

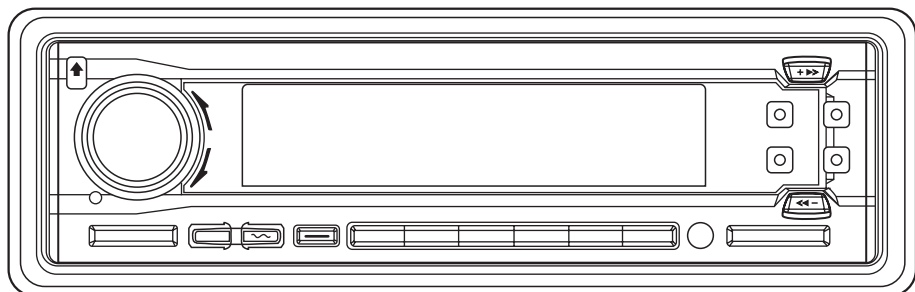
# Goodmans

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## INSTRUCTION MANUAL

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**Model GCE 7106 RDS  
In Car Radio  
Compact Disc Player**

  
022443



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### **MULTIPATH DISTORTION / MUTING**

Please note: An integrally mounted screen aerial may give rise to increase multipath distortion or spurious muting of the audio output. This is normal and to be expected. The use of an externally mounted rod aerial may reduce or possibly eliminate such problems.

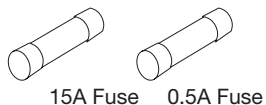
Most screen aerials require a 12 volt supply to operate correctly. Please check that this has been connected the +12 volt antenna wire of your radio. If you are in any doubt of this connection please the vehicle dealer or Goodmans installation helpline.

**IMPORTANT: Do not forget to remove the transit screws on top of the unit.  
Before removing the fixing cage and installing the unit.  
Failure to do so will result in the CD not playing.**

## ACCESSORIES

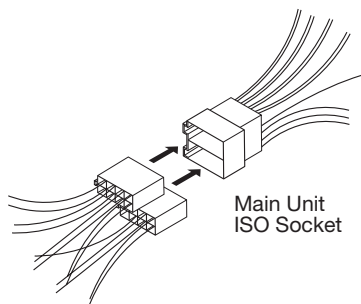
Please retain the carton and packing materials, as this is the best protection for the unit should it be necessary to return it for servicing.

- (1) 1 x 15 Amp fuse (spare fuse for + 12 volt supply wire of the unit).
- 1 x 0.5 Amp fuse (spare for memory).

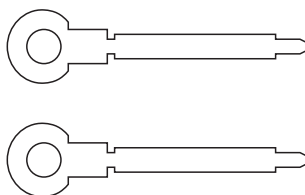


- (2) 2 x ISO Plug Connector

For use when ISO plugs are not used on your vehicle



- (3) 2 x Release key



# **PLEASE READ THIS BEFORE CONNECTING THE PLAYER TO THE VEHICLE**

## **IMPORTANT NOTES**

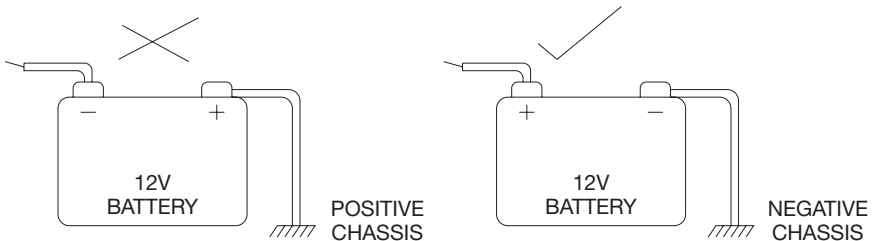
Prior to final installation carry out a sound check. If high distortion or intermittent sound is experienced it is possible that the wiring to the car's electric is poor, or that the battery needs recharging.

If the battery and its charging circuit are OK, then rewire the red fused wire of the player directly to the positive terminal (+) of the car battery. Car accessory shops stock the connector blocks and the 15 Amp cable which may be necessary for extending the fuse wire connection.

**EARTHING:** Make sure that the black wire on the wiring harness is connected to a good earthing point on the car. If the chassis of the car is used as an earthing point, make sure that the paint is scraped clean from the metal work before attaching the wire to it. It is preferable to connect the black earthing wire directly to the negative terminal (-) of the car battery.

### **WARNING: POLARITY.....**

This model is only suitable for use in vehicles which have a negative earth system. e.g.: The negative terminal of the car battery is connected to the chassis.



## **Connecting The Speakers And Power Cables**

Before you wire your system, disconnect your vehicle battery's positive (+) cable. This helps prevent damage in case of a short. When you complete the wiring, reconnect the battery cable and test your car stereo.

Note: Check with your vehicles handbook or dealer before disconnecting the vehicle battery in case the alarm or other electronics in your vehicle requires special attention.

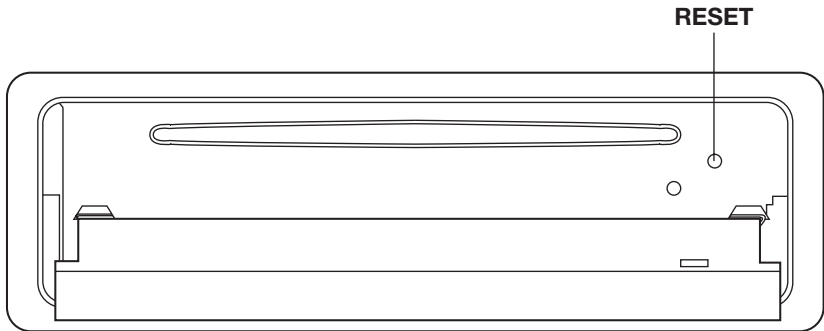
When connecting your car stereo's black ground wire, be sure to connect the wire to a metal part of your vehicle or preferably to the negative (-) terminal of the car battery.

## **PRECAUTIONS AND MAINTENANCE**

- This unit is designed for negative ground 12V DC operation only. The equipment can be used safely, if the negative terminal of the battery is connected to the vehicle metal work.
- Do not use speakers of impedance less than 4 ohms; and do not allow the speaker wires to be sorted together when the unit is switched on. Otherwise it may overload or burn out the power amplifier stage.
- If the car interior is extremely hot, as after being parked in the sun, do not use the player until the car has been driven for a while to cool off the interior.

## **IMPORTANT**

After installing the unit, switch on the power to the unit and press this RESET button using a pen or thin match stick.



