperature: -30°to 70°Celsius

2. Function

Image Center

- Camera
- Photo album
- Driving recorder
- Panoramic image

Multimedia Center

- Music player
- Video player
- Karaoke

System control

- Air conditioning control
- volume control

Connection

- BT 5.0
- WIFI 2.4G/5G 802.11a/g/b/n/ac
- 2G/3G/4G

GNSS

- GPS
- GLNASS
- GALILEO

Others

- Intelligent voice
- Tire pressure monitoring
- Bluetooth phone
- IVI Internet of vehicle
- Application Market

3. Connector

The following table shows the headunit connectors with signal information and description

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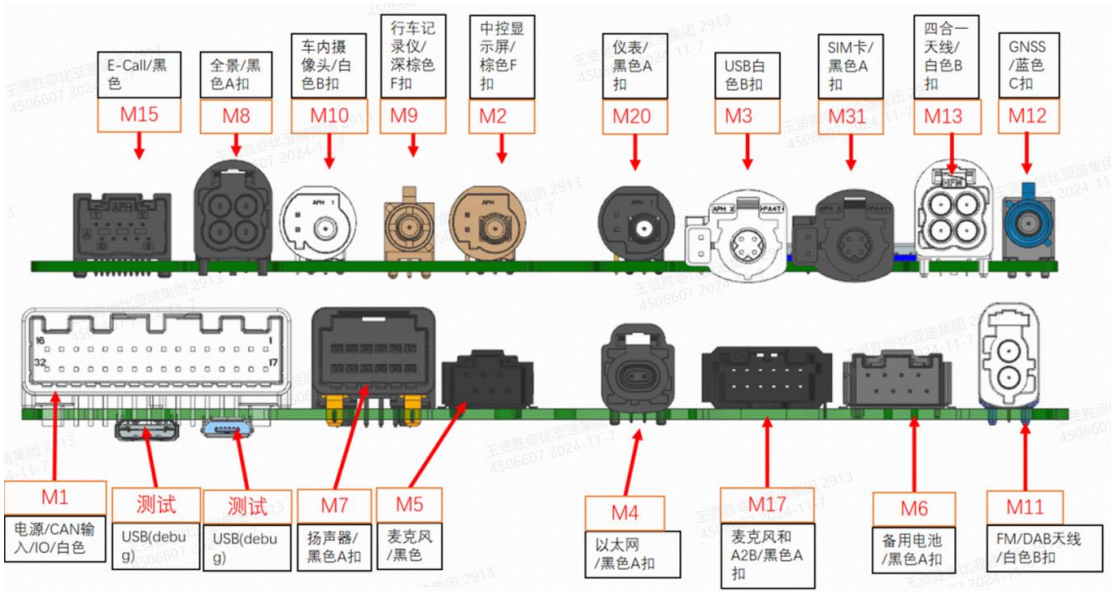


M1 Main Connector/Power

M2 LCD

M3 USB Assembly

M4 Ethernet

M5 Microphone

M6 Backup Battery

M7 Speaker

M8 Panoramic Camera

M9 Driving Recorder

M10 In-vehicle Camera

M11 DAB+FM Antenna

M12 GNSS Antenna

M13 BT/Wi-Fi/GSM/WCDMA/LTE Antenna

M15 E-call

M17 AUX&A2B

M20 Instrumentation Interface

M31 SIM

Test USB-m(Debug)

Test USB-C(Debug)

4. Interface connection

The MTCD03 host is the on-board terminal of the export vehicle, The vehicle start host automatically starts to work.

M1 is the power line interface of the MTCD03 host;

M2 is connected with the pad of the locomotive and is the interface of the pad power line;

M3 is connected with USB assembly through USB harness;

M4 is connected with the external ethernet object;

M5 is the microphone interface in the rear compartment of the vehicle, which is connected to the microphone in the rear compartment through the microphone harness;

M6 is is connected with the back-up battery;

M7 is is connected with the speakers of the vehicle;

M8 is a camera interface;

M9 is a camera interface, which is generally not applicable;

M10 is a camera interface, which is generally not applicable;

M11 is connected to the shark fin of the vehicle;

M12 is connected to the shark fin of the vehicle;

M13 is 4G auxiliary and 4G main lines respectively, which are connected to the built-in antenna box;

M15 is is connected with the speakers and microphone of the emergency call assembly ;

M17 is connected to the power amplifier box;

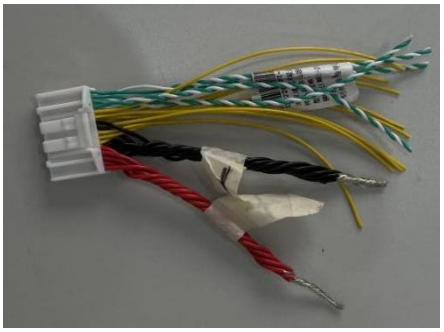
M20 is connected to the vehicle instrument panel;

M31 is connected with SIM assembly through SIM harness;

Text USB interface is an interface for testing, which is not applicable to the actual vehicle.

