

**iN PHASE..**

**IPS920SD**



User manual  
**In-Car Entertainment**

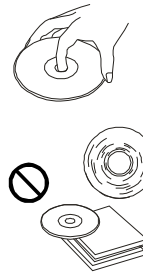
## Safety Information

### PRECAUTIONS

- Use only in a 12-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 at which 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 benzene 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 malfunction.



### 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.

### CAUTION


DO NOT open covers and do not repair yourself. Consult the dealer or an experienced technician for help.

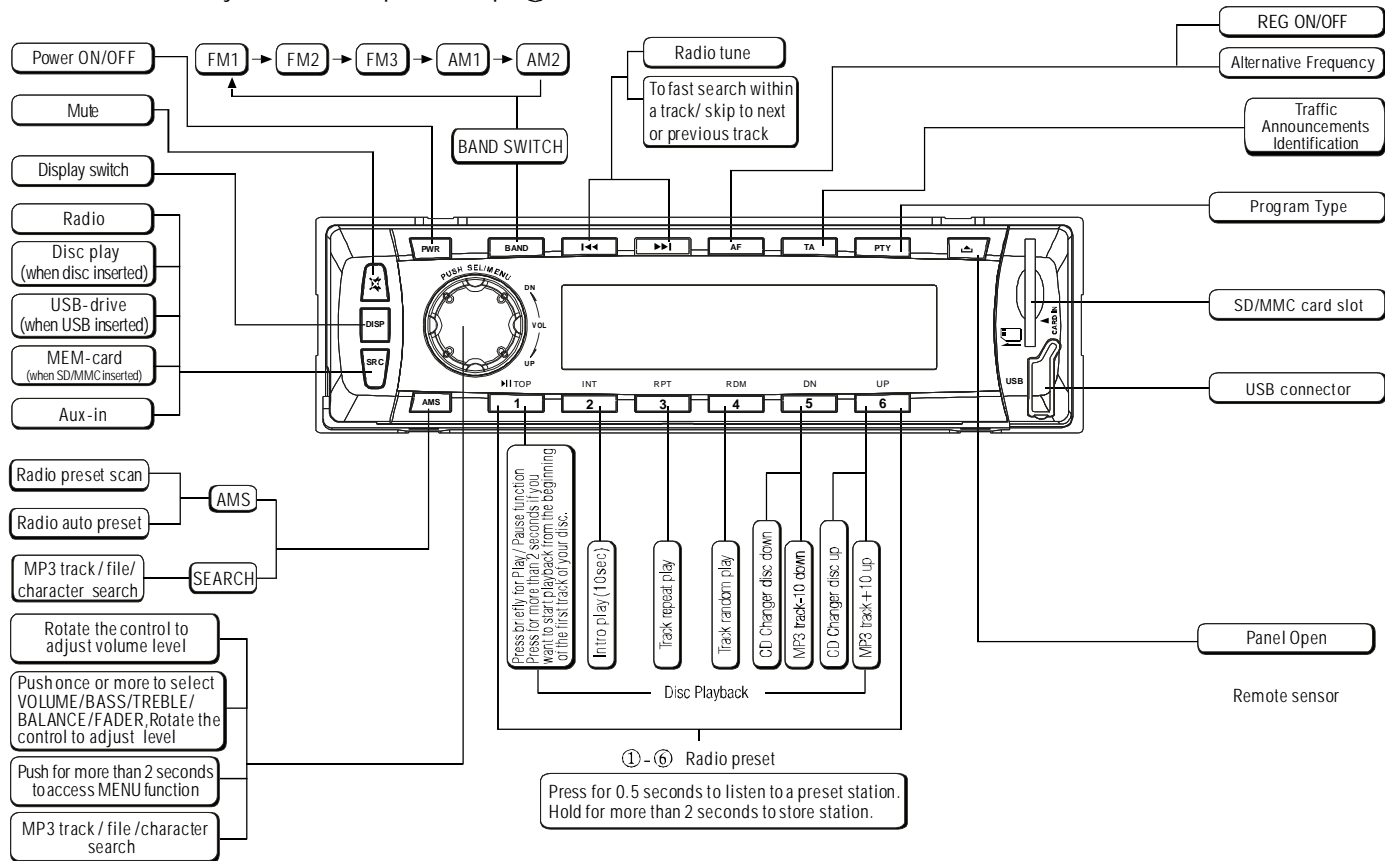
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\* In addition to ordinary Cds,  
this unit can playback CD - R or CD - RW ,MP3.



## Panel Controls

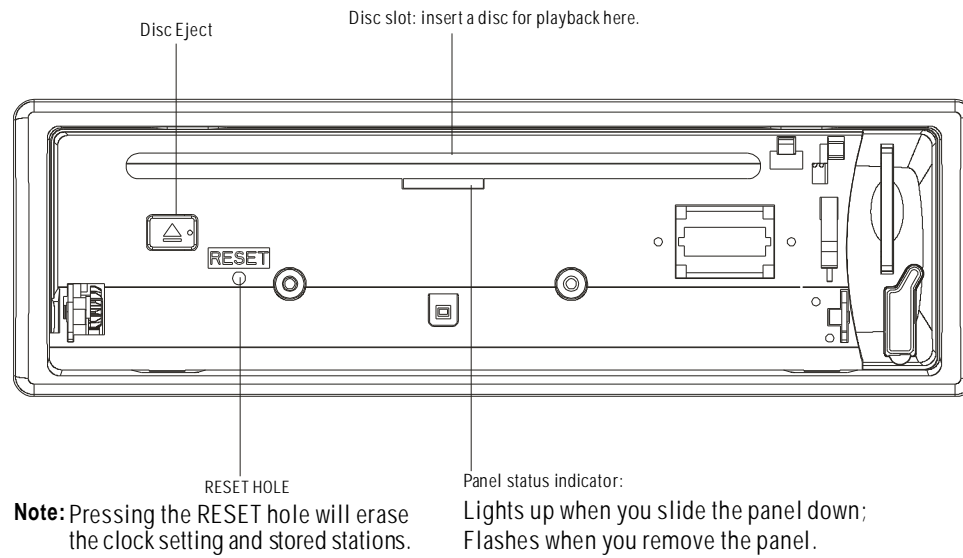
Power On : Press any button on the panel except  to turn on the unit.