### **Caution Vauxhall owners:**

Vauxhall do not follow normal ISO wiring convention which will cause Goodmans radios' to lose the radio preset memories each time the ignition switch is turned off. To prevent such occurrences swap over the Red ignition and Orange Memory wires in the bullet connectors attached to the wiring harness of the car radio.

# INSTALLATION/PRECAUTIONS

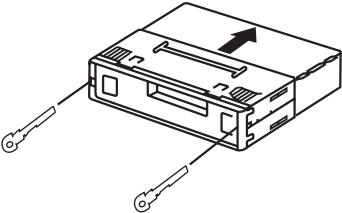
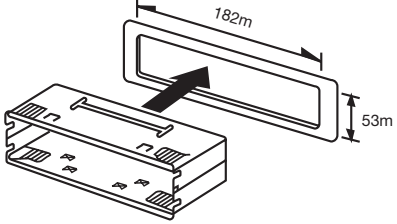
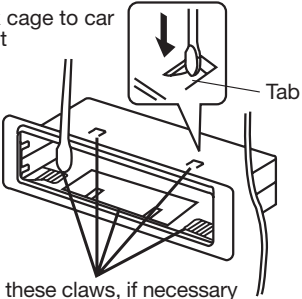
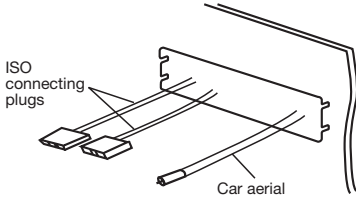
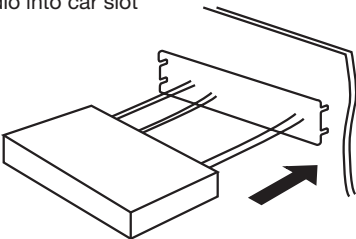
- Choose the mounting location carefully so that the unit will not interfere with the normal driving functions of the vehicle.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.
- Be sure to remove the front panel before installing the unit.

## Mounting angle adjustment

Adjust the mounting angle to less than 20°.

## MOUNTING EXAMPLE

### Installation in the dashboard

<p><b>1</b></p> <ul style="list-style-type: none"><li>* Remove trim ring</li><li>* Insert release keys</li><li>* Pull unit away from cage</li></ul> 	<p><b>2</b></p> <p>Insert cage into car slot</p> 
<p><b>3</b></p> <p>Fix cage to car slot</p> 	<p><b>4</b></p> <p>Attach the: ISO connecting cables CD changer cable Car aerial To the sockets location</p> 
<p><b>5</b></p> <p>Insert radio into car slot</p> 	

#### Note:

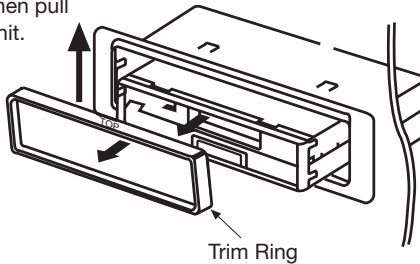
Keep the release keys in a safe place as you may need them in future to remove the unit from the car.

## **REMOVING AND ATTACHING THE TRIM RING**

This model can be fitted to DIN E or ISO style dashboard slots. The clip on trim ring is prefitted to the front of the unit for this purpose.

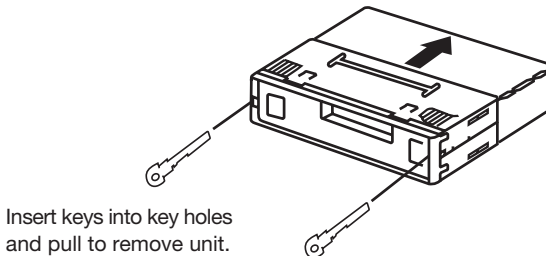
- It will be necessary to remove the trim ring:
  - a. To allow the radio to be fitted to an ISO style dashboard slot.
  - b. To gain access to the keyhole slots for removal of the unit from the car slot/fixing cage.
- To remove the trim ring first remove the front panel from the radio (press the open button and remove the front panel).
- Using your fingers lift the trim ring at its top centre and pull the ring towards you/away from the main unit.
- The trim ring can only be fitted to the main unit one way only. A removable label with TOP printed on it is placed on the top of the ring to indicate the correct placement of the ring. Simply position the trim ring over the front of the main unit and push fit the trim ring on to the unit.

Lift up and then pull away from unit.



## **REMOVING THE PLAYER FROM THE DASHBOARD/FIXING BRACKET**

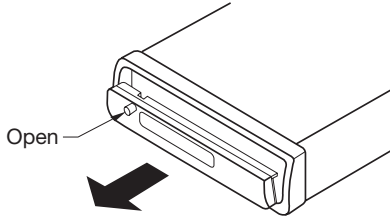
- Remove the front panel from the main unit.
- Lift off the trim ring and remove from the main unit.
- Insert the supplied release keys into the key slots located on the left and right sides of the unit. Ensure that the keys are fully pressed into the slots.
- Pull on both of the release keys to remove the unit from the fixing bracket/car slot.



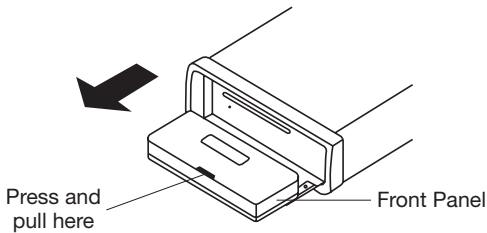
# USING THE DETACHABLE FRONT PANEL

## To Detach the Front Panel

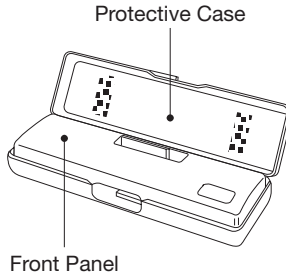
1. Press the open button (OPEN), the front panel will fold down.



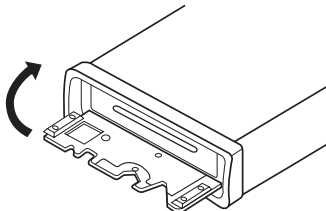
2. Remove the front panel by pulling on the middle.



3. For safekeeping, store the front panel in the supplied protective case immediately after being removed.



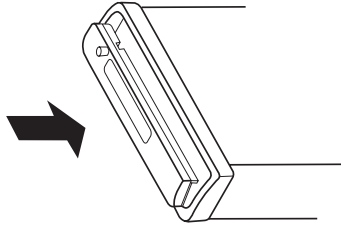
4. Push the front metal plate into the main body. A "click" sound should be heard.





