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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.

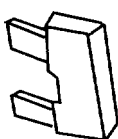
Most screen aerials require a 12 volt supply to operate correctly. Please check that this has been connected the +12 volt antenna wire of your radio. If you are in any doubt of this connection please contact the vehicle dealer or Goodmans installation helpline.

Note. The RDS functions of this radio will still operate even when playing CD disc or using Aux. If you listen to them with the car aerial retracted, popping noises etc may be heard as the RDS receiver is unable to receive good clear signals. To prevent this from occurring either fully extend the aerial or if TA broadcasts are not required press the AF and TA button until AF and TA are no longer shown in the display.

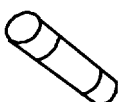
ACCESSORIES

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 memory wire of the unit).
- 1 X 0.5 Amp fuse (spare auto antenna)

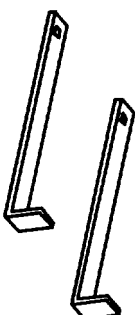


15A Fuse



0.5A Fuse

(2) 2 X Release key



333-9117

TO THE VEHICLE

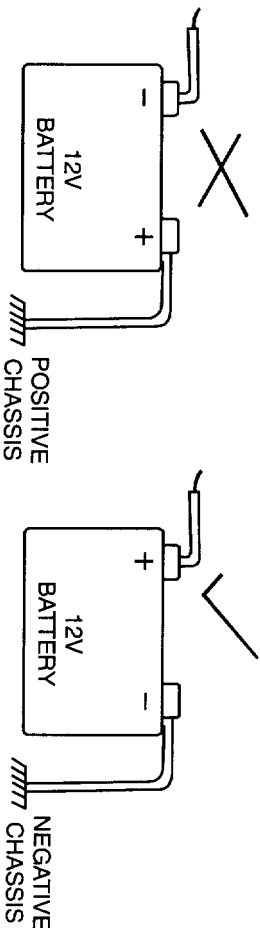
IMPORTANT NOTES

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 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 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 (+) cables. 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 of 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 shorted 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.

During play if the CD player is subjected to a sudden shock some "noise" or "skip" may occur. This is not unusual, the CD will not be damaged.

Do not apply oil to any part of the unit.

Use a soft dry cloth to clean the cabinet. NEVER use petrol, thinner, alcohol or other chemical solvents on the plastic cabinet. Avoid using hair spray and spray deodorants near the unit.

Compact disc Care

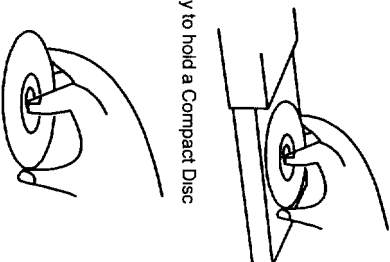
Only use Disc with the following logo



- Never use chemicals such as record sprays, artist's sprays or fluid, petrol or thinner to clean Compact Discs. Such chemicals would damage the Disc's plastic surface.
- Discs should be returned to their cases after use to avoid serious scratches which could cause the laser pick up to skip. Remove Discs before carrying the unit.
- Do not expose Discs to direct sunlight, high humidity, or high temperature for extended periods. Long exposure to high temperatures could warp the Discs.
- Do not stick paper or write anything with a ballpoint pen on the Disc's surface.

- **Handling the Discs**
 - Always place the Compact Disc in the Disc slot with the label facing upward. Compact Discs can be played on only one side.
 - To remove a Disc from its storage case, press down the centre of the case and lift the Disc out, holding it carefully by the edges.

The proper way to hold a Compact Disc



- Fingerprints and dust should be carefully wiped off the recorded side of the Disc (glossy side) with a soft cloth. Unlike conventional records, the Compact Disc has no grooves to collect dust and microscopic debris, so gentle wiping with a soft cloth should remove most particles. Wipe in a straight motion from the inside to the outside of the Disc. Small dust particles and light stains will have no effect on reproduction quality.

Important information

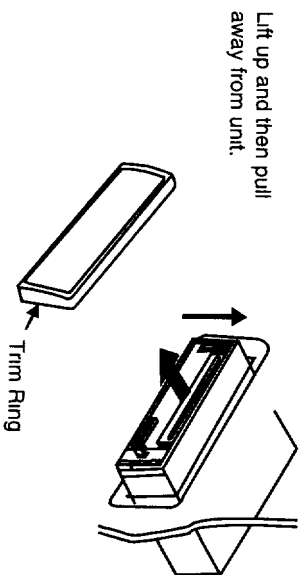
Compact Disc players have built in error compensation circuit to correct for MINOR defects in a Disc. There are limits however, to the amount of correction available.