## Basic panel operation/ejecting discs/ reset

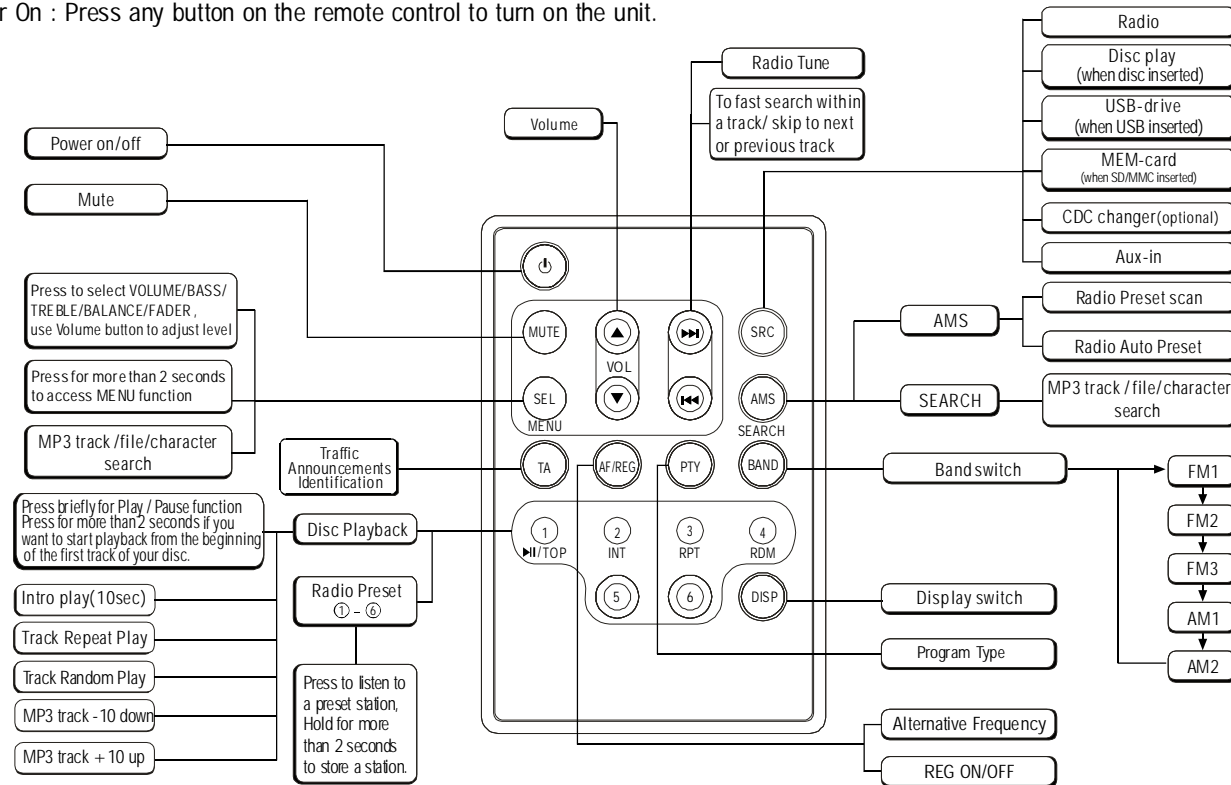
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Press the  to open the panel and press  to eject the disc.



## Remote Controls(optional)

Power On : Press any button on the remote control to turn on the unit.



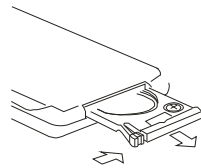
## Remote Controls

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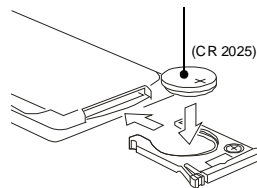
Replacing the lithium battery of remote control unit.

\* When the operation range of the card remote control becomes short or does not function properly, replace the lithium battery with a new one. Make sure the battery polarity replacement is correct.

1. Pull out the battery holder while pressing the stopper.



2. Insert the button-type lithium battery with the (+) mark facing upward. Insert the battery holder into the remote control.




### WARNING:



- Store the battery in place where children cannot reach.  
If a child accidentally swallows the battery, consult a doctor immediately.
- Do not recharge, short, disassemble or heat the battery or dispose it in a fire.
- Doing any of these things may cause the battery to give off heat, crack or start a fire.
- Do not leave the battery with other metallic materials.  
Doing this may cause the battery to give off heat, crack or start a fire.
- When throwing away or saving the battery, wrap it in tape and insulate; otherwise, the battery may start to give off heat, crack or start a fire.
- Do not poke the battery with tweezers or similar tools.  
Doing this may cause the battery to give off heat, crack or start a fire.

