



# CDD7428UB-OR

CD RADIO / USB MP3 / WMA / DAB+ / DMB / Bluetooth® 24V

## OWNER'S MANUAL



RADIO DATA SYSTEM



WORLDWIDE TUNER



CD / MP3 / WMA



Bluetooth®



LOUDNESS CONTROL



LOGIC ON LOGIC OFF



DIGITAL AUDIO BROADCASTING



BACKUP MEMORY



USB CONNECT



AUX IN

## Safety Information

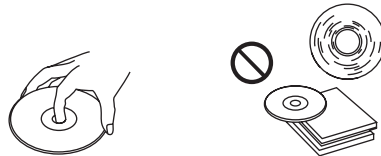
### Precautions

- Use only in a 24-volt DC negative-ground electrical system.
- Disconnect the vehicle's negative battery terminal while mounting and connecting the unit.
- When replacing the fuse, be sure to use one with an identical amperage rating. Using a fuse with a higher amperage rating may cause serious damage to the unit.
- DO NOT attempt to disassemble the unit. Laser beams from the optical pickup are dangerous to the eyes.
- Make sure that pins or other foreign objects do not get inside the unit, they may cause malfunctions, or create safety hazards such as electrical shock or laser beam exposure.
- If you have parked the car for a long time in hot or cold weather, wait until the temperature in the car becomes normal before operating the unit.
- Keep the volume at a level you can hear outside warning sounds (horns sirens, etc.).

### CD Notes

- Playing a defective or dusty CD can cause dropouts in sound.
- Hold CDs as illustrated.

- Do not touch the unlabeled side.
- Do not attach any seal, label or data protection sheet to either side of a disc.
- Do not expose a CD to direct sunlight or excessive heat.
- Wipe a dirty CD from the center outward with a cleaning cloth.
- Never use solvents such as benzine or alcohol.
- This unit cannot play 3-inch ( 8cm ) CDs. NEVER insert a 3-inch CD contained in the adapter or an irregularly shaped CD. The unit may not be able to eject it, resulting in a malfunction.
- Disc can not have foreign body, the damage caused by the disc with foreign body do not belong to the warranty scope.



### Before Operation

- Do not raise the volume level too much, as this will block outside sounds, making driving dangerous. Stop the car before performing any complicated operation.

## Contents

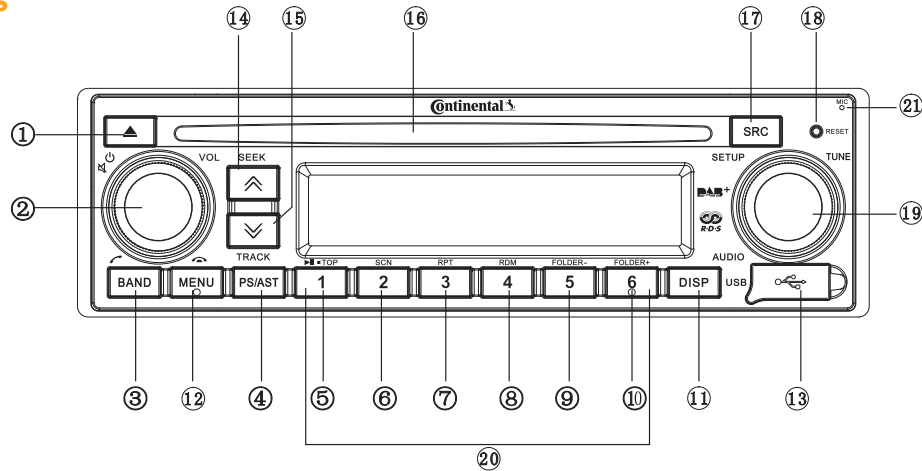
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### CAUTION

- DO NOT open covers and do not repair yourself. Consult the dealer or an experienced technician for help.
- \* In addition to ordinary CDs, this unit can playback CD - R or CD - RW, MP3.

Note: The system just support the English and number display, not all kinds of letters are compatible with the unit.