If defects such as large scratches are on the Disc being played which are too large for the error compensation circuit to handle the CD player may skip or repeat.

To check the player's operation play a new Disc. If the CD player operates normally the problem is probably due to a defective Disc.

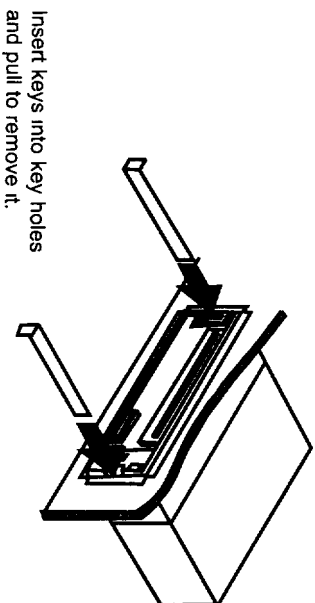
This model can be fitted to DIN E or ISO style dashboard slots. The clip on trim ring is pre-fitted to the front of the unit for this purpose

- 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.
- Simply position the trim ring over the front of the main unit and push fit the trim ring on to the 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 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



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The front panel of this unit can be detached in order to deter the unit from being stolen.

DETACHING THE FRONT PANEL

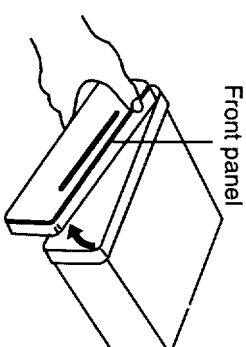
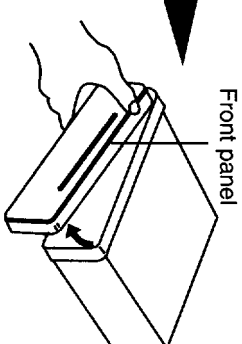
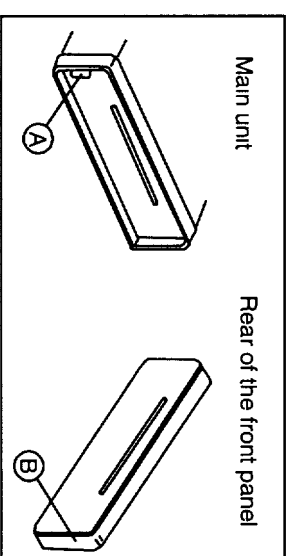
Press the RELEASE button and detach the panel by pulling it towards you as illustrated.

Warning. The front panel will become hot in use.

Note
Be sure not to drop the panel when detaching it from the unit

ATTACHING THE FRONT PANEL

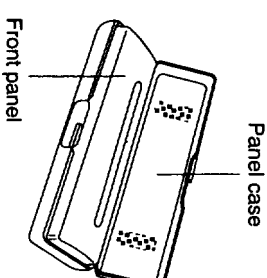
Apply the left hand side of the front panel to the unit by attaching the part B of the front panel to the part A of the unit as illustrated and push until it clicks.



Notes:
• Make sure that the front panel is the right way up when attaching it to the unit as it cannot be attached upside down

- Do not press the front panel hard against the unit when attaching it. It can be easily attached by pressing it lightly against the unit
- Do not press hard or put excessive pressure to the control buttons of the front panel when attaching it to the unit

Note: When the detachable panel is removed the red anti theft LED will flash



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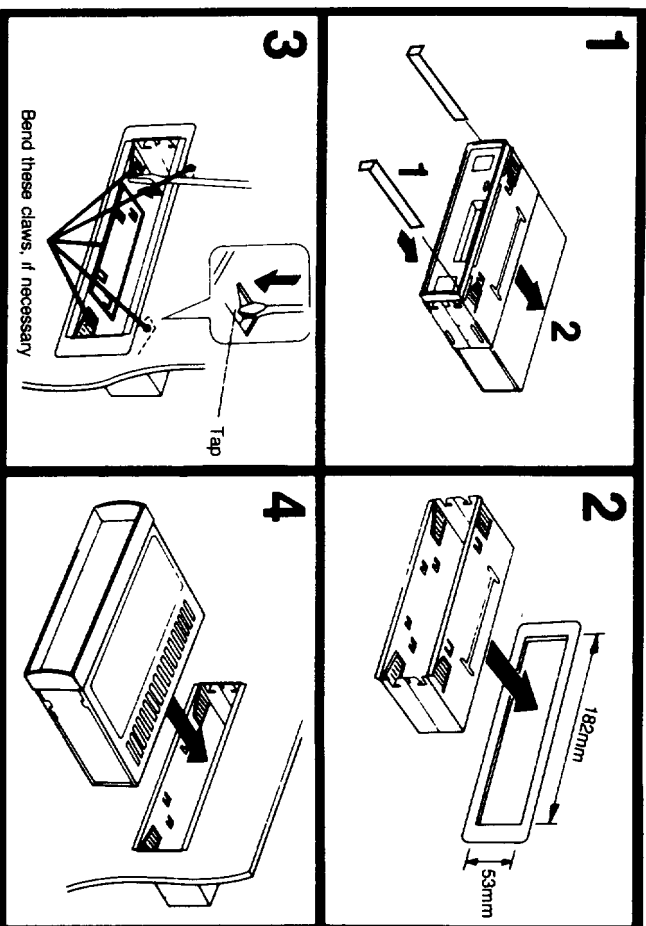
INSTALLATION/PRECAUTIONS