## To Reinstall the Front Panel

1. Push the front panel into the main body. A 'click' sound should be heard.

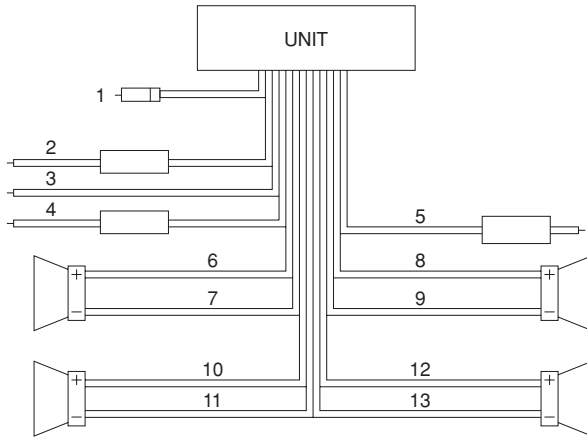


2. Note that if the front panel fails to lock in position properly, the control buttons may not function and the display may have missing segments. Push the OPEN button and reinstall the front panel again.

## Precautions when Handling

1. Do not drop the front panel.
2. Do not put pressure on the display or control buttons when detaching or reinstalling the front panel.
3. Do not touch the contacts on the front panel or on the main unit body. It may result in poor electrical contact.
4. If any dirt or foreign substances adhered on the contacts, they can be removed with a clean and dry cloth.
5. Do not expose the front panel to high temperatures or direct sunlight in anywhere.
6. Keep away any volatile agents (e.g. benzene, thinner, or insecticides) from touching the surface of the front panel.
7. Do not attempt to disassemble the front panel.

## WIRING IDENTIFICATION



### REAR VIEW OF PLAYER

- |  |   |
|--|---|
| 1) AERIAL INPUT SOCKET                         | 8) FRONT RIGHT POSITIVE: WHITE                    |
| 2) BATTERY: RED +12 VOLT IGNITION              | 9) FRONT RIGHT NEGATIVE: WHITE WITH BLACK STRIPE  |
| 3) GROUND: BLACK -                             | 10) REAR LEFT POSITIVE: BROWN                     |
| 4) MEMORY: ORANGE PERMANENT +12 VOLT           | 11) REAR LEFT NEGATIVE: BROWN WITH BLACK STRIPE   |
| 5) AUTO AERIAL: ORANGE/WHITE                   | 12) REAR RIGHT POSITIVE: YELLOW                   |
| 6) FRONT LEFT POSITIVE: GREY                   | 13) REAR RIGHT NEGATIVE: YELLOW WITH BLACK STRIPE |
| 7) FRONT LEFT NEGATIVE: GREY WITH BLACK STRIPE |   |

### RECOMMENDED MINIMUM LOUDSPEAKER POWER RATINGS

Front loudspeakers power ratings 2 x 30 Watts RMS (2 x 60 Watts Music)

Rear loudspeakers power ratings 2 x 30 Watts RMS (2 x 60 Watts Music)

### TWO SPEAKER WIRING

If you intend to use only two speakers with this radio select either front or rear wiring

### INSTALLATION NOTES

#### (APPLICABLE TO BOTH 2 AND 4 SPEAKER CONNECTION)

This radio contains two separate power amplifiers, to prevent possible damage to these amplifiers please ensure:

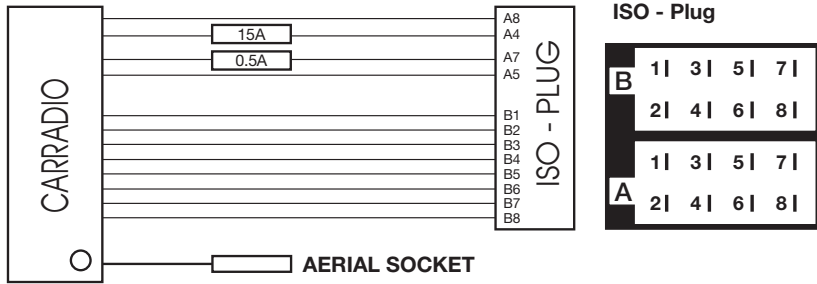
- 1) The vehicle chassis is not used as a loudspeaker earth (-ve return).
- 2) Front and Rear loudspeaker connecting wires are not joined together.
- 3) Any wires not used when completing a two speaker installation are fully insulated.
- 4) The memory wire (Orange) is connected to a permanent +12V supply.
- 5) The power wire (Red) is connected via the ignition switch of the vehicle.

Note: Before turning the unit ON for the first time after installation please ensure the RESET button is pressed to reset the microprocessor. For location see page 13.

#### IMPORTANT NOTE

If after directly connecting the unit via the vehicles ISO connector plugs it does not appear to work (fails) to power up disconnect the orange lead bullet connector and reconnect to the twin bullet connector socket on the red wire. Try the unit again it should power up and can be used normally. Note this phenomenon is most frequent in Volkswagen/Audi vehicles.

## ISO PLUG CONNECTIONS



**Block A:** This plug is used for power supply connections only.

**Block B:** This plug is used for connecting the loudspeakers.

- If your vehicle is not fitted with an ISO connector but just bare wire, then simply connect the supplied ISO plug to bare wire connector A and B to the radio's ISO socket and connect the bare wire ends to the vehicles loudspeakers according to the wiring codes as shown below. Make sure all connections and any unused wires are insulated to prevent shorting.
- ISO Connector pin A6 (Car Light Illumination) is not used on this player.

### ISO-PLUG A

ISO	Function	Colour
A4	+12 Volt memory	Orange
A5	+ 12 Volt Auto. Antenna	Orange/White
A7	+12 Volt Power	Red
A8	Earth (Ground)	Black
A6	Car light (Illumination)	---

### ISO-PLUG B

ISO	Function	Colour
B1	Speaker right rear +	Yellow
B2	Speaker right rear -	Yellow with black stripe
B3	Speaker right front +	White
B4	Speaker right front -	White with black stripe
B5	Speaker left front +	Grey
B6	Speaker left front -	Grey with black stripe
B7	Speaker left rear +	Brown
B8	Speaker left rear -	Brown with black stripe

## Recommended Minimum Loudspeaker Power Ratings

Front and Rear Loudspeakers power ratings 4 x 30 Watts RMS.

### Two Speaker Wiring

If you intend to use only two speakers with this radio select either front or rear wiring i accordance with the power handling of the speakers fitted to you vehicle, when installing connect as per the instructions given on page 10 - 11.