## Panel Controls



- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li>1. - Disc eject</li> <li>2. - Rotate to adjust volume.             <ul style="list-style-type: none"> <li>- Radio: Mute</li> <li>- CD/MP3: Pause</li> <li>- Hold it to power off</li> </ul> </li> <li>3. - Band select</li> <li>4. - 1-6 preset             <ul style="list-style-type: none"> <li>- Automatically search and save station</li> </ul> </li> <li>5. - Channel 1/Play/Stop/Top</li> <li>6. - Channel 2/SCN</li> <li>7. - Channel 3/RPT</li> <li>8. - Channel 4/RDM</li> <li>9. - Channel 5/FOLDER-</li> <li>10. - Channel 6/FOLDER+</li> </ul> | <ul style="list-style-type: none"> <li>11. - Display play time and clock in the CD state.             <ul style="list-style-type: none"> <li>- the LCD will display the ID3 TAG information recycle: file name/folder name/ID3 TAG/system time in the MP3 state.</li> <li>- Display PTY info and system time in the Radio state.</li> </ul> </li> <li>12. - Menu select</li> <li>13. - USB connector</li> <li>14. - Seek+/Select the next track</li> <li>15. - Seek-/Select the previous track</li> <li>16. - Disc slot</li> <li>17. - SRC button<br/>Radio</li> </ul> | <ul style="list-style-type: none"> <li>Disc (when disc is in)</li> <li>USB (when USB inserted)</li> <li>AUX IN</li> <li>18. - Reset hole</li> <li>19. - Press to select VOL/BAS/TRE/BAL/LOUD/FAD/AF/TA/PTY, rotate VOL knob to adjust             <ul style="list-style-type: none"> <li>- RADIO: Rotate to adjust radio tune</li> <li>- CD /MP3: Rotate to select the previous/next track</li> </ul> </li> <li>20. - 1-6 preset:             <ul style="list-style-type: none"> <li>Press to tune in a preset station.</li> <li>Hold for more than 2 seconds to store a desired station.</li> </ul> </li> <li>21. - Microphone</li> </ul> |
|---|--|--|

## Operate Guide

### Disc Load / Eject

Load : Insert the disc into the slot.  
Eject: Press  to eject the disc.

### Band Mode

Press the button to change bands:  
FM1→FM2→FM3→AM1→AM2→LW





### SRC

Press the [SRC] button to switch between and select available sources, the mode as follows: TUNER->CD/MP3/USB->AUX->DAB



### Auto Memory Store(Radio mode)

Press the [PS/AST] button to scan the preset stations 1-6 for 10 seconds each. Hold the [PS/AST] button more than 2 seconds, the strongest available stations will be automatically saved in the memory of preset button 1-6 .



### Seek Mode

Disc/USB playback: Press the  /  to select the next or previous track.  
Hold the  /  to enter fast forward or reverse back mode.



### EQ Loud Mode

Press the [TUNE] Knob and rotate to select sound effect EQ OFF→POP→ROCK→CLASSIC→JAZZ→CUSTOM  
Press the [TUNE] button and press  /  to select BAS/TRE, rotate the [TUNE] knob to adjust value.

### Clock Setting

if RDS clock (CT) doesn't work, you can adjust manually the Clock time.  
Long press the [DISP] button to set the time. Select [CLOCK] with the search buttons.  /   
Press [TUNE] knob and rotate it to adjust the hours.  
Press [TUNE] knob and rotate it to adjust the minutes.  
Press the [TUNE] knob to exit the clock setting.

### System Setting

On the radio source hold the [DISP] to enter the system setup menu, press the  /  to select: TA→TA RETUN→AF→REG→CT→DX/LO→ST/MONO→CLOCK→12/24H→BEEP→SWRC SET→LOGIC→AREA SET, and rotate the [TUNE] to setting.

BEEP setting: The beep tone feature allows the selection of an audible beep tone to be heard each time the menu is accessed.