## Button Tips





### Disc Load / Eject



Load : press  to flip down the panel.  
Insert the disc into the slot.

Eject : Press  to flip down the panel.  
Press  to eject the disc.



**Radio:** To fine tune the radio, press  or  briefly.  
To search the station automatically, press  or  for more than 0.5 seconds.

**Disc Playback:** Track skip: press briefly to go to the next or previous track.  
Track seek: press for more than 0.5 seconds to seek the forward or previous track.



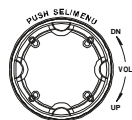
### AMS : Auto Memory Store

Press briefly to scan the preset station ①-⑥ for 5 seconds each. Hold for more than 2 seconds, the 6 strongest available station will be automatically saved in the memory of preset buttons ①-⑥.



### Viewing Clock Time During Radio/ Disc Playback

Press DISP (once for Radio mode or twice for other modes), display shows the clock time after 5 seconds.



### Setting The Clock Time

Press DISP , time displays. Press again for more than 2 seconds, time display blinks.  
Rotate the control clockwise to set the hours or counterclockwise to set the minutes,  
press DISP again to exit the clock setting.



## RDS ( Radio Data System )

RDS service availability varies with area. Please note that if the RDS signal is not available some of the following functions may not work.

### RDS Basics

AF ( Alternative Frequency ) When the radio signal strength is poor, enabling the AF function will allow the unit to automatically search for another station with the same PI ( program identification ) as the current station but with stronger signal strength.

PS ( Program Service name ) The name of station will be display instead of frequency.

AF Mode : Press the AF button for less than 1 second to switch AF mode on and off.

AF on: AF function is activated.

AF off: AF function is disabled.

Remark : The AF indicator on the LCD will flash until RDS information is received. If RDS services are not available in your area then turn the AF mode off.

REG Mode : Press the AF button for more than 1 second to switch REG mode on and off.

REG on : AF function will implement the regional code (of the PI) and only stations in the current region can be tuned automatically.

REG off : AF function will ignore the regional code (of the PI) and stations in the other regions can also be tuned automatically.

BBC R4

REG ON

REG OFF

### CT ( Clock Time ) Service

When receiving a RDS station, the CT ( Clock Time ) service automatically adjusts the time.

NO CT will display in areas where CT service is not available.

NO CT



## RDS

### Traffic Announcements

Some RDS FM stations provide traffic information.

TP ( Traffic Program Identification )  
Broadcasting of traffic information

TA ( Traffic Announcements Identification )  
Radio announcements on traffic conditions

TA Mode: Press the TA button to turn on and the TA function.

When the TA mode is turned on, the TA indicator will be displayed.

When traffic announcements are received, the unit will temporarily switch to the tuner mode (regardless of the current mode) and begin broadcasting the announcement at volume

level 20 (if the current volume level is below 20). After the traffic announcement is over, it will

return to the previous mode and volume level. When TA is turned on, SEEK, SCAN, AMS

function can only be received or saved when traffic program identification (TP) code is received.



### EON ( Enhanced Other Networks )

When EON data is received, the EON indicator lights and the TA and AF functions are enhanced.

TA: Traffic information can be received from the current station or stations in other networks.

AF: The frequency list of preset RDS stations is updated by EON data. EON enables the radio to make fuller use of RDS information.

It constantly updates the AF list of preset stations, including the one that is currently tuned in. If you preset a station around the area at your home, you will later be able to receive the same station at an alternative frequency, or any other station serving the same program, EON also keeps track of locally available TP stations for quick reception.

## RDS

### PTY Reception ( Program Type )

RDS FM stations provide a program type identification signal.  
Example: news, rock, info, sport, etc.

PTY Mode: press the PTY button to turn on the Program Type reception, the previous PTY is shown. Press the PTY button once again to enter the MUSIC type or press twice to enter the SPEECH type, then use buttons ①—⑥ to select the desired program type. The selected PTY type is shown and searching starts if no other function is selected for 2 seconds. If there is no corresponding program type, NO PTY is shown and the unit will return to normal mode.

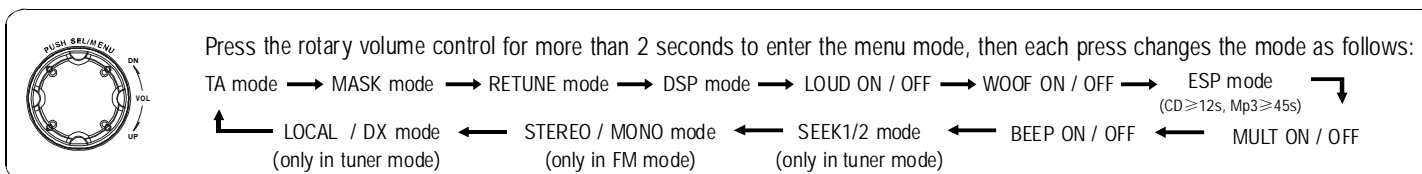
NEWS # PTY

### PTY Type Preset

Press PTY once to enter the MUSIC type or press PTY twice to enter the SPEECH type. Then use function ①—⑥ to select the desired program type.