For the RF part of the host, connect M1, M11, M12, M13, M14, M15 and M32 interfaces for testing, as shown in the following figure.

M1 interface host power line, the harness can be modified according to requirements, in which red and black lines are mainly used, red is connected to the positive pole, black is connected to the negative pole, and other lines are can lines, which do not need to be connected.



5. General Information

Temperature ranges

Component	T_{uL}	T_{uB}	T_{oB}	T_{oL}	T_R
Head unit	-40°C	-40°C	+85°C	+85°C	+23°C

T_{oL}	Maximum storage temperature
T_R	Room temperature
T_{uL}	Minimum storage temperature
T_{oB}	Maximum operating temperature for components with overload protection/low-temperature protection
T_{uB}	Minimum operating temperature for components with overload protection/over-temperature protection

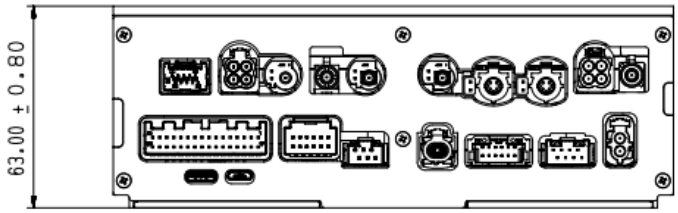
Voltage ranges

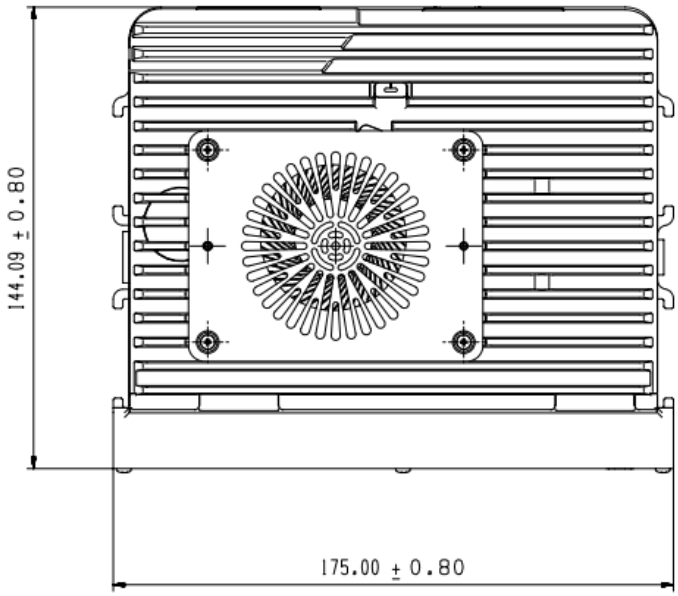
Component	U_{Bmin}	$U_{B,max}$	U_B	Spec
Head unit	+9.0V	+16V	+12V	For functions that must retain their performance.

U_{Bmin}	Lower operating voltage limit
U_B	Nominal Operating voltage
U_{Bmax}	Upper operating voltage limit