SWRC setting: Rotate the [TUNE] knob to select ON or OFF.

DX/LO setting: Rotate the [TUNE] knob to select DX or LO.

CT setting: Rotate the [TUNE] knob to select ON or OFF.

REG setting: Rotate the [TUNE] knob to select ON or OFF.

AF setting: Rotate the [TUNE] knob to select ON or OFF.

TA RETUN setting: Rotate the [TUNE] knob to select RETUNE S or L. Setting for "L", Auto search the TA time space for 180 sec, Setting for "S", auto search the TA time space for 45 sec.

TA setting: Rotate [TUNE] knob to select ON or OFF.

AREA SEL setting: Rotate the [TUNE] knob to select USA, EUROPE, NORTH AFRICA, ASIA, JAPAN.

LOGIC ON/OFF: Logic ON to limit the use of the set to one hour when the car ignition is switched off. Logic OFF to prevent the set from turning on when the car ignition is switched off.

SCROLL setting(CD SRC): Rotate the [TUNE] knob to select ON or OFF.

MIC SEL setting(Bluetooth SRC): Rotate the [TUNE] knob to choose Microphone EXTERNAL or INTERNAL.

AUTO CON(Bluetooth SRC): To link incoming calls automatically.

## Operate Guide

### MP3 Track Search

CD/MP3 mode:

Press the [MENU] button to select "TRACK SCH" mode, and press the [TUNE] knob to enter searching mode. Then rotate and press the [TUNE] knob to select a track number which you want, then press the [TUNE] knob to confirm.

### RDS(PHY SEEK)



Only the radio region is Europe and on the FM the PHY can be searched. Press the [MENU] button to PHY function, rotate the [TUNE] knob to display the program types, and press [TUNE] to select the desired.

**Note:** If radio region isn't Europe, RDS and DAB FMLK won't display.



## Sound Setting

Press the [TUNE] knob to enter sound effect setting mode. First press shows current EQ. Rotate the [TUNE] knob to changes BEAT EQ in this order:

EQ OFF -> POP -> ROCK -> CLASSIC -> JAZZ -> CUSTOM

Rotate the [TUNE] knob to select CUSTOM, and press the knob, then press the  /  button to select: BAS-G -> TRE-G, rotate the knob to select a value.

BAS-G / TRE-G: (-7) - (+7)

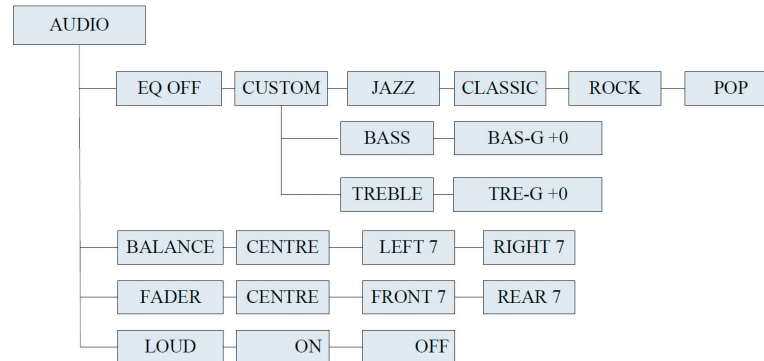
Press the [TUNE] button, and press  /  button to select USER preset:

BALANCE -> FADER -> LOUD, rotate the [TUNE] knob to select a value.