PRESET NO .	MUSIC TYPE	SPEECH TYPE
1	POP M	NEWS
	ROCK M	AFFAIRS
2	EASY M	INFO
	LIGHT M	SPORT
		EDUCATE
3	CLASSICS	DRAMA
	OTHER M	CULTURE
		SCIENCE
4	JAZZ M	VARIED
	COUNTRY	WEATHER
		FINANCE
5	NATIONAL M	CHILDREN
	OLDIES M	SOCIAL
6	FOLK M	RELIGION
		PHONE IN
		TRAVEL
		LEISURE
		DOCUMENT

## Menu Function



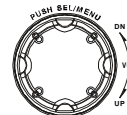
TA mode: Rotate the rotary control to choose TA ALARM or TA SEEK . If the TA (traffic Announcements) function is turned on and there is no traffic identification code received in the specified time then no TA/TP will be display.

TA ALARM mode : Alarm is turned on.

TA SEEK mode: TA SEEK is automatically activated.

TA ALARM

TA SEEK



MASK mode:

Rotate the control to choose MASK DPI or MASK ALL mode.

In some cases, the AF function may be influenced by some interference, examples are signals with strong field but without the RDS data. For this reason, the unit has two options to avoid the above interference.

MASK DPI mode : Only AF which has different program identification is masked.

MASK ALL mode : The AF which has different program identification and NO RDS signal with high field strength is masked.

MASK DPI

MASK ALL

RETUNE mode:

Rotate the control to choose RETUNE-S or RETUNE-L

RETUNE-S or RETUNE-L is time length selection of the TA SEEK retune interval.

RETUNE-S: short, TA SEEK retune interval is 45 seconds.

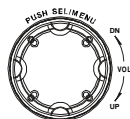
RETUNE-L: long, TA SEEK retune interval is 180 seconds.

Remark: RETUNE mode functions for TA during TA SEEK mode only.

RETUNE \_S

RETUNE \_L

## Menu Function



DSP mode: Rotate the control to choose DSP sound effect:

LOUD mode: Rotate the control to choose loudness on or off.

WOOF ON / OFF: Rotate the control to turn the subwoofer preouts on or off.

POP → ROCK → CLASSIC → FLAT → DSP OFF

ESP: 12/45s — ESP12: Selected as CD-ESP time 12 seconds.  
 — ESP45: Selected as CD-ESP time 45 seconds.

MULT ON / OFF: Multi Session ON/OFF. (Multi session OFF: mixed cd, ONE session CD; Multi session ON: Mixed, Extra, multi session CD)

BEEP ON/OFF mode: Rotate the control to choose button beep sound on or off.

SEEK 1/2 mode: Rotate the control to choose radio seek mode 1 or 2 .

SEEK 1: searching station will stop when next station is received.

SEEK 2: searching station will stop when ► or ◀ button is released and next station is received.

SEEK 1

SEEK 2

STEREO/MONO mode: Rotate the control to choose FM stereo or mono.

LOCAL/DX mode: Rotate the control to choose tuner sensitivity local or distant.

## CD Functions

### DISCS FOR PLAYBACK

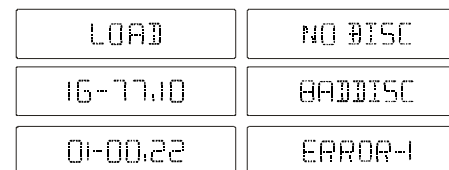
This set can play all digital audio CD, video CD, finalised digital audio CD-Recordable(CDR)discs and MP3-CD.

1. Press  once or more to on.
2. Press  to open the panel, insert a CD with the printed side facing upward.
3. Push the panel back into place.

-Display shows LOAD followed by the total track and playing time.

Elapsed time is shown during disc playback.

-NO DISC or BAD DISC or ERROR-1,2,3 will be displayed if no disc is inserted or error found in CD operation.




### PAUSE

-During playback, press  to pause/ freeze picture on the TV screen.

-The sound will be muted.

-Display "PAUSE " in the TV screen, display and blink " PAUSE " in the LCD screen.

Press  again to continue playback.



on the panel



/TOP

on the remote control

### INTRO(For CD Only)

You can play the beginning of every track for 10 seconds in sequence.

1. During playback, press INT once.
2. Press INT again to select the current track.



On the panel



INT

on the remote control

## CD Functions (continued)

### REPEAT

You can play the current track, the program or the whole disc repeatedly.

1. During playback, press RPT once or more.

Note: If you do not select RPT on, the system will play your entire disc/ program continuously.



On the panel



RPT  
on the remote control

### Random track playback (For CD Only)

You can play all the tracks in random order.

1. During playback, press RDM once or more.
2. Press RDM again to select normal playback.



On the panel



RDM  
on the remote control

### To select a desired track

- Press ◀◀ or ▶▶ on the panel repeatedly.  
until the desired track appears on the display.
- If playback is stopped, press ▶▶ to start playback.



On the panel



on the remote control

### Fast forward / backward during playback

- Press and hold ◀◀ or ▶▶ on the panel ( or press ⏮ or ⏭ on the remote control ) to fast backward or forward skip during playback.
- During the fast forward or backward operation, the volume will be muted.

## USB/SD/MMC MP3 playback

### 1.Loading SD/MMC Card

Insert the SD/MMC card into the slot, with the front side at right.  
The unit will play the music automatically and the LCD will show MEM-CARD.

### 2.Take out SD/MMC Card

Push SRC button and switch to non MEM-CARD mode,  
slightly press the SD/MMC card and remove the card when it pops out.

### 3.Loading USB equipment

Open the rubber cap, insert the USB into the connector and the unit play the music  
in the USB device automatically, and the LCD will show USB-DRIV.