- 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

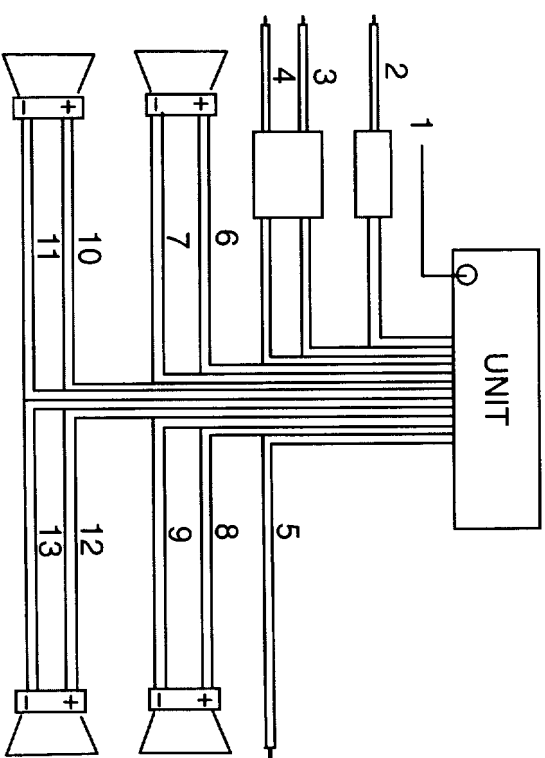


Note:
Keep the release keys in a safe place as you may need them in future to remove the unit from the car.

IMPORTANT: Before disconnecting the vehicle battery check that there are no on board computers, alarms etc. which require special attention before the battery is disconnected. If you are unsure then check with the vehicles owner's handbook or distributor of the vehicle.

WIRING IDENTIFICATION

ISO SOCKETS NOT SHOWN

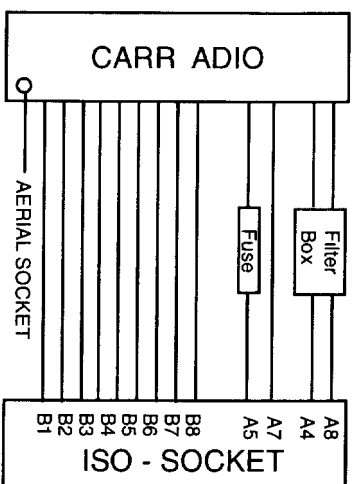


REAR VIEW OF PLAYER

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

IMPORTANT NOTE This unit develops high power output to the front speakers it is very important that you confirm the front speakers fitted in your vehicle are capable of handling this power

ISO PLUG CONNECTIONS



ISO - Socket

	B				
	11	31	51	71	
A	21	41	61	81	
	11	31	51	71	
	21	41	61	81	

Block A: This socket is used for power supply connections only
Block B: This socket is used for connecting loudspeakers

- If your vehicle is not fitted with an ISO connector but just bare wire, then simply cut off the ISO sockets and connect the bare wire ends to the vehicles loudspeakers according to the wiring coded 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/Black
B3	Speaker right front +	White
B4	Speaker right front -	White/Black
B5	Speaker left front +	Grey
B5	Speaker left front -	Grey/Black
B7	Speaker left rear +	Brown
B8	Speaker left rear -	Brown/Black

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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 accordance with the power handling of the speakers fitted to you vehicle. When installing connect as per the instructions given on page (9-10).