BALANCE: LEFT 1-7->CENTER->RIGHT 1-7

FADER: FRONT 1-7->CENTER->REAR 1-7

LOUD: ON/OFF



## System Setting Item List

Radio region: Europe			
Radio source	DAB source	CD source	Bluetooth source
<p>SETUP</p> <ul style="list-style-type: none"> <li>TA <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>TA RETURN <input type="checkbox"/> RETURN L <input type="checkbox"/> RETURN S</li> <li>AF <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>REG <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>CT <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>DX/LO <input type="checkbox"/> DX <input type="checkbox"/> LO</li> <li>ST/MONO <input type="checkbox"/> STEREO <input type="checkbox"/> MONO</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>AREA SET <input type="checkbox"/> EUROPE <input type="checkbox"/> USA <input type="checkbox"/> ASIA <input type="checkbox"/> JAPAN</li> </ul>	<p>SETUP</p> <ul style="list-style-type: none"> <li>TA <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>DAB FM/LK <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>DAB LBND <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>DAB ANT <input type="checkbox"/> ACTIVE <input type="checkbox"/> PASSIVE</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> </ul>	<p>SETUP</p> <ul style="list-style-type: none"> <li>TA <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SCROLL <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> </ul>	<p>SETUP</p> <ul style="list-style-type: none"> <li>TA <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>MIC SEL <input type="checkbox"/> INTERNAL <input type="checkbox"/> EXTERNAL</li> <li>AUTO CON <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> </ul>
Radio region: USA/Asia/Japan			
Radio source	DAB source	CD source	Bluetooth source
<p>SETUP</p> <ul style="list-style-type: none"> <li>DX/LO <input type="checkbox"/> DX <input type="checkbox"/> LO</li> <li>ST/MONO <input type="checkbox"/> STEREO <input type="checkbox"/> MONO</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>AREA SET <input type="checkbox"/> EUROPE <input type="checkbox"/> USA <input type="checkbox"/> ASIA <input type="checkbox"/> JAPAN</li> </ul>	<p>SETUP</p> <ul style="list-style-type: none"> <li>DAB LBND <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>DAB ANT <input type="checkbox"/> ACTIVE <input type="checkbox"/> PASSIVE</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> </ul>	<p>SETUP</p> <ul style="list-style-type: none"> <li>SCROLL <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> </ul>	<p>SETUP</p> <ul style="list-style-type: none"> <li>MIC SEL <input type="checkbox"/> INTERNAL <input type="checkbox"/> EXTERNAL</li> <li>AUTO CON <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>CLOCK <input type="checkbox"/> __:00 <input type="checkbox"/> 00:__</li> <li>12/24H <input type="checkbox"/> 24HOURS <input type="checkbox"/> 12HOURS</li> <li>BEEP <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>SWC SET <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> <li>LOGIC <input type="checkbox"/> ON <input type="checkbox"/> OFF</li> </ul>

## USB MP3/WMA Overview

### Note on MP3

- MP3 is short for MPEG Audio Layer 3 and refers to an audio compression technology standard.
- This product allows playback of MP3 files on CD-ROM, CD-R or CD-RW discs.
- The unit can read MP3 files written in the format compliant with ISO 9660.  
However it does not support the MP3 data written by the method of packet write.
- The unit can not read an MP3 file that has a file extension other than ".mp3".
- If you play a non-MP3 file that has the ".mp3" extension, you may hear some noise.
- In this manual, we refer to what are called "MP3 file" and "folder" in PC terminology as "track" and "Album", respectively.
- Maximum number of directory level is 8, including the root directory. Maximum number of files and folders per disc is 256.
- The unit may not play tracks in the order of Track numbers.
- The unit plays only the audio tracks if a disc contains both audio tracks and MP3 files.

- When playing a disc of 8 kbps or VBR\*, the elapsed playing time in the display window will not be correct and also the intro play may not function properly. \*VBR: Variable Bit Rate

### Note on creating your own CD-Rs or CD-RWs containing MP3 files

- To enjoy high quality sound, we recommend converting to MP3 files with a sampling frequency of 44.1 kHz and a fixed bit rate of 128 kbps.
- DO NOT store more than 256 MP3 files per disc.
- For ISO 9660 compliant format, the maximum allowable depth of nested folders is 8, including the root directory (folder).
- When CD-R disc is used, playback is possible only for discs which have been finalized.
- Make sure that when MP3 CD-R or CD-RW is burned that it is formatted as a data disc and NOT as an audio disc.
- You should not write non-MP3 files or unneeded folders along with MP3 files on the disc otherwise it takes a long time until the unit starts to play MP3 files.
- With some CD-R or CD-RW media, data may not be properly written depending on their manufacturing quality.