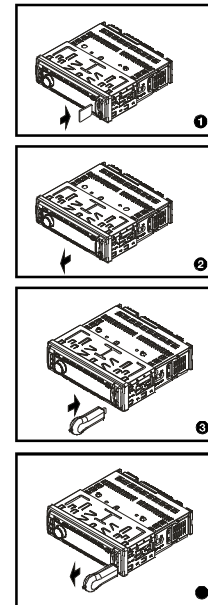
### 4.Take out USB equipment

Push the SRC button and switch to non USB-DRIV mode,  
then take out the USB device, close the rubber cap.

### USB/SD/MMC Notes

USB functions (flash memory type) MP3 music play

- (1) SD/ MMC card support
- (2) USB flash memory 2in 1 (SD/MMC) support
- (3) Fat 12 / fat 16 / fat 32 is possible
  - fat 12 / 16 (dir : 200 support, file : 500 support)
  - fat 32 (dir : 200 support, file : 500 support)
- (4) File name : 32 byte / dir name : 32 byte /tag name : 32 byte
- (5) Tag (id3 tag ver 2.0)
  - title / artist / album : 32 byte support
- (6) Multi card reader not support
- (7) USB 1.1 support
  - USB 2.0 support ( it can not support USB2.0 speed. Just, get be same speed with USB1.1)



## MP3 Playback

ONLY YOU

While playing an MP3 disc/USB/SD/MMC-MP3 music file, the folder/file name and ID3 tag(Song title, Album and Artist) can scroll across the LCD. (Press the BAND button to show ID3 information)

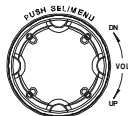
Elapsed playing time & Track number → Folder name & number → File name & number → Song title → Album title → Artist name



### MP3 Track search

Press AMS to select "TRACK SCH" mode.

Press the control and LCD display will show "001".



If the desired track number is less than 100 then rotate the control to select the first digit and press the control once again, then rotate the control to set the tenth digit of the track number.

Press the control again for more than 0.5 seconds to play the track.

If the desired track number is more than 100, Rotate the control to select the first digit and press the control to confirm, Rotate the control to select the tenth digit and press the control to confirm, Rotate the control to select the hundredth digit and press the control to confirm, Press the control again to play the track.

TRK SCH

001

\* If the track number you enter is beyond the maximum file number then the last song will be played.

### MP3 File search

Press AMS twice to select "FILE SCH" mode.

Press the control to enter,

Rotate the control to select folder.

FILE SCH

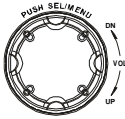
IF you just want to play songs from this folder, press the knob for more than 0.5 seconds to play the first track of the folder.

IF you want to play a desired track in the folder, press the knob and rotate to select the track you want.

Press the knob again to play the track.



## MP3 Character Search



Press AMS button three times to select "CHAR SCH" mode.

Press the control and "A" is displayed.

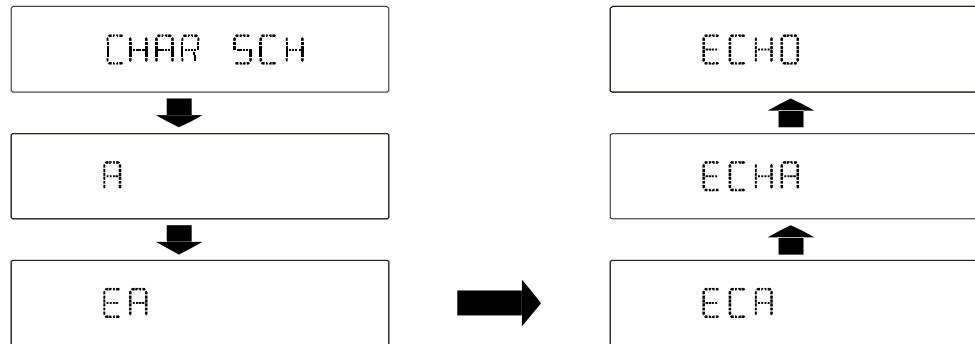
If you press the control for more than 0.5 seconds, a track beginning with the letter "A" will be played.

If you want to select a track name beginning with a different letter, rotate the control to select a letter, then press the control to confirm.

Then "A" flashes at the next place, select 2<sup>nd</sup> and other character of the desired track name as steps above.

Press the control more than 0.5 seconds to play your desired track.

Example :to search character "ECHO".



## MP3 Overview

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### Note on MP3

- "MP3" technology( MPEG audio layer3 ) reduces the digital data of an audio CD significantly while maintaining CD-like sound quality.
- MP3 is a music compression technology, MP3 ( MPEG audio layer3 ) reduces the digital data of an audio CD significantly while maintaining CD-like sound quality.
- This product allows playback of MP3 files on CD-ROM CD-R or CD-RW discs.
- The unit can read MP3 files written in a format compliant with ISO 9660. however it does not support MP3 data written by packet writing.
- 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.
- The maximum number of directory is 128, the maximum number of MP3 files per disc is 447.
- The unit may not play tracks in the order of track numbers.
- The unit support multi-session discs with MIXED and EXTRA formats, but plays the MP3 tracks is priority.  
MIXED format: disc structure first is MP3 data, second is audio data.  
EXTRA format: disc structure first is audio data, second is MP3 data.
- The unit supports all MPEG bit rates including free format for MPEG 1 audio layer 3, all MPEG bit rates except 8kbps and free format for MPEG 2 audio layer 3.
- The unit support 32/44.1/48kHz sampling rate for MPEG 1 audio layer 3, 32/44.1/48kHz and 16/22.05/24kHz sampling rate for MPEG 2 audio layer 3, and 44.1kHz sampling rate for VBR (Variable Bit Rate) .

