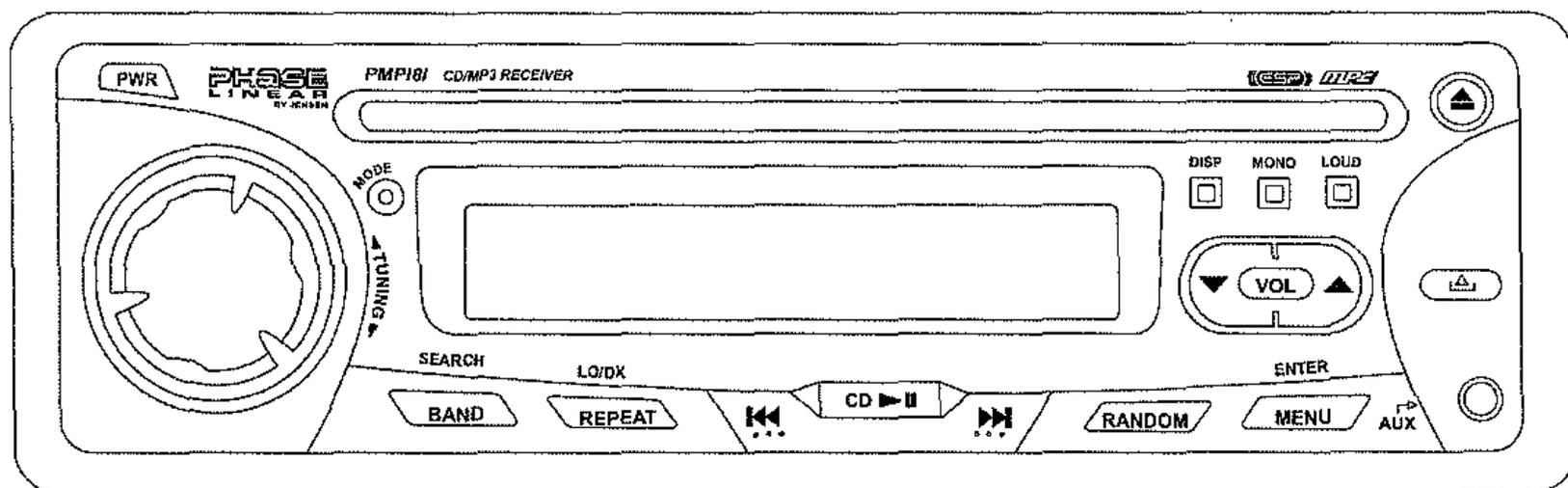


PHASE LINEAR

PMP181

Owner's Manual/Manual del Usuario/Manual de L'Utilisateur



AM/FM/CD/MP3 Receiver

Receptor AM/FM/CD/MP3

AM/FM/CD/MP3
Ampli-Syntoniseur

Para obtener instrucciones en Español, dirijase a la página 18.

Pour des instructions en Français, référez-vous à la page 34.

PREPARATION

Getting Started

It's a good idea to read all of the instructions before beginning the installation.

Contents

Installation Instructions	3
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Installation Requirements

This unit is designed for installation in cars, trucks and vans with an existing radio opening. In many cases, a special installation kit will be required to mount the radio to the dashboard. These kits are available at electronics supply stores and car stereo specialty shops. Always check the kit application before purchasing to make sure the kit works with your vehicle. If you need a kit but cannot locate one, call our customer support line at 1-800-323-4815. (U.S.A. and Canada only.)

Tools and Supplies

The following tools and supplies are needed to install the radio.

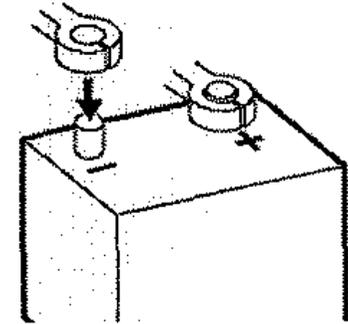
- Torx type, flathead and Philips screwdrivers
- Wire cutters and strippers
- Tools to remove existing radio (screwdriver, socket wrench set or other tools)
- Electrical tape
- Crimping tool
- Volt meter/test light
- Crimp connections
- 18 gauge wire for power connections
- 16-18 gauge speaker wire

Speaker Requirements

Only connect speakers rated with a load impedance of 4 ohms. Speakers with a load impedance of less than 4 ohms could damage the unit.

Disconnect Battery

Before you begin, disconnect the battery negative terminal.