In this case, data may not be reproduced correctly. High quality CD-R or CD-RW disc is recommended.

- Up to 16 characters are displayed for the name of an Album or a Track. ID3 TAG version 1.x is required.
- Note that the unit may not play Track in the order that you wrote them to the disc.

### USB Notes

USB functions (flash memory type) MP3 music play.

- (1) USB flash memory 2 in 1 support
- (2) FAT 12/FAT 16/FAT 32 format supported.
- (3) File name: 64 byte/dir name: 64 byte/tag name: 30 byte.
- (4) Tag (id3 tag ver 2.0)  
- title/artist/album: 32 byte support.
- (5) USB 1.1 support, USB 2.0 support (For 2.0, speed performance is as USB 1.1)
- (6) Not all USB devices are compatible with the unit.
- (7) USB connector is support maximum work power with 500 mA.

## Bluetooth Operations

The Bluetooth allows you to utilize your car's built-in audio system for wireless mobile phone or music handsfree communication. Some Bluetooth mobile phones have the audio features, and some portable audio players support Bluetooth feature. This system can play audio data stored in a Bluetooth audio device. The car stereo with Bluetooth will be able to retrieve phonebook contacts, received call, dialed call, missed call, incoming calls, outgoing call and listen to music.

### Notes:

- Do not leave the microphone of Bluetooth handsfree in the places with wind passing such as air outlet of the air conditioner, etc. This may cause a malfunction.
- If leave it in the places subjected to direct sun, high temperature can cause distortion, discoloration which may result in a malfunction.
- This system will not operate or may operate improperly with some Bluetooth audio players.
- Cannot guarantee the compatibility of all mobile phones together with unit.
- Audio playback will be set to the same volume level as set during telephone call. This might cause problems, if extreme volume level is set during telephone call.

## Handsfree Operations


### Pairing

1. Turn on Bluetooth function of your mobile phone.



2. Enter mobile phone's Bluetooth setup menu.
3. Search for new Bluetooth devices.
4. Select Bluetooth devices from the pairing list on the mobile phone.
5. Enter "1234" as the password (The password default setting is "1234").
6. After pairing successfully, Bluetooth and HPF icons will light up.  
A2DP icon will light up after A2DP connected.

## Making a call

### Operation from Bluetooth menu



Press the [SRC] button to switch the source to "Bluetooth MUSIC". When display "A2DP" press the [MENU / ] button to switch to "DIAL NUM".

#### • Dial Number

1. Press the [TUNE] knob on the front panel to confirm to dial number.
2. Rotate the [TUNE] knob to select a number, press the knob to confirm, and continue to input the next digit. Repeat above until all numbers inputted.
3. Press the [BAND / ] button to dial.
4. Press the [MENU / ] button to terminate call.



#### • Dialed/Missed/ Received

You can search any Dialed/Missed/Received.

1. Rotate the [TUNE] knob to select "DIALED", "MISSED", "RECEIVED".
2. Press the [TUNE] knob to enter the selected call history.
3. Rotate the [TUNE] knob to scroll the contacts.
4. When the contact name or mobile phone No. is displayed, press the [BAND / ] button to call the mobile phone No. of that contact.  
\* Press the [MENU / ] button to end the call.

#### • Call from Phonebook

User can search the contact name in the phonebook and make call.

1. Rotate the [TUNE] knob to select "USER PBK".
2. Press the [TUNE] knob to enter the selected phonebook.
3. Rotate the [TUNE] knob to scroll the contacts.
4. The phone number and the name to scroll display. When the contact name is displayed, press the [BAND / ] knob to call the mobile phone No. of that contact.  
\* Press the [MENU / ] button to end the call.

### Note:

- Some mobile phones may not be able to transfer data of Phonebook.

#### • Transfer Call


You can switch handsfree call and mobile phone call.