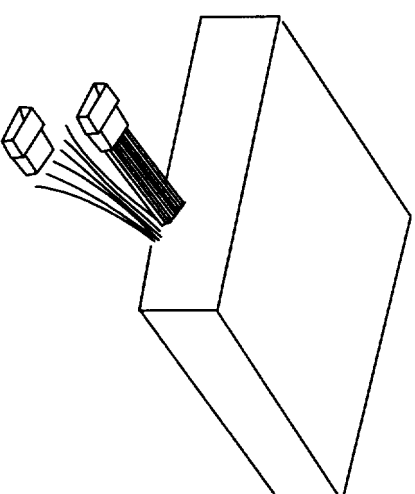
Installation Notes

(Applicable to both 2 and 4 speaker connection)

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

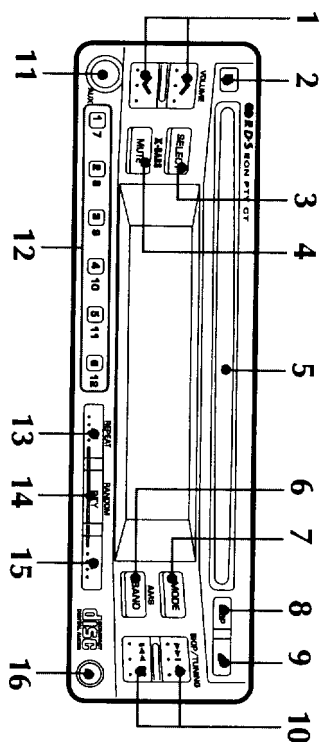
- 1) The vehicle chassis is not used as a loudspeaker earth (-ve) return.
- 2) Front and Rear loudspeaker connection wires are not joined together
- 3) Any wires not used when completing a two speaker installation are fully insulated
- 4) The memory wire (Yellow) is connected to a permanent +12V supply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

If bare wires are to be used, it will be necessary to cut off the ISO sockets
 Connect the bare wires ends in accordance with the instructions given on page 9

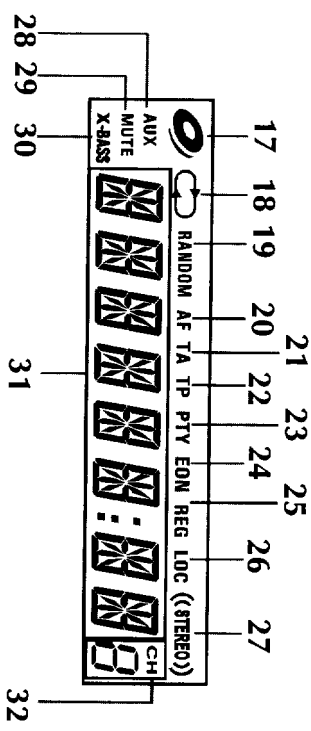


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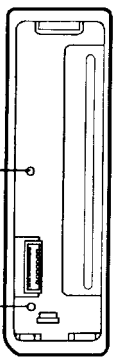
IDENTIFICATION OF CONTROLS AND FUNCTIONS



DISPLAY WINDOW

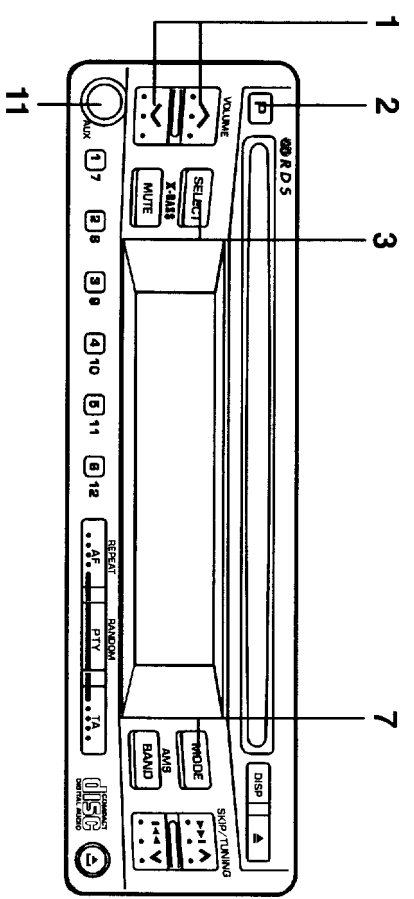


- 1 VOLUME control
- 2 **P** (power on/off) button
3. SELECT button
- 4 MUTE/X-BASS button
5. Disc compartment
- 6 BAND/AMS (auto memory/preset scan) button
7. MODE button
- 8 DISP (display) button
- 9 **▲** (eject) button
- 10 **▶▶▶** (forward skip)/TUNE **▲** / **▶▶▶** (back skip)/TUNE **▼** buttons
- 11 AUX input socket
- 12 Preset station buttons
13. AF (alternative frequency) / REPEAT button
- 14 PTY (programme type) display / RANDOM button
- 15 TA (traffic announcement) button
16. **▶** (panel release) button
- 17 CD indicator
- 18 REPEAT indicator
19. RANDOM indicator
20. AF (alternative frequency) indicator
21. TA (traffic announcement) indicator
- 22 TP (traffic programme) indicator
23. PTY (programme type) indicator
24. EON (enhance other network) indicator
25. REG (region) indicator
26. LOC (local) indicator
27. STEREO indicator
- 28 AUX indicator
29. MUTE indicator
30. X-BASS indicator
- 31 Main display section
- 32 CH (channel) indicator
33. Anti theft LED
- 34 Reset button