Toll-Free Installation Assistance

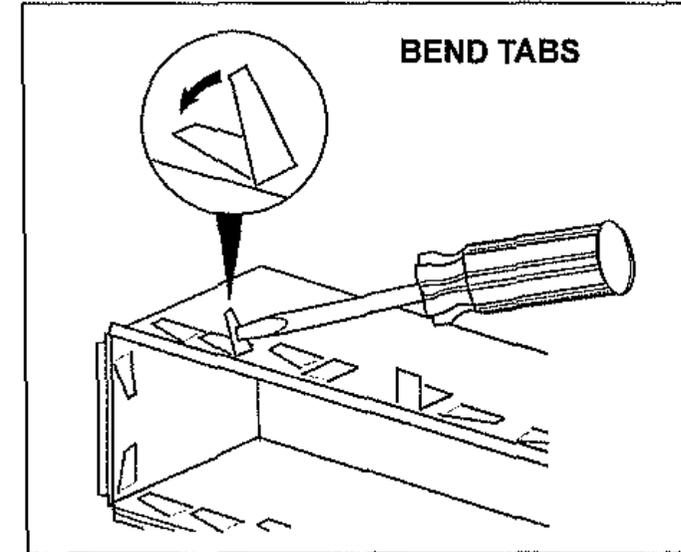
If you require assistance, contact Technical Support at 1-800-323-4815 from 8:30 a.m. to 7:00 p.m. EST Monday through Friday and from 9:00 a.m. to 5:00 p.m. EST on Saturday. (U.S.A. and Canada only.)

INSTALLATION INSTRUCTIONS

Installation Using a Mounting Sleeve

1. Slide the mounting sleeve off the chassis. If it is locked into position, use the removal tools (supplied) to disengage it.
2. Check the dashboard opening size by sliding the mounting sleeve into it. If the opening is too small, carefully cut or file as necessary until the sleeve easily slides into the opening. Do not force the sleeve into the opening or cause it to bend or bow. Check for sufficient space behind the dashboard for the radio chassis.
3. Locate the series of bend tabs along the top, bottom, and sides of the mounting sleeve. With the sleeve fully inserted into the dashboard opening, bend as many of the tabs outward as necessary to firmly secure the sleeve to the dashboard.
4. Place the radio in front of the dashboard opening so the wiring can be brought through the mounting sleeve. Follow the wiring diagram carefully and make certain all connections are secure and insulated with wire nuts or electrical tape. After completing the wiring connections, turn the unit on to confirm operation (vehicle ignition must be "on"). If the unit does not operate, re-check all wiring until the problem is corrected.

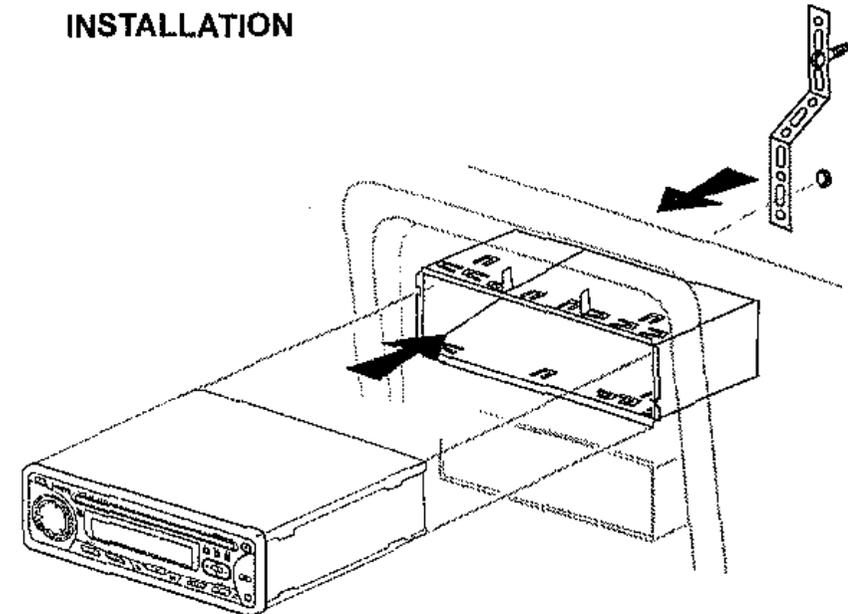
5. Make sure the radio is right-side up, then carefully slide the radio into the mounting sleeve until it is fully seated and the spring clips lock it into place.
6. Attach one end of the perforated support strap (supplied) to the screw stud on the rear of the chassis using the hex nut provided. Fasten the other end of the perforated strap to a secure part of the dashboard either above or below the radio using the screw provided. Bend the strap to position it as necessary.
7. Test the radio using the Operating Instructions that follow.