### Installation Notes (Applicable to both 2 and 4 speaker connection)

This radio contains two separate power amplifiers, to prevent possible damage to these amplifiers please ensure:

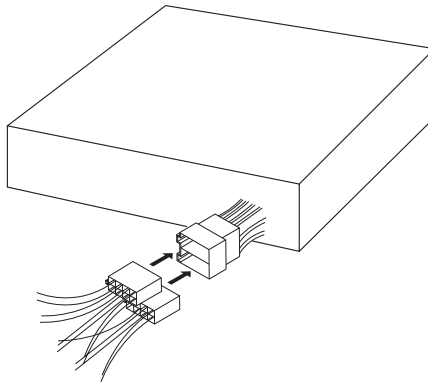
- i) The vehicle chassis is not used as a loudspeaker earth (-ve) return.
- ii) Front and Rear loudspeaker connection wires are not joined together.
- iii) Any wires not used when completing a two speaker installation are fully insulated.
- iv) The memory wire (orange) is connected to a permanent +12V supply.
- v) The power wire (Red) is connected via the ignition switch of the vehicle.

If bare wires are to be used, insert the 2 x supplied.

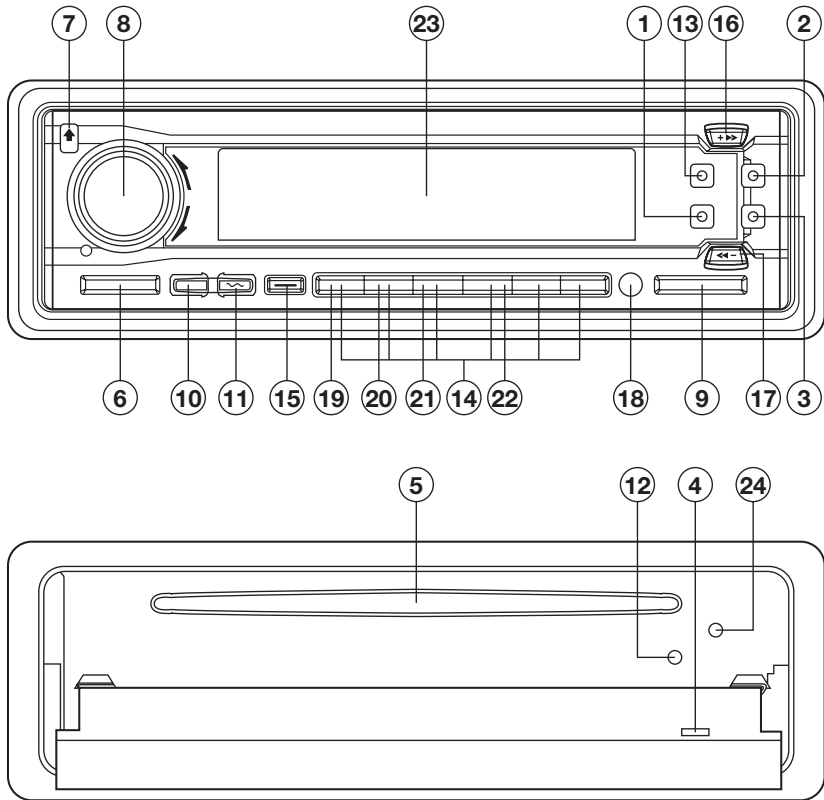
ISO plugs into the ISO socket of the car radio.

The plugs are handed and will only fit one way.

Connect the bare wire ends in accordance with the instructions given on page 10.



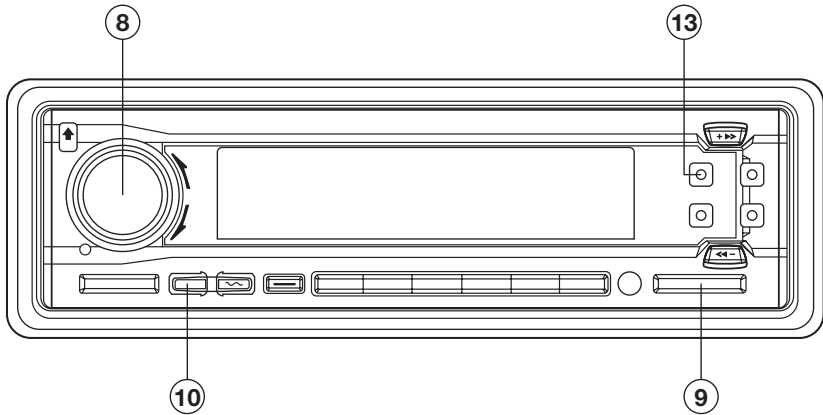
# IDENTIFICATION OF CONTROLS AND FUNCTIONS



## FUNCTION KEYS

- |                              |   |
|------------------------------|---|
| 1. PTY Button                | 13. Band/Loudness Button                  |
| 2. TA Button                 | 14. Preset Buttons                        |
| 3. AF Button                 | 15. Display Button                        |
| 4. Eject Button              | 16. Tune/Track Up Button                  |
| 5. Disc Slot                 | 17. Tune/Track Down Button                |
| 6. Mode Button               | 18. Auto Memory Store/Program Scan Button |
| 7. Open Button               | 19. Disc Pause Button                     |
| 8. Audio Adjust Knob         | 20. Disc Scan Button                      |
| 9. Power/Illumination Button | 21. Disc Repeat Button                    |
| 10. Select Button            | 22. Disc Shuffle Button                   |
| 11. Equalization Button      | 23. Vacuum Fluorescent Display            |
| 12. Flashing LED             | 24. Reset Button                          |

## CONTROLS



### 1. Power/Illumination button (POWER/ILL) (9)

Press to turn power to the player ON or OFF.

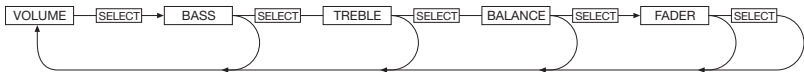
Note: To power off press and hold for several seconds.

### 2. Audio Adjust Knob (8) / Select button (SEL) (10)

The Volume, Bass, Treble, Balance and Fader functions are electronic and are selected for adjustment by this button. The function defaults to the volume setting which can be increased/decreased by rotating the Audio Adjust Knob (8).

To adjust the Bass, Treble, Balance or Fader functions press the SEL button (10) repeatedly until the desired function shows in the display. Rotate the Audio Adjust Knob (8) to adjust the desired function. The display will show the amount by which the function has been altered.