### How to get music files

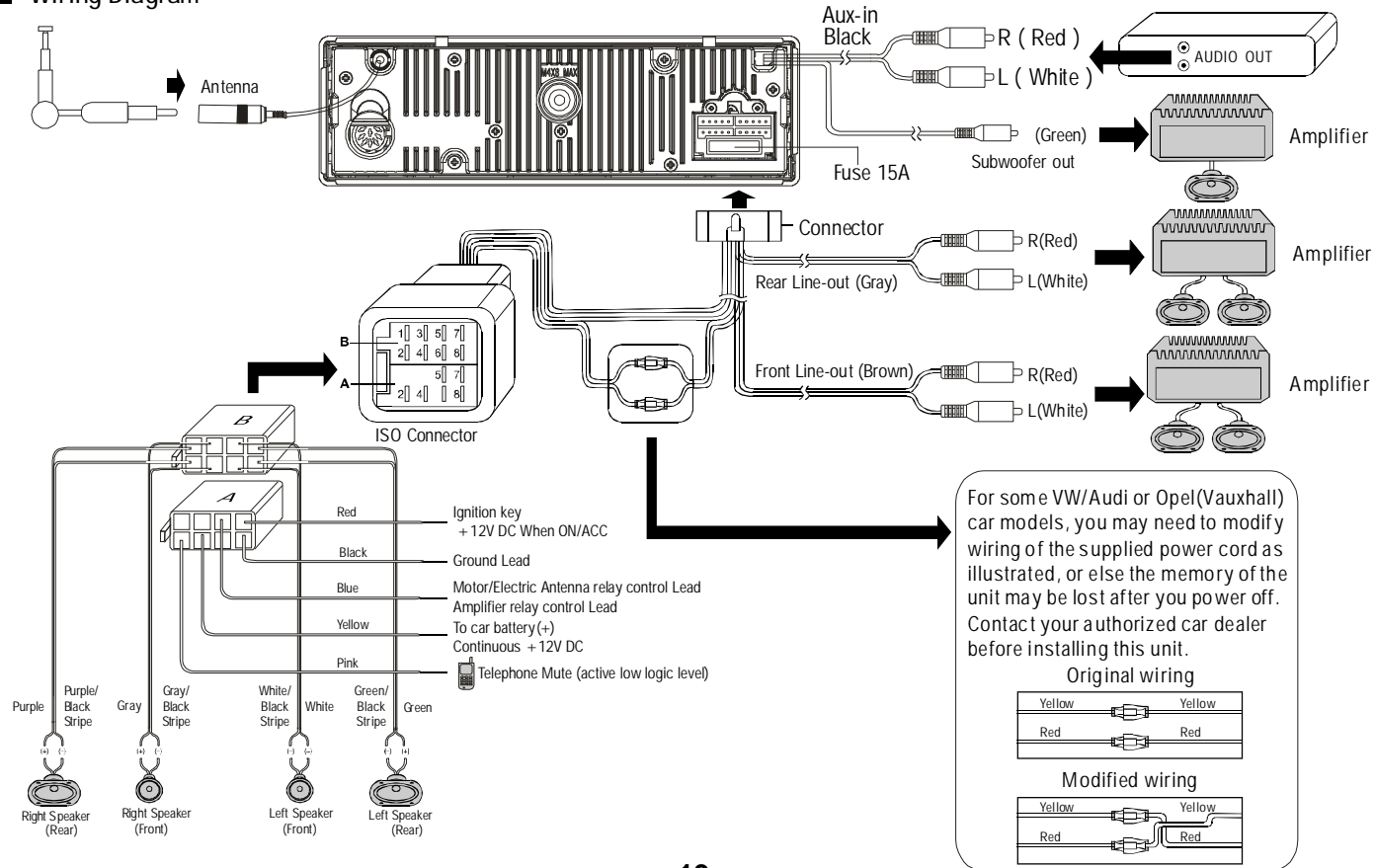
- Either download legal music files from the internet to your computer hard disc or create them from your own audio an CDs. For this, insert an audio CD into your computer CD-RW drive and convert the music using an appropriate encoding software.

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

- To enjoy high quality music, we recommend converting MP3 files with a sampling frequency of 44.1 kHz and a fixed bit rate of 128 kbps.
- DO NOT store more than 447 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 discs are used, this unit will only playback discs that have been finalised.
- 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.
- It is not recommended to write non-MP3 files or unrelated folders along with MP3 files on the disc otherwise it may take longer time to start playing the disc.
- 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 are recommended.
- support ID3 tag Version 1.XX and 2.XX, up to 16 characters can be displayed for the title of the song, Album and the Artist.
- Note that the unit may not play tracks as ripped and recorded.

# Electrical Connections

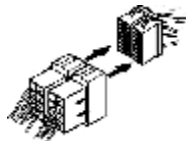
## ■ Wiring Diagram



## Electrical Connections

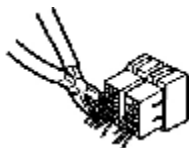
### ■ Using the ISO Connector

1. If your car is equipped with the ISO connector, then connect the ISO connectors as illustrated.



2. For connections without the ISO connectors, check the wiring in the vehicle carefully before connecting, incorrect connection may cause serious damage to this unit.