CAUTION: The support strap must be used to prevent damage to the dashboard from the weight of the radio or improper operation due to vibration.

CAUTION: For proper operation of the CD player, the chassis must be mounted within 20° of horizontal. Make sure the unit is mounted within this limitation.

INSTALLATION



INSTALLATION INSTRUCTIONS

Installation Using a Kit

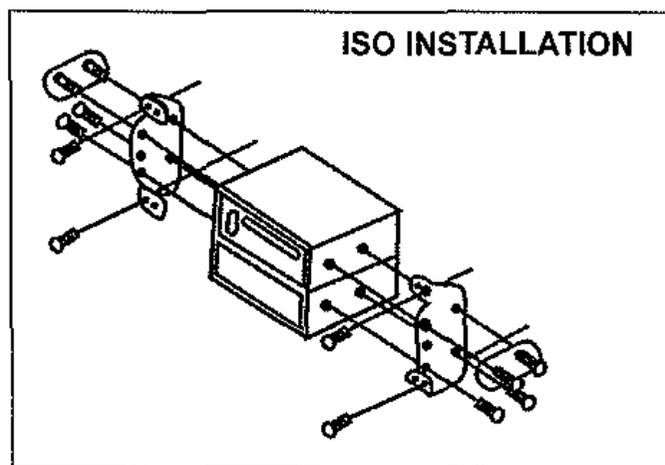
If your vehicle requires the use of an installation kit to mount this radio, follow the instructions included with the installation kit to attach the radio to the mounting plate supplied with the kit.

1. Wire and test the radio as described in step 4 of "Installation Using a Mounting Sleeve".
2. Install the radio mounting plate assembly to the sub-dashboard according to the installation kit instructions.
3. Attach the support strap to the radio and dashboard as described in step 6 of "Installation Using a Mounting Sleeve".
4. Replace the dashboard trim panel.

ISO Installation

This unit has threaded holes in the chassis side panels which may be used with the original factory mounting brackets of some Toyota, Nissan, Mitsubishi, Isuzu, Hyundai and Honda vehicles to mount the radio to the dashboard. Please consult with your local car stereo specialty shop for assistance on this type of installation.

1. Remove the existing factory radio from the dashboard or center console mounting. Save all hardware and brackets as they will be used to mount the new radio.



2. Carefully unsnap the plastic frame from the front of the new radio chassis. Remove and discard the frame.
3. Remove the factory mounting brackets and hardware from the existing radio and attach them to the new radio.

CAUTION: Do not exceed M5 X 6 MM screw size. Longer screws may touch and damage components inside the chassis.

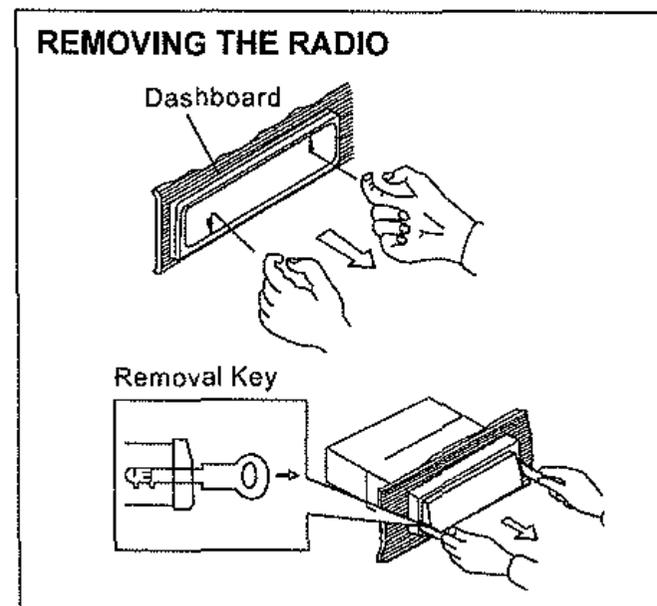
4. Wire the new radio to the vehicle as described in step 4 of "Installation Using a Mounting Sleeve".
5. Mount the new radio assembly to the dashboard or center console using the reverse

procedure in step 1 of "Installation Using a Mounting Sleeve".

Removing the Radio

To remove the radio after installation:

1. Insert fingers into the groove in the front of frame and pull out to remove the frame. (When re-attaching the frame, point the side with a groove downwards and re-attach.)
2. Insert the removal keys straight back until they click, and then pull the radio out. If removal keys are inserted at an angle, they will not lock properly to release the unit.