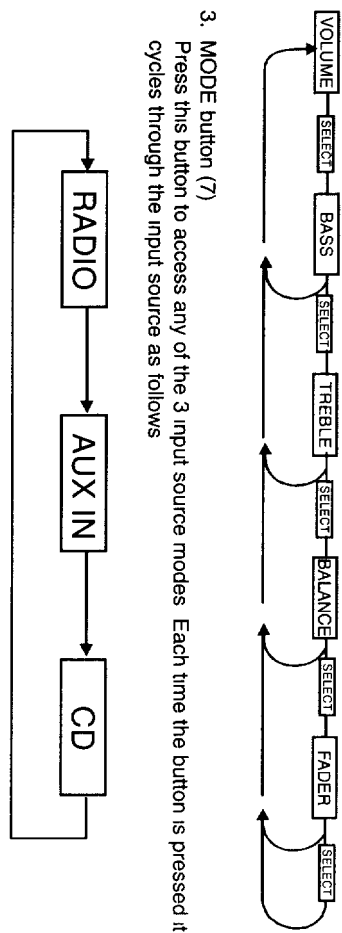


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CONTROLS



1. Power button (PWR) (2)
Press to turn the power to the player ON or OFF
2. Select button (SEL) (3) VOL. UP/DOWN (1)
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 pressing the VOL. Up/Down (1) button.
To adjust the Bass, Treble, Balance or Fader functions press the SEL button (3) repeatedly until the desired function shows in the display. Press the VOL. Up/Down button 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 (1), the player will assume the correct setting has been made and will automatically return to normal/Volume setting.
3. MODE button (7)
Press this button to access any of the 3 input source modes. Each time the button is pressed it cycles through the input source as follows



Note.
When selecting AUX in an external audio source must be connected via the AUX input socket (11) on the front panel

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2



- # MANUAL TUNING

- P 14

2

Up to 6 stations per BAND may be stored FM1=6, FM2=6, FM3=6, MW=6 giving a total of 30 preset stations.



9

- Select FM1, FM2, FM3, MW1 or MW2

- Notes:**

- ## Manual Preset Memory

- ## To Hear a Preset Station

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RDS reception OVERVIEW OF THE RDS FUNCTION

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

Station Name Display

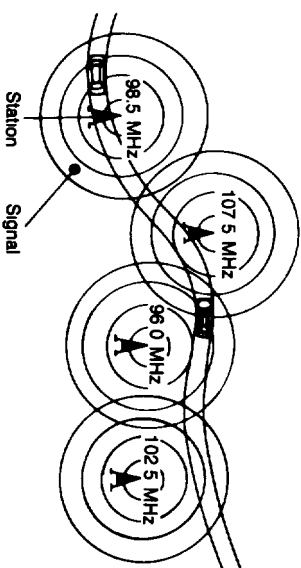
Displays the station name in the display window

BBC R1

Automatic Re-tuning-AF function

Re-tunes to a stronger signal station in the same broadcasting network automatically tuning 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 returning operation while driving from the point A to B.



Traffic information Reception - TA function

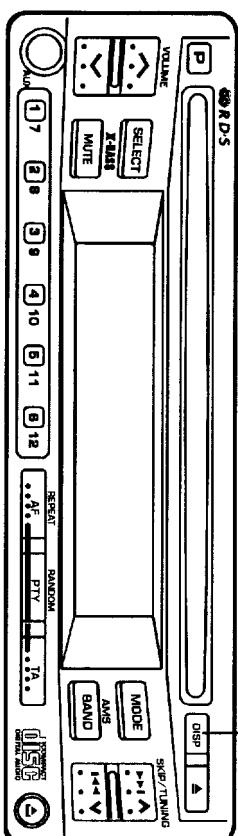
Searched and stands by for a traffic information station using the TP and TA data
Using this function, the unit automatically monitor the station and changes its mode to traffic information reception when the broadcast starts even whilst listening to tape playback or an External source

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Goodmans Product Information Helpline (01705) 391100
Installation Helpline (01132) 866613

STATION NAME DISPLAY

8



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

FM 1-98.20

BBC R1

Notes

- RDS data can be received only on the FM band It cannot be received on the MW1 or MW2 band
- The RDS functions of this unit cannot be used if the received FM station is not transmitting RDS data and may not work procured in area without RDS transmission

To change the display to frequency or programme type name
Press DISP (Display) button (8)
Repeated pressing DISP (8) changes the display as follows.