Press the [BAND / ] button during call.



## Bluetooth Operations

### • Answering a call

You can answer an incoming call by pressing the [BAND / ] button.

\* Press the [MENU / ] button to reject an incoming call.

### Audio Streaming Operations

#### *What is audio streaming?*

Audio streaming is a technique for transferring audio data such that it can be processed as a steady and continuous stream. Users can stream music from their external audio player to their car stereo wirelessly and listen to the tracks through the car's speakers. Please consult your nearest dealer for more information on the product of wireless audio streaming transmitter offered.

#### CAUTION

**Please avoid operating your connected mobile phone while audio streaming as this may cause noise or sound choppy on the song playback.**

**Audio streaming may or may not resume after telephone interrupt as this is dependent on mobile phone.**

**System will always return to Radio mode if audio streaming is disconnected.**

#### **Note:**


Be sure to read the chapter "Pairing" before proceeding.

### Play / Pause a track


1. Push the [ 1 ] button to pause audio playback.
2. To resume audio playback, push the [ 1 ] button again.

### Selecting a track


#### Track-up

Press the  button to move to the beginning of the next track.

#### Track-down

Press the  button to move to the beginning of the previous track.

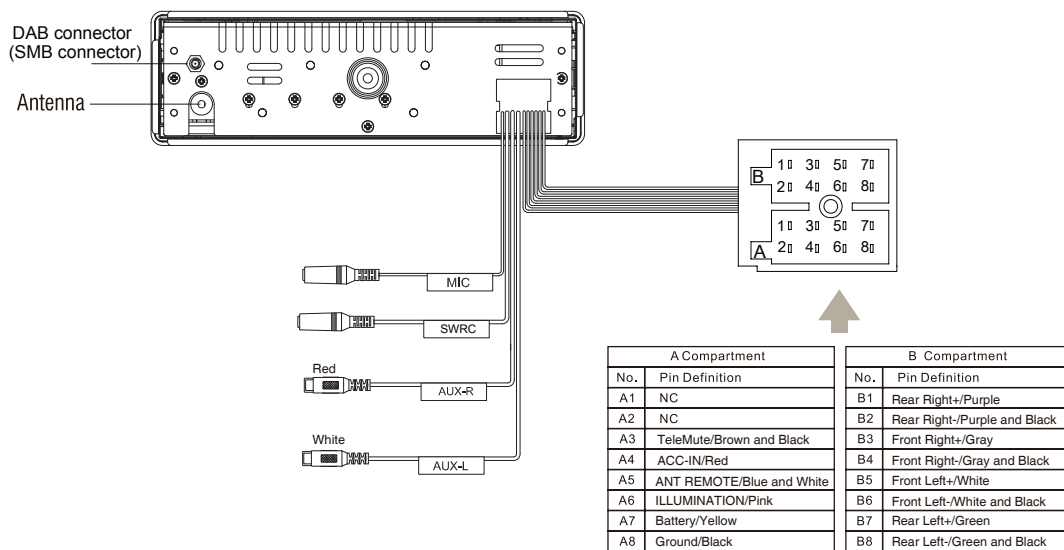
#### **Note:**

Playing order will depend on Bluetooth audio player. When the  button is pressed, some A2DP devices will restart the current track depends on the duration of playback.

During music streaming playback, "A2DP and HFP" will be shown on the display. When A2DP device is disconnected, "DISCONN" will be shown on the display. Some Bluetooth audio players may not have play / pause synchronized with this unit. Please make sure both device and main unit are in the same play / pause status in **Bluetooth MUSIC** mode.

## Electrical Connections

### Wiring Diagram



## Troubleshooting

If you suspect something is wrong, immediately switch power off. Do not use the unit in abnormal condition, for example without sound, or with smoke or foul smell, can cause fire or electric shock. Immediately stop using it and call the store where you purchased it. Never try to repair the unit yourself because it is dangerous to do so.