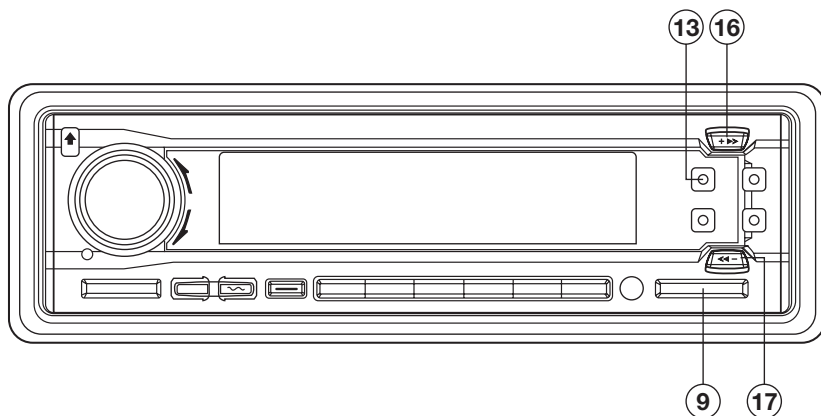
If no adjustments have been made within 4 seconds of pressing the SEL button (10), the player will assume the correct setting has been made and will automatically return to normal/Volume setting.



### 3. How to set loud ON/OFF (13)

Press and hold, (BND, LOU) (13) button for more than 2 seconds, until the Display shows "LOUD ON".

## Radio reception **AUTOMATIC TUNING (SEEK)**

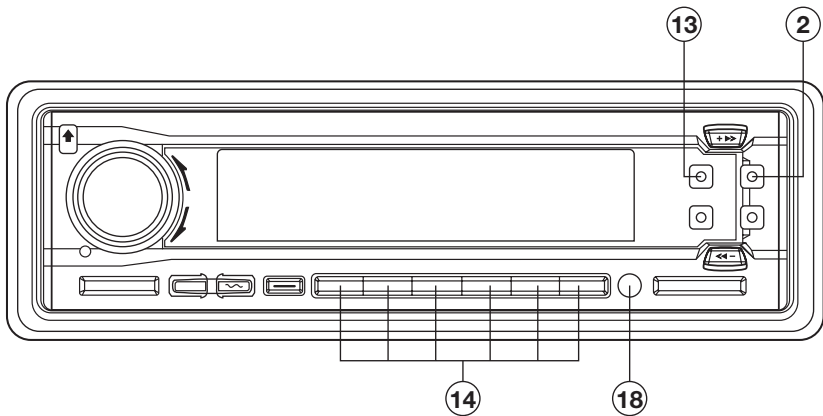


1. Press the POWER/ILL button (9) to turn on the unit.
2. Press BND/LOU (FM/MW/LW) (13) to select the desired band, FM1, FM2, FM3 or MW/LW.
3. Press TUNE/TRACK UP ( **+>>** ) (16) or TUNE/TRACK DOWN ( **<<-** ) (17).  
The unit will automatically seek a station upwards or downwards and stop when a station is tuned in.  
When there are many stations the automatic tuning stops frequently.

## **MANUAL TUNING**

1. Press the POWER/ILL button (9) to turn on the unit.
2. Press BND/LOU (13) to select the desired band, FM1, FM2, FM3, MW or LW.
3. Use Tune/Track up ( **+>>** ) (16) or Tune/Track down ( **<<-** ) (17) for more than 2 seconds then "Manual". Will show in this display. Press Tune/Track up ( **+>>** ) (16) or Tune/Track down ( **<<-** ) (17) to tune to your desired station.

## MEMORY PRESET TUNING



### To Auto Station Preset (AMS Function)

- Select FM1, FM2, FM3, MW or LW band.
- Press and hold the AMS button (18) for more than 2 seconds (Auto Preset Memory).
- The 6 strongest available station will be automatically saved in the memory on preset button 1 - 6 (14).

#### Notes:

- a. The complete band will be scanned and as each strongest station is received it will automatically be placed in the preset 1-6 memory locations.
- b. Any stations that were entered into the AMS memory before the AMS operation commenced will be erased or repositioned after AMS operation has been completed.
- c. If the radio has been set for TA mode (TA is shown in the display) the AMS will only search for the first 6 stations that are broadcasting TA/TP/RDS data. Press the TA buttons (2) until TA is no longer shown in the display if this is not desired.
- d. When there are less than 6 different stations in your area then the AMS will not memorize any stations into the remaining preset memory locations.
- e. AMS will not operate on LW band.

### Manual Preset Memory

1. Press BND/LOU button (13) to select band required FM1, FM2, FM3, MW or LW.
2. Tune to the desired radio station.
3. Press and hold the desired preset memory button (14) 1-6 until a beep is heard. The station has now been entered/memorized into the selected preset position.
4. To recall the AMS or normal/manually memorized stations, briefly press the AMS (18) or BND/LOU button (13) and then press the desired preset 1-6 button (14).

### To Hear a Preset Station

Select desired band and press the appropriate preset button (14) 1-6 into which you have previously stored the station.

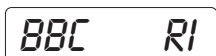


## RDS reception OVERVIEW OF THE RDS FUNCTION

The following functions are available with this unit using the RDS data system.

### **Station Name Display**

Displays the station name in the display window.



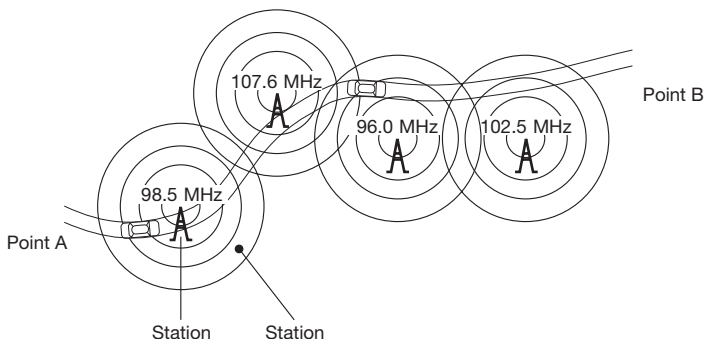
### **Automatic Re-tuning-AF function**

Re-tunes to a stronger signal station in the same broadcasting network automatically using the PI and AF data.

The illustration below shows an example: four stations of the same broadcasting network and a driver passes through from the point A to B.

The reception frequency of the station in the network changes from 98.5 MHz through 102.5 MHz as the driver passes through each transmitter.

By using the AF function, the driver can keep listening to the programme in the same broadcasting network without retuning operation while driving from the point A to B.