Station name display → CT → Program type display → Frequency display

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

NOTE. PLEASE ALLOW UP TO 8 MINUTES
TO ALLOW THE RDS CLOCK TO SET.

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Goodmans Product Information Helpline (01705) 391100
Installation Helpline (01132) 866613

RDS reception OVERVIEW OF THE RDS FUNCTION

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 Audio beep sound can be disabled by pressing the TA button (15) 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."

- 1 If the radio was in CD mode or AUX IN 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 level.
- 3 The TA symbol blinks during a traffic broadcast.

At the end of the traffic announcement, the original station or CD 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.

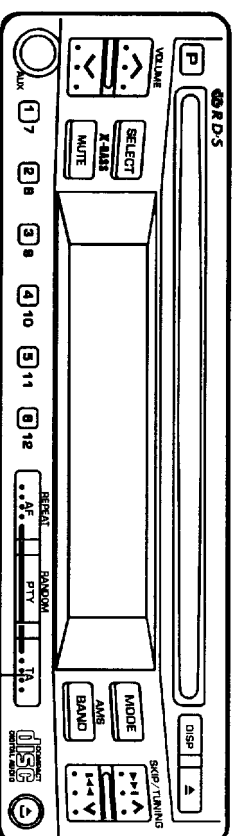
E.O.N. (Enhanced Other Network)

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

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TRAFFIC INFORMATION RECEPTION

While Listening to CD Playback



1. Press TA button (15) while playing a CD.
"TA" appears on the display window, while playback continues

When a traffic information broadcast starts.

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

When the broadcast is over.

The CD playback resumes from the point it has been suspended

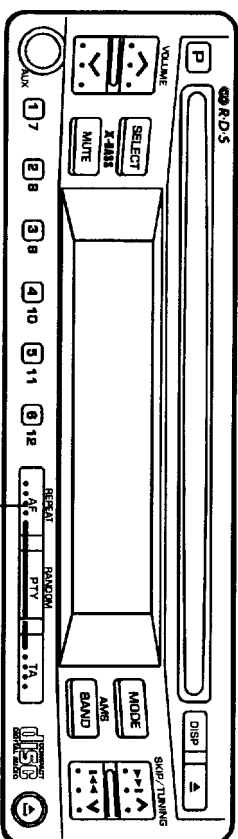
Traffic announcements (TA) : Please note that some TA broadcasts may be heard then subsequently drop out of reception. This will occur when out of range transmission are received.

GHOST SIGNALS: Occasionally the display will briefly show a different frequency to that tuned. This will occur when long distance / out of range TA broadcast is received

- TA broadcasts are more common early morning and evening. At this time the CD player may be paused many times in quick succession. Should TA broadcasts not be required then press the TA button (TA symbol disappears from the display)
- If a TA broadcast is received but is subsequently not required. Simply press the TA button at any time during the broadcast to cancel the current TA broadcast. This will not prevent further TA broadcast occurring but will simply end the current broadcast

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RDS reception OVERVIEW OF THE RDS FUNCTION



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 (13)

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 switched immediately to the new frequency if the quality of the current station becomes suddenly very poor, or it is 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

PTY (PROGRAMME TYPE) DATA RECEPTION

1. Press PTY button to display the current PTY code
If the current station does not transmit a PTY code, no PTY will display
2. Press SKIP/TUNING to select new PTY code
3. Press and hold PTY for 3 seconds to start search. Figure 4 shows how to search new PTY code