Option	Selectable values	Function
<b>General</b>		
No power or no sound	Car's engine switch is not on	Turn your car's key to ACC or ON
	Fuse is burnt	Replace fuse
	Volume is too low	Check volume or mute on / off
	If the above solutions cannot help	Press the RESET button
<b>Disc</b>		
Disc is inside but is no sound	Disc is upside down	Place disc in the correct direction, and the label side up
	Disc is dirty or damaged	Clean disc or change another disc
Disc sound is skips,tone quality is low	Disc is dirty or damaged	Clean CD or change another CD
<b>Radio</b>		
Much noise in broadcasts	Station is too far, or signals are too weak	Select other stations of higher signal level
<b>Error Display Messages</b>		
CD ERR	Disc is upside down	Place disc in the correct direction, and the label side up
	Disc format is not support or file date is wrong	check the disc
	Disc is wrong	Press ▲ button more than 2 seconds to eject the disc. In case that the disc cannot be ejected by pressing ▲ button, press the RESET switch and press the ▲ button 2 seconds to eject the disc. If still not ejecting, consult your dealer.

Note: If the set inserts a non-standard size disc or card.you may long press the ▲ button for 5 second,then it will be ejected forcibly.

## Specifications

### General

Power supply:	24 V DC negative ground
Maximum power output:	15 W x 4 channels (4 Ω)
Suitable speaker impedance:	4 Ω
ESP:	10 s (CD-DA)/40 s (MP3)
Dimensions(WxDxH):	178x161x50 mm
Weight:	1.33 kg

Note: For different bit-rate MP3, ESP time are different; 40 seconds only for the bit-rate MP3 file of the 128Kbps

### FM Stereo Radio

Frequency range:	87.5-108.0 MHz
Usable sensitivity:	< 14 dBμ
Frequency response:	50 Hz - 10 KHz
Stereo separation:	≥ 22 dB (1 KHz)
Image response ratio:	≥ 40 dB
IF response ratio:	≥ 60 dB
Signal/noise ratio:	≥ 50 dB

### AM(MW) Radio

Frequency range:	522-1620 KHz
Usable sensitivity(S/N=20dB):	< 35 dBμ

### Disc Player

System:	Disc digital audio system
Frequency response:	20 Hz - 20 KHz
Signal/noise ratio:	> 72 dB (dBA)
Total harmonic distortion:	Less than 1% (1 KHz)
Channel separation:	> 55 dB

AREA	BAND	RECEIVED FREQUENCY	AUTO SPACE	CHANNEL SPACE
USA	FM	87.5 - 107.9MHz	200KHz	100KHz
	AM	530 - 1710KHz	10KHz	10KHz
EUROPE	FM	87.5 - 108.0MHz	100KHz	50KHz
	MW	522 - 1620KHz	9KHz	9KHz
NORTH AFRICA	LW	144 - 288KHz	3KHz	3KHz
	FM	87.5 - 108.0MHz	100KHz	50KHz
ASIA	MW	531- 1602KHz	9KHz	9KHz
	LW	153 - 252KHz	3KHz	3KHz
JAPAN	FM	87.5 - 108.0MHz	50KHz	50KHz
	AM	522 - 1629KHz	9KHz	9KHz

Depending on country, the change from a standard to another (DAB, or DAB+ or FM) shall be transparent to the user.

Digital (DAB) Radio			
Frequency range:	DAB Band III: 174.928MHz ~ 239.200MHz DAB Band L: 1452.960MHz ~ 1490.624MHz		
Usable sensitivity (RF=-72 dBμ):	-95dBμ		
Frequency response:	20Hz-20kHz		
Stereo separation:	≥50dB		
Signal/noise ratio:	≥60dB		
	Item	Min	Max
	Far off selectivity:	42dB	60dB
	Adjacent channel rejection:	35dB	40dB

Note: Specifications and the design are subject to change without notice due to improvements in technology.

## FCC

### FCC STATEMENT

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. 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.

### FCC Radiation Exposure Statement

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

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