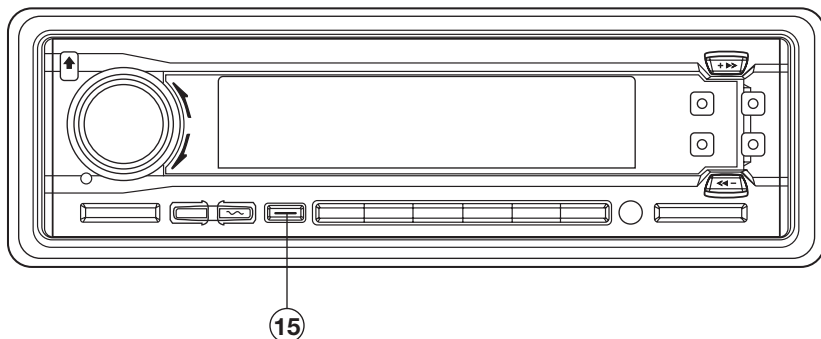


### **Traffic information Reception - TA function**

Searches and stands by for a traffic information station using the TP and TA data.

By this function, the unit automatically monitors the station and changes its mode to the traffic information reception when the broadcast starts even whilst listening to tape playback or an External source.

## STATION NAME DISPLAY



**Note:** Station name will only show when using FM band.

**1. Tune in a desired FM station using the automatic or manual tuning methods.**

If the received station is transmitting RDS data. In a few seconds, station name will be displayed.



### Notes

- RDS data can be received only on the FM band. It cannot be received on the MW/LW band.
- The RDS functions of this unit cannot be used if the received FM station is not transmitting the RDS data and may not work properly in area without RDS transmission.

### To change the display to frequency or programme type name

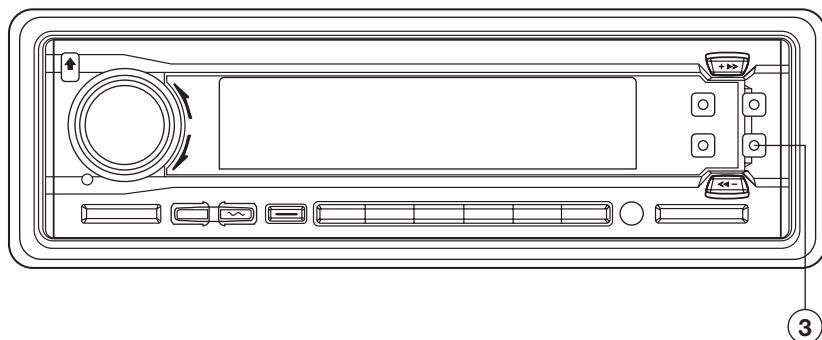
Press DSP (Display) (15)

Press on DSP (15) changes the display as follows:

Station name display → Clock → Frequency display → Program type display

If the RDS station is not transmitting the PTY (program type) or CT (Clock) data, programme type or clock will not show in the display.

## AF function **AUTOMATIC RE-TUNING**



**Note:** Auto Re-tuning will only operate on FM band.

- 1. Tune to a desired RDS station using the automatic or manual tuning methods.**
- 2. AF function is switched ON/OFF by pressing the AF button (3).**

When RDS is displayed, AF function is switched on. If no AF data is received, the AF symbol blinks.

### **How the AF function works?**

In AF mode, the radio measures at regular intervals the signal strength at frequencies that are mentioned in the list of Alternative Frequencies (AF's) of the current station. If an alternative frequency is found, it switches immediately to the new frequency if the quality of the current station becomes suddenly very poor, or if its RDS data cannot be received. The quality of a station is a function of signal level as well as multipath condition. **Note:** In areas of severe multipath reception this may cause noise or the AF function to constantly change. Should this occur then switch off the AF function. Try using the AF function later.

### **Regional**

Press AF button (3) longer than 2 seconds (until the radio beeps.)

Displays shows REGIONAL Mode status and allows switching the REGIONAL Mode ON/OFF. The current state of the REGIONAL Mode is indicated by a message "REG ON" or "REG OFF". Which is displayed for 4 seconds after the AF button (3) is pressed. To check whether an Alternative Frequency is a real Alternative for the current station, the radio compares PI codes. (Programme Identity)

Regional Mode is ON: The PI codes must be exactly identical.

Regional Mode is OFF: The Region identification code in the PI code is ignored.

When regional mode is OFF, the radio may switch from a National Programme to a local variant of that Programme, or from a local station in one area to a local station of an other area. When Regional Mode is ON, the radio will only switch to an alternative that broadcasts exactly the same programme. For best performance it is recommended that the Regional function remains in the OFF, Function is REG OFF.

### **CT FUNCTION (CLOCK TIME)**

This software incorporates a real time clock which is updated from the RDS signal.

When a station is tuned in the unit will decode the incoming clock data and after 2 minutes will display the correct time when the DSP button is pressed.

Press DSP x 1-CT displayed; DSP x 2-Programme type; DSP x 3 -Frequency display.

After 5 seconds the display will revert to station name display.

**Note:** Some stations do not transmit a PTY or CT information and therefore the clock display may not be available.

## INFO- function TRAFFIC INFORMATION RECEPTION

### TA FUNCTION IMPORTANT NOTE

This product incorporates the latest RDS software as such the following points apply.

1. If TA is already selected and the programme selected from a preset memory does not transmit Traffic information, the TP symbol (TP) shown in the display will flash and a beep will sound every 30 seconds indicating that traffic information will not be received whilst listening to this programme/station. The Audible beep sound can be disabled by pressing the TA button (2) thus switching TA off.
2. Whilst listening to a NON TA (Traffic information) programme/station the TA function is switched ON, the unit identifies that the user requires traffic information and automatically re-tunes to the next available TA transmitting station.
3. If the station selected is not acceptable, alternative TA transmitting stations can be selected by leaving TA switched on and using Auto/Manual or PTY tuning methods.

“Please note that TP (RDS symbol for TA) will show in the display when you are tuned to a station which is capable of broadcasting Traffic information.”

**Note:** If the Regional function is on , a regional station with traffic announcement is received.

1. If the radio was in CD mode, it switches temporarily to Radio mode, and the display will show the Programme Service name of the received station.
2. If the volume was low, it is raised to a preset to a preset level or the preferred TA level set using the select function.
3. The TA symbol blinks during reception of a TA broadcast.

At the end of the traffic announcement, the original station of tape function is restored again. If the user has not changed the volume setting. It is restored to the level before the traffic announcement. If the volume level was changed, during the traffic announcement, the new level will be retained.