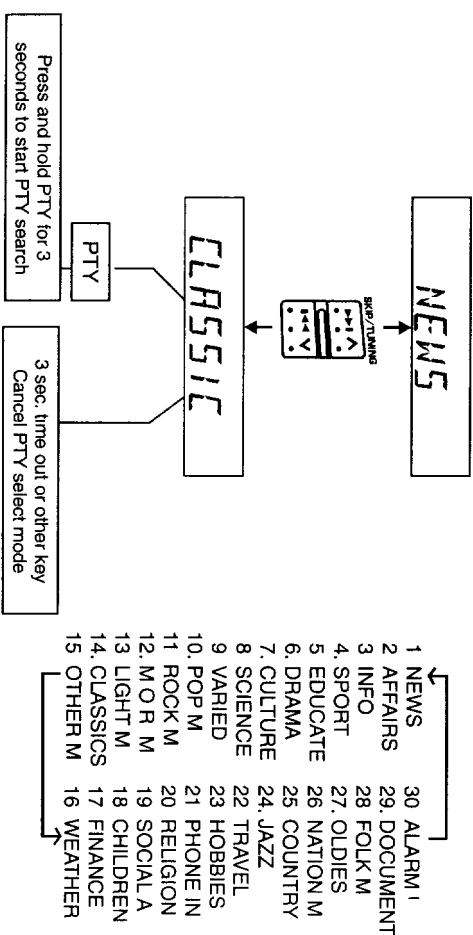
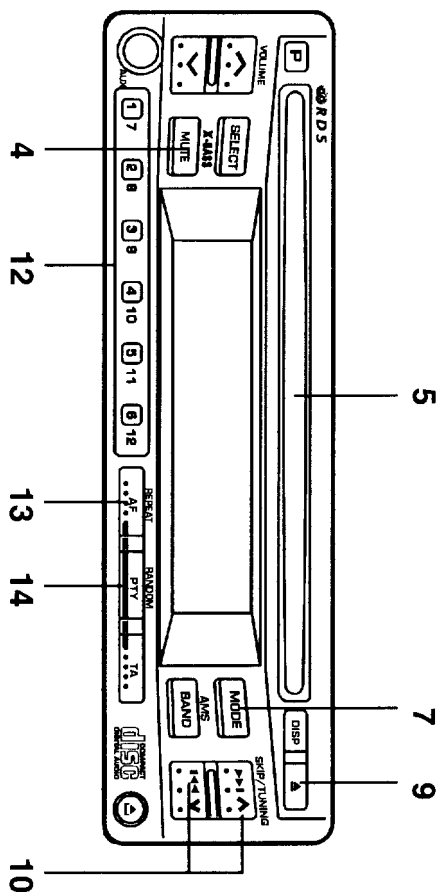


Figure 4

OPERATING THE CD PLAYER



Playing a disc.

1 Insert a Compact disc (label side up) into the CD slot (5). After a few seconds the 1st track of the disc will begin to play, the disc will play repeatedly. To stop the disc playing and hear the radio press Band button. Press the MODE button (7) to resume playing the CD disc.

2. Eject ▲ (9)

Press the eject button to remove a disc from the player.

3 SKIP UP/DOWN (10)

Press the ◀▶ button to skip to next or previous tracks.

Press and hold the SKIP Down or Up buttons (10) to locate a particular passage of music in a track. Note during search low level audio will be heard assist in the location of the correct point.

4 REPEAT PLAY (13)

Whilst playing a desired track press the REPEAT (13) button to play the track repeatedly the indicator shows in the display. Press the REPEAT button (13) again to return to normal play mode

5 MUTE (4)

Press this button to temporarily lower the volume.
Press it again to restore the previous volume

6 RANDOM PLAY BUTTON (14)

Press the RANDOM button (14) to play all tracks on a CD disc in a random sequence.
Press RANDOM again to return the player to normal play mode.

7 RESET BUTTON (BEHIND DETACHABLE PANEL)

A micro processor reset button has been provided to facilitate manual resetting of the internal microprocessor in the unlikely event that the CD player fails to operate correctly. First carefully check that the disc is clean is not scratched and has been inserted correctly (label side up/nearest) if possible try another disc. If the player still fails to operate correctly the reset the processor by inserting a pin/paper clip or similar object gently through the hole provided

Note: It will be necessary to re-enter the radio preset memories as these will have been erased when the processor was reset

After resetting the player check that all functions are operating correctly, if necessary repeat the above procedure.

8 DISP BUTTON

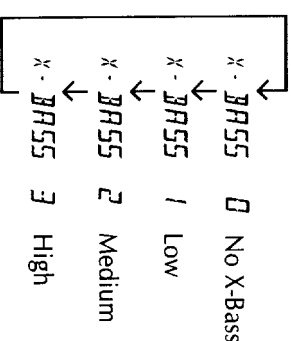
Press this button during RADIO mode to display the clock time, P.T.V. code or station name. Press this button during CD play to change the display to show, TRACK No., CLOCK TIME or TRACK ELAPSED TIME. Note this function is cyclic and the display will change in the order shown above

9 DIRECT TRACK ACCESS (12)

Using the PRESET button (12) it is possible to directly access up to the first 12 tracks on a disc before pressing buttons 1-6 provides access to tracks 1 to 6 on a disc. Pressing and holding buttons 1 - 6 for more than 2 seconds provides direct access to tracks 7 - 12. Press and hold button 3 for more than 2 seconds and track 9 will play

10. X-BASS FUNCTION

This function enhances the bass performance particularly when listening at low volume. Press and hold MUT button (4) for more than 2 seconds X-BASS will appear in the display. Pressing the MUTE button briefly whilst "X-BASS O" is in the display toggles it's state as follows



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 unit 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 unit 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 electrics 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. (Frequency Modulated) transmissions are superior in sound quality than AM transmissions.