Cut the connector, connect the colored leads of the power cord to the car battery, as shown in the colour code table below for speaker and power cable connections. If your vehicle does not have a standard ISO connector then please ask your supplying dealer for an ISO wiring adaptor




LOCATION	FUNCTION	
	Connector A	Connector B
1		Rear Right(+)--Purple
2	Telephone-mute/pink	Rear Right(--)--Purple/Black Stripe
3		Front Right(+)--Gray
4	Battery 12V (+)/yellow	Front Right(--)--Gray/Black Stripe
5	Auto Antenna/blue	Front Left(+)--White
6		Front Left(--)--White/Black Stripe
7	ACC +/red	Rear Left(+)--Green
8	Ground/black	Rear Left(--)--Green/Black Stripe

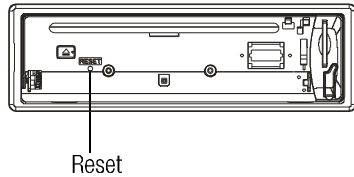
## Installation Guide

### ■ Installation Procedures

Carefully complete the electrical connections.  
Check connections before operation.

### ■ Reset

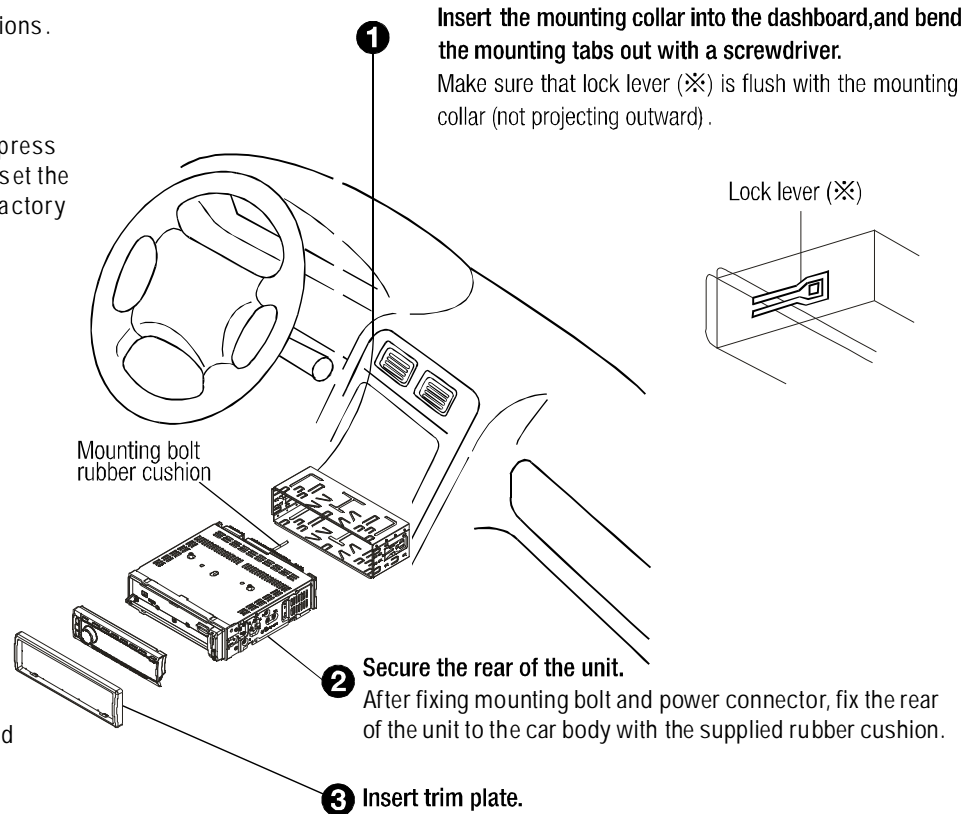
Press  to flip down the panel. Then press the Reset hole with a pointed object to reset the unit to restore the system to the original factory settings.



### ■ Installation Opening




This unit can be installed in any dashboard with a suitable 183mm(w) x 52mm (h) opening as shown above. The dashboard should be 4.75 mm - 5.56 mm thick in order to be able to support the unit.



## Anti-Theft System

This unit is designed with a flip-down detachable panel.  
The panel can be detached and taken with you, helping to deter theft.

### Removing the panel

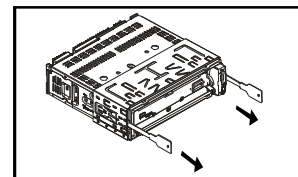
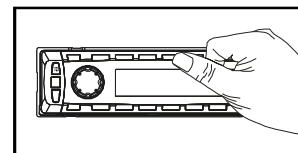
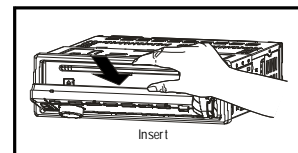
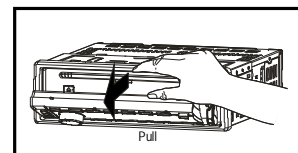
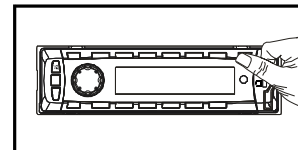
1. Press PWR to switch off the power of the unit.
2. Press  to flip down the panel.
3. At an angle hold the panel to pull it out.
4. Place the panel into the case and take it with you when you leave the car.