6. Installation

Space size requirements



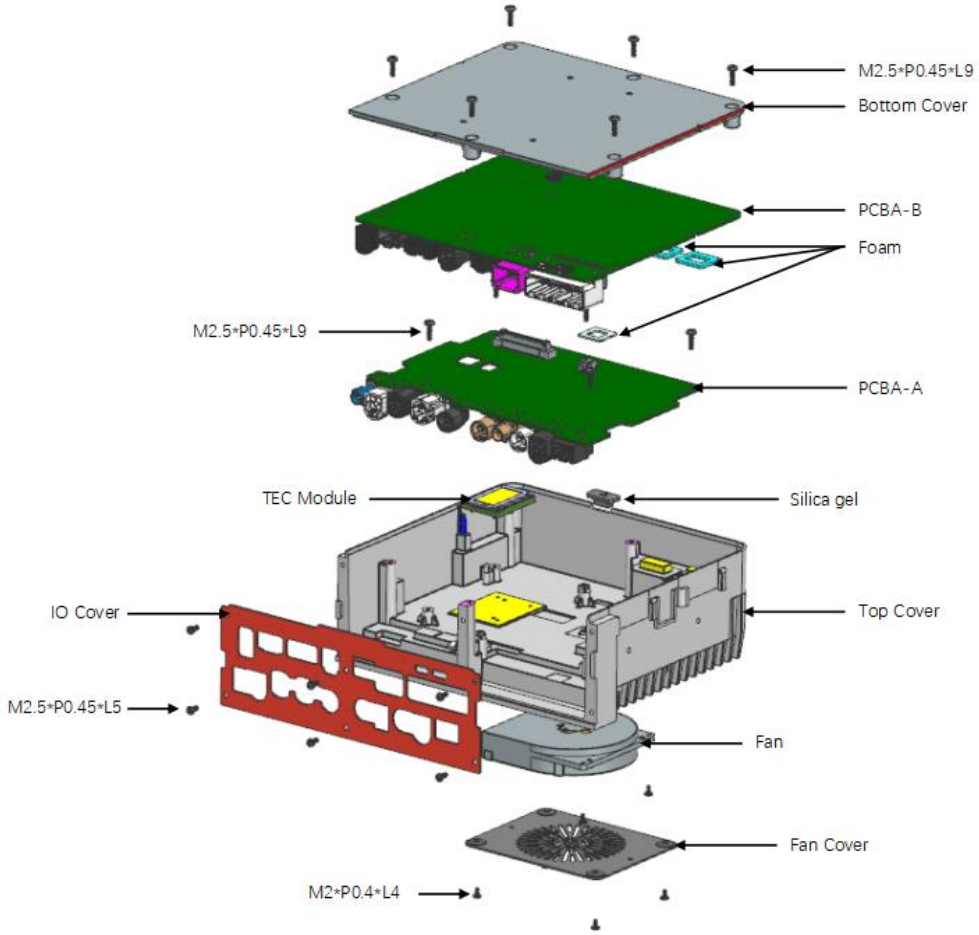


7. Pictures head unit

The following picture shows the explosions view of the headunit.

Dimension

Explosion View



8. Regulation information:

Europe - EU Restrictions

This equipment needs to be marked with the CE symbol and can be used throughout the European community.

Information to be supplied to the users:

802.11a Restrictions:

In all EU member states, operation of 5150-5350MHz is restricted to indoor use only.

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Caution: Exposure to Radio Frequency Radiation.

To comply with RF exposure compliance requirements, for mobile configurations, a separation distance of at least 20.0cm must be maintained between the antenna of this device and all persons.

Operating Frequency Range (For EU)	The maximum RF Output Power (For EU)
GSM 900/1800	GSM 900:33dBm DCS1800: 30 dBm
UTRA FDD Band1/8	FDD Band 1: 25 dBm FDD Band 8: 25 dBm
E-UTRA FDD Band1/3/7/8/20/28/38/40	FDD Band 1: 25 dBm FDD Band 3: 25 dBm FDD Band 7: 25 dBm FDD Band 8: 25 dBm FDD Band 20: 25 dBm FDD Band 28: 25 dBm FDD Band 38: 25 dBm FDD Band 40: 25 dBm
Bluetooth 2402 - 2480 MHz	15 dBm
WiFi 2412 - 2472 MHz	18 dBm
5.180 GHz ~ 5.240GHz 5.260 GHz ~ 5.320GHz	BAND 1: 16dBm BAND 2: 20dBm BAND 3: 20dBm

5.500 GHz ~ 5.700GHz	
5745MHz-5825MHz	13.9 dBm
GPS 1575.42 MHz±1.023 MHz	/
FM 64MHz-108MHz	/
AM 526.5kHz -1606.5kHz	/
DAB 174MHz-240MHz	/

Your vehicle has different types of radio equipment. The manufacturers of the radio equipment declare the RF Modules listed above have been evaluated against the essential requirements and other relevant provisions of Directive 2014/53/EU. The full text of the Declaration of Conformity can be found at the following Internet address: https://cn-prod.byd.com/eu/eu-doc

For United States and Canada

The devices listed above comply with Part 15 of the FCC rules and Industry Canada's license-exempt RSS Standard(s).

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.

Changes or modifications not expressly approved by Tesla could void your authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radiation Exposure Statement

The products comply with the FCC/ISED RF Exposure for Low Power Consumer Wireless Power Transfer. RF exposure limits are set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The farthest RF exposure demonstrated by compliance was at 30cm and farther from the user's bodyset the device to low output power if such function is available.

Cet équipement est conforme aux limites d’exposition aux rayonnements ISED établies pour unenvironnement non contrôlé.

Déclaration d'exposition aux radiations

Le produit est conforme à l'exposition RF ISED pour le transfert de puissance sans fil de consommateurs de faible puissance. La limite d'exposition RF fixée pour un environnement non contrôlé est sans danger pour le fonctionnement prévu tel que décrit dans ce manuel. L'exposition RF supplémentaire que la conformité a été démontrée à 30cm et plus de séparation du corps de l'utilisateur ou de mettre l'appareil à la puissance de sortie inférieure si une telle fonction est disponible.

Radio Frequency Information

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, 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 to help.

CAUTION: This equipment and its antennas must not be co-located or operated with another antenna or transmitter.