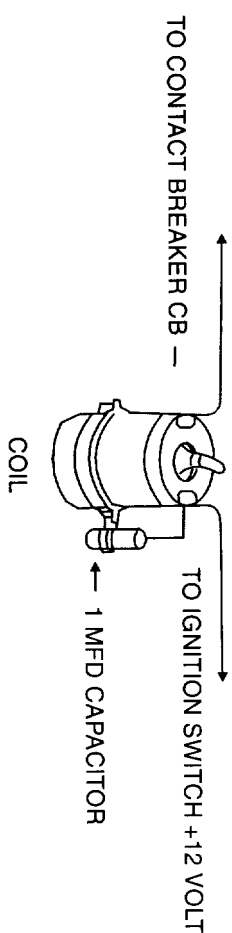
The signal can be affected by many factors such as car ignition, tall buildings, metal objects such as cranes or gasometers, hills, trees, wet weather, hot weather etc. In general, an increasing amount of noise and interference will be picked up by the radio the further away it is from the transmitter. 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 re-appearing when the object has been passed, this is heard as a shushing noise and is unfortunately unavoidable. The reception may be improved by pressing the AF button (13).

AM BAND. AM (amplitude modulated) In addition to the FM band, the receiver is capable of receiving Medium Wave (MW) band. These signals may be received over 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 insides 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 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.

SUPPRESSING THE IGNITION COIL



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:

- Travel along the +12 Volt supply cable to the radio or
- As a radio frequency which is received by the car aerial and processed as a signal or
- 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 unit 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 GUIDE

- Poor sound quality from CD
 - Dirty disc - clean disc
 - Scratched disc - replace disc.
 - Laser lens dirty use a lens as cleaning disc to clean the lens
- Interference on radio
 - Poor atmospheric conditions Try again later in the the day.
 - Vehicle suppression devices worn, missing or faulty.
 - Aerial/lead broken or damaged.
 - SWITCH OFF the AF mode.
- Distorted radio
 - Check loudspeaker wiring This product contains a biamp, it is vitally important not to connect the front loudspeaker earth return wire to the rear speaker earth return wire.
 - Do not use the vehicles fader control as this will not be compatible with this player
 - Faulty loudspeaker
 - Distortion at high volume levels may be normal as the amplifier has reached maximum power output

However if extension wires have been used to connect to the vehicle battery these may be too thin/poor quality or be poorly connected. Use cables of 10 Amp or more.

 - Reduce the bass effect or switch off the loudness mode
 - Vehicle battery and or charging circuit may be faulty.

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Installation Helpline (01132) 868613

SPECIFICATIONS

FM SECTION

Frequency Range	87.5 MHz - 108 MHz (50-kHz step)
Channel step	50 kHz
Intermediate Frequency	10.7 kHz
Usable Sensitivity	6 dB
Image Rejection Ratio	45 dB
IF Rejection Ratio	60 dB

MW SECTION

Frequency Range	522 kHz-1,620 kHz (9-kHz step)
Channel step	9 kHz
Intermediate Frequency	450 kHz
Usable Sensitivity	32 dB
Image Rejection Ratio	45 dB
IF Rejection Ratio	100 dB

CD SECTION

Frequency Response	17 Hz-20 kHz +0/-3 dB
Dynamic Range	More than 80 dB
Channel Separation	More than 65 dB
S/N Ratio	More than 85 dB
Wow/Flutter	Unmeasurable

GENERAL

Power-Supply Voltage	14.4V (11 to 16V allowable)
Polarity	Negative ground only
Speaker Impedance	4 Ω - 8 Ω
Maximum Output Power	4 X 40W max
Dimensions Chassis	178 (W) x 50 (H) x 150 (D)mm

Cabinet

Nose piece

Weight

7 (W) x 2 (H) x 5.9 (D) inch	7 (W) x 2 (H) x 5.9 (D) inch
182 (W) x 53 (H) x 70 (D)mm	7.2 (W) x 2.1 (H) x 2.75 (D) inch
188 (W) x 58 (H) x 20 (D)mm	7.4 (W) x 2.3 (H) x 0.8 (D) inch
Net 1.7 Kg	
Gross 2.5 Kg	

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