### Installing the panel

1. Hold the panel and ensure the panel faces toward you , and at an angle set the right side of the panel in the panel bracket.
2. Press the left side of the panel until it locks.

### Removing the unit

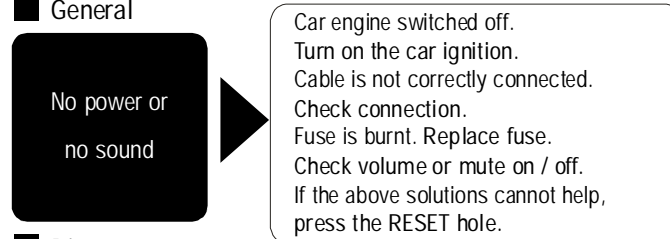
1. Remove the panel and the trim plate.
2. Insert both T-Keys into hole on the front of the set until they lock.
3. Pull out the unit.



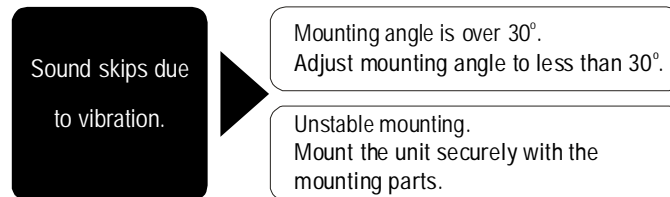
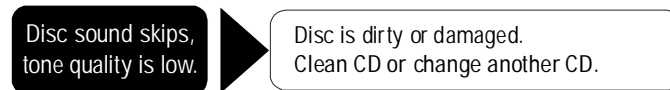
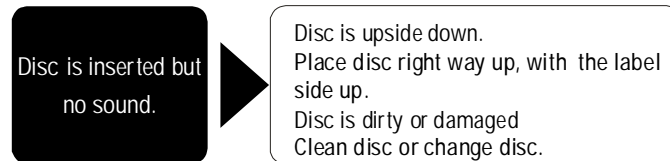
## Troubleshooting

If you suspect something is wrong then immediately switch power to the unit off. Follow the trouble shooting guide below before contacting your supplier. 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.

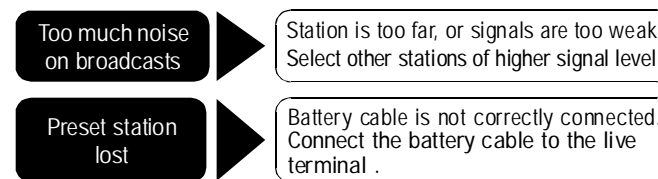
### ■ General



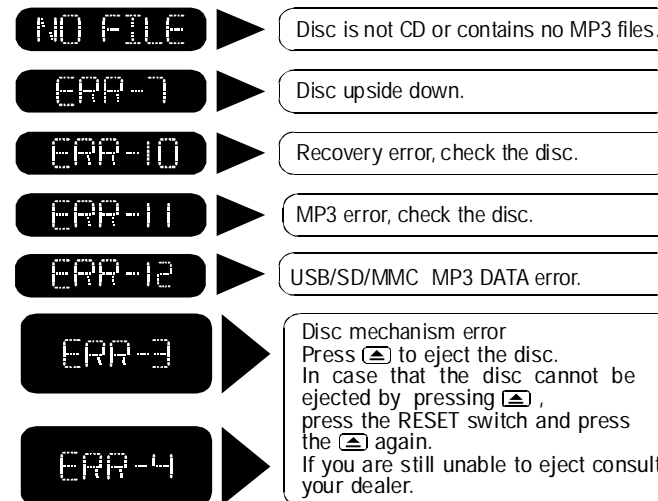
### ■ Disc



### ■ Radio



### ■ Error Display Messages



## Specifications

### ■ General

Power supply:	12V DC(11V-16V) Test voltage 14.4V, negative ground
Maximum power output:	60Wx4 channels
Suitable speaker impedance:	4-8 ohm
Suitable speaker power:	80-100 Wx4 channels
Pre-Amp output voltage:	4.0V ( CD play mode: 1KHz, 0 dB, 10 K $\Omega$ load )
Fuse:	15A
Dimensions(WxHxD)	178x50x166mm
Weight:	1.64kg
Aux-in level:	$\geq$ 300 mV
Sub-woofer output voltage:	4.0 V

### ■ FM Stereo Radio

Frequency range:	87.5 - 108.0 MHz
Sensitivity:	10 dB $\mu$
Frequency response:	30 Hz-15KHz
Stereo separation:	30dB(1KHz )
Image response ratio:	50dB
IF response ratio:	70dB
Signal/noise ratio	55dB

Note: Specifications and design are subject to change without notice for product improvements.

### ■ MW Radio

Frequency range:	522-1620KHz
Sensitivity(S/N= 20dB):	30 dB $\mu$

### ■ Disc Player

System:	Disc digital audio system
Frequency response:	20 Hz - 20KHz
Signal/noise ratio:	> 80 dB
Total harmonic distortion:	Less than 0.20%(1 KHz)
Channel separation:	> 60 dB
ESP(optional):	CD $\geq$ 12s, MP3 $\geq$ 45s

### ■ Components

Mounting collar	1
Tapping screws M5x6 mm	4
M4x6 mm	4
Mounting bolt (50 mm)	1
Wire connector	1
Case for removable control panel	1
Trim plate	1
T-key	2
User manual	1
Rubber cushion	1
Remote control(optional)	1