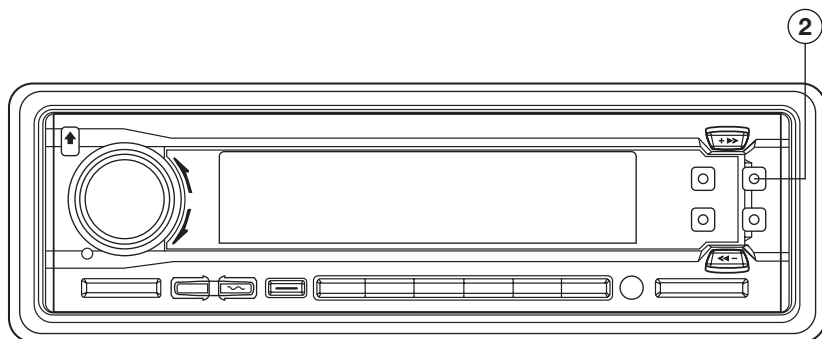
### E.O.N. (Enhanced Other Network)

1. When a traffic announcement is detected via EON, the radio will switch to the linked programme transmitting the traffic announcement. The radio will remain at least 4 seconds on this programme before switching back to the original programme. AF mode is disabled during an EON traffic announcement.

**Note:** TA reception can be adjusted to receive local or local + long distance announcements to select local press and hold TA button, until EON TA LO shows in the display for local + long distance press and hold until EON TA DX shows in the display.

## TRAFFIC INFORMATION RECEPTION

### While Listening to CD Playback



**1. Press TA button (2) while playing back a CD.**

"TA" appears on the display window, while playback continues.

**When a traffic information broadcast starts.**

"TA" starts blinking. The CD playback stops and the traffic information will be heard.

## PTY (PROGRAMME TYPE) DATA RECEPTION

**1. Press PTY button (1) to switch PTY mode on.**

When PTY mode is switched on and the current station does not transmit a PTY code or transmits a different PTY code, a search is started for the chosen code and the PTY icon blinks.

2. When search tuning is started while PTY is on, the radio stops only at stations that transmit the user preferred PTY code.  
The selected PTY code is stored.

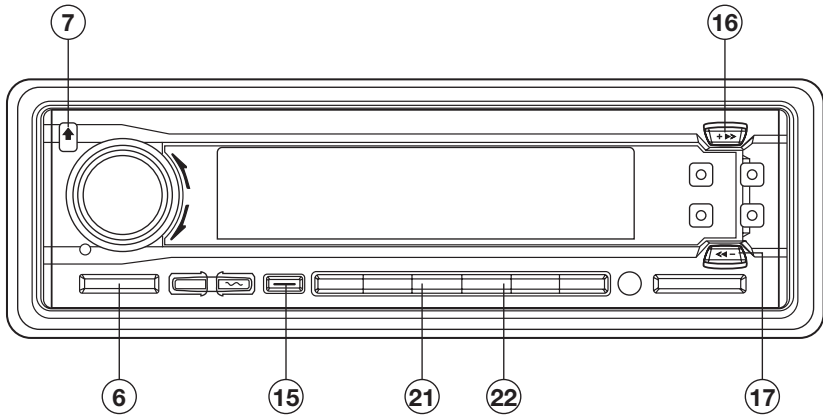
How to select the PTY code Figure 4 shows how to select a programme type. Only one programme type can be selected.

Press Button	Display will show	Press Preset Button	Press Once	Press Twice	Press Three Times
PTY	POP	1	POP M	ROCK M	
		2	EASY M	LIGHT M	
		3	CLASSICS M	OTHER M	
		4	JAZZ M	COUNTRY M	
		5	NATION M	OLDIES M	
		6	FOLK M		
	NEWS	1	NEWS	AFFAIRS	INFO
		2	SPORT	EDUCATE	DRAMA
		3	CULTURE	SCIENCE	VARIED
		4	WEATHER	FINANCE	CHILDREN
		5	SOCIAL	RELIGION	PHONE IN
		6	TRAVEL	LEISURE	DOCUMENT

Figure 4

PTY code is always enabled. The radio will always respond to a PTY message even when the PTY is not selected.

## CD OPERATION



### **1. Playing a CD Disc**

- Press OPEN button (7) and insert a disc label side upward.
- Disc play will automatically commence.
- To Skip Up/Down tracks briefly press TUNE/TRACK buttons (16) or (17).
- To search through a track press and hold TUNE/TRACK buttons (16) or (17). Release the button to return the player to its normal operation.
- Press the DSP (Display) button (15) during disc play to show disc current playtime for 5 seconds.

### **2. CD Shuffle (plays current disc in a random order)**

- Press the SHF button (22) for more than 2 seconds. The display will show SFD and the current disc will be played in random mode continuously.
- Press disc skip – or + to select the next disc to be played in Random mode.
- Press SHF button to return player to normal mode.

### **3. CD Repeat (repeat 1 track)**

Press the RPT button (21) to repeat one track continuously, RPT will show in display. Press RPT button again to return the player to normal operation.

## AERIALS AND AERIAL FITTING

The normal standard telescopic aerial is designed to be used fully extended. If any segments are damaged or missing this will result in a deterioration of the radio reception. It is important to keep the aerial clean which will prevent corrosion and subsequent high resistance occurring within the segments which will lead to noisy or poor reception.

**NOTE:** Special aerial cleaning fluid is available from most garages and car radio specialists.

The ISO connector is supplied with a wire for use with an electrically powered aerial. Each time the radio cassette player is turned on +12 Volts appears on this wire. This wire must only be connected to the +12 Volt input terminal of the relay supplied with an electric aerial (refer to the instructions supplied with the aerial). When the aerial has been fitted correctly it will automatically extend when the power control of the radio cassette player is turned on, and will retract when turned off. This type of aerial is excellent against vandalism if you are prone to forgetting to retract your manual type aerial.

When fitting an aerial always try to sight the aerial as far away from the engine electric as possible, this will ensure that any ignition interference is kept to a minimum. Always make sure that the aerial is secured to a paint/underseal/rust free surface.

## RADIO RECEPTION

**FM BAND:** FM (Frequency Modulated) transmissions are far superior in sound quality than AM transmissions (MW, LW).

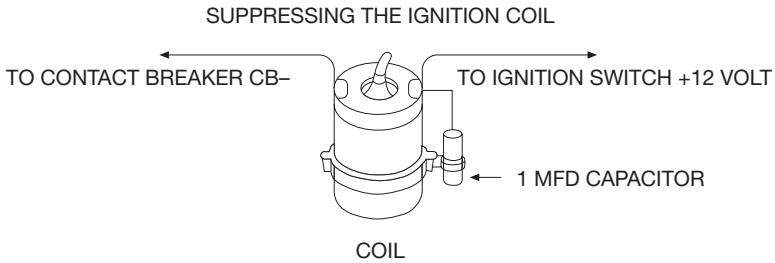
The signal can be affected by many factors such as car ignition, tall buildings, metal objects such as cranes or gasometers, hills, trees, wet weather, hot weather etc. In general, an increasing amount of noise and interference will be picked up by the radio the further away it is from the transmitter. When driving through built up areas or along a motorway, the FM reception may be patchy, this is due to the signal being momentarily blocked or reduced by an object and then reappearing when the object has been passed, this is heard as a shushing noise and is unfortunately unavoidable.

**AM BAND:** AM (amplitude modulated) in addition to the FM band, the receiver is capable of receiving Medium Wave (MW) and Long Wave (LW) bands. These signals may be received over very long distances because the transmitting signal will bend around the curvature of the earth. These transmissions are affected by similar factors to the FM band, but in addition to this the reception will alter as night falls. The ionised layer in the upper atmosphere changes at night and allows more distant signals to be reflected back down to the earth. Subsequently more stations will appear on the waveband and this may cause tuning difficulties or co-channel interference (where 2 or more stations occupy the same frequency on the waveband). If the interference is severe, retuning to an alternate frequency (BBC often use more than 1 frequency) or selecting and tuning into a different waveband may be necessary.



## **RADIO INTERFERENCE**

In the event that your player suffers from interference from your vehicles ignition or charging system, please read carefully the guidance given below. It should be noted that in the majority of cases, interference is mostly caused by a missing or defective device or the ignition HT leads are worn or are of poor quality.



The ignition circuit consists of the coil, distributor, spark plug leads, and spark plugs, all of these components pass very high voltage and unless they are screened or suppressed will cause electrical interference to the radio. This can occur in any of the following ways:

- a. Travel along the +12 Volt supply cable to the radio or
- b. As a radio frequency which is received by the car aerial and processed as a signal or
- c. By both points a and b shown above.

Before replacing or adding any suppression devices or filters, check carefully that the car aerial and screened lead are not damaged and that the radio cassette player is properly earthed and tuned to the correct frequency. As radio interference can be caused by many factors, locating the exact cause of the problem can often be very difficult, and trouble shooting is usually best left to a professional car radio installer, or to the main agent of your vehicle.

If you decide to try and cure the problem yourself, the large array of suppression kits/devices currently available from high street motor factors or your vehicles main agent may be confusing you. Each type of device is designed to filter out electrical interference at specific frequencies it is unfortunately trial and error, if one device works and another does not, therefore you may have to try several different types of filters before you have any success. Instructions on fitting the filters etc. are usually supplied with the kits.

Another source of interference is the alternator or dynamo, this can cause a whining noise relative to the engine speed. The alternator/dynamo should be fitted with a 2.2 MFD capacitor which should be connected between the +B lead (usually the thickest lead) and the car chassis or body of the alternator.

## **TROUBLE SHOOTING**

The following indicator appears.

E1, E2, E3	Press the RESET button. If this indicator still appears after pressing the RESET button, consult your nearest service dealer.
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## **BEFORE SET REMOVAL**

1	Take out the disc.	If a disc remains in the CD player, the disc or set may be seriously damaged in transportation.
2	Turn off the power switch.	

### **CAUTION:**

Metal parts of this unit (especially on the back) become quite hot during operation, be careful to avoid touching parts immediately after removing the unit.

## **TROUBLE SHOOTING**

The following checks will assist in the correction of most problems which you may encounter with your unit. Should any problem persist after you have made these checks consult your nearest service dealer.

Before going through the check list first refer back to the connection and operating procedures.

<b>Symptom</b>	<b>Cause</b>	<b>Solution</b>
No power.	The car's ignition switch is not on.	If the power supply is connected to the car's accessory circuits, switch the ignition key to "ACC".
	The fuse is blown.	Replace the fuse with another 15A or 0.5A fuse.
Disc will not play.	You are trying to put in the compact disc up-side down.	Insert the compact disc with the label side facing up.
	The compact disc is extremely dirty or defective disc.	Clean the compact disc, try to play the new one.
	The temperature in the car is too high.	Cool off the inside of the car, then try again.
	Condensation.	Leave the disc player off for an hour or so, then try again.

<b>Symptom</b>	<b>Cause</b>	<b>Solution</b>
No sound.	Adjust the volume control.	Adjust the sound to the level you want.
	Unit is not connected properly.	Double check the connections.
	The connection cords are not connected properly.	Check the speaker cords and the other connection cords.
The operation keys do not work.	The built-in microcomputer is operating incorrectly.	Remove the compact disc, then insert it again. Press the reset button.
Sound skips.	The installation angle is greater than 30°.	Adjust the angle to less than 30°.
	The disc player is not correctly secured.	Fasten the disc player securely.
Sound skips.	The compact disc is extremely dirty or defective disc.	Clean the compact disc, try to play a different disc.
	Condensation.	Leave the disc player off for an hour or so, then try again.
The sound quality is poor.	The compact disc is defective.	Try another disc. If that disc plays properly, the first disc is defective.
	The compact disc is dirty.	Clean the disc.
The radio does not work. The radio station automatic selection does not work.	The aerial cable is not connected.	Insert the aerial cable solidly.
	The signals are too weak.	Select a station manually.

# **SPECIFICATIONS**

## **GENERAL**

Power Supply Requirements	: DC 12 Volts, Negative Ground
Chassis Dimensions	: 178 (W) x 163 (D) x 50 (H)
Tone Controls	
- Bass (at 100 Hz)	: ± 10 dB
- Treble (at 10 KHz)	: ± 10 dB
Maximum Output Power	: 4 x 20 Watts RMS (4 x 40 Watts Music)
Current Drain	: 15 Ampere (max.)

## **CD PLAYER**

Signal to Noise Ratio	: More than 60 dB
Channel Separation	: More than 60 dB
Frequency Response	: 20 Hz - 20 KHz

## **RADIO**

	<b>FM</b>
Frequency Coverage	: 87.5 to 108 MHz
IF	: 10.7 MHz
Sensitivity (S/N = 30 dB)	: 3 µV
Stereo Separation	: > 30 dB

	<b>MW</b>
Frequency Coverage	: 522 to 1620 KHz
IF	: 450 KHz
Sensitivity (S/N = 20 dB)	: 32 dBu

	<b>LW</b>
Frequency Coverage	: 144 to 288 KHz
IF	: 450 KHz
Sensitivity (S/N = 20 dB)	: 35 dBu