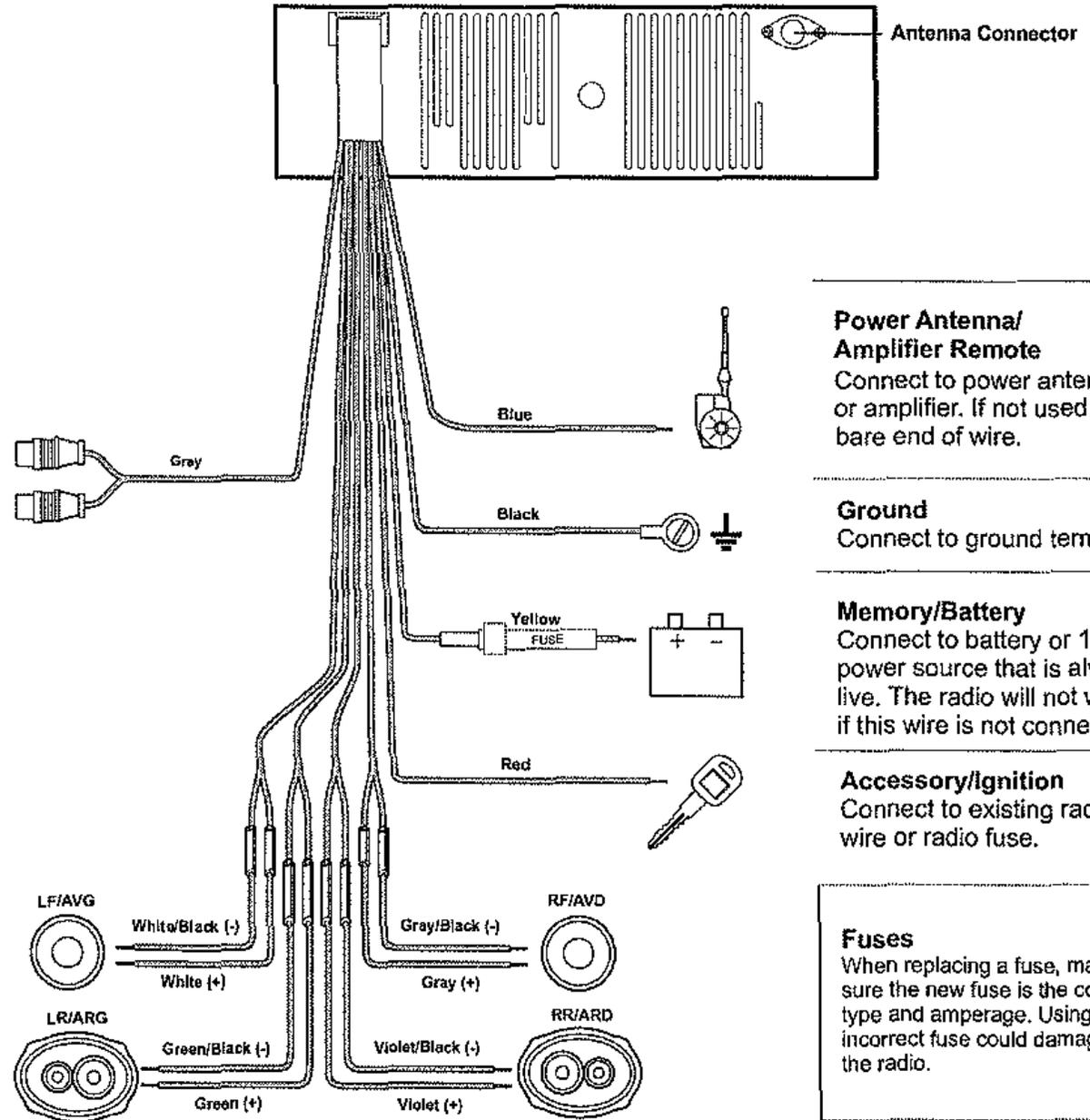
WIRING

Amplifier Wiring
Connect line out for optional external amplifiers. The red connector is for the right and the white connector is for the left.

WARNING! Never combine (bridge) outputs for use with 1 speaker.

WARNING! Never ground negative speaker leads to chassis ground.

CAUTION: Failure to wire exactly as shown may cause electrical damage to the radio.



**Power Antenna/
Amplifier Remote**
Connect to power antenna or amplifier. If not used, tape bare end of wire.

Ground
Connect to ground terminal.

Memory/Battery
Connect to battery or 12 volt power source that is always live. The radio will not work if this wire is not connected.

Accessory/ignition
Connect to existing radio wire or radio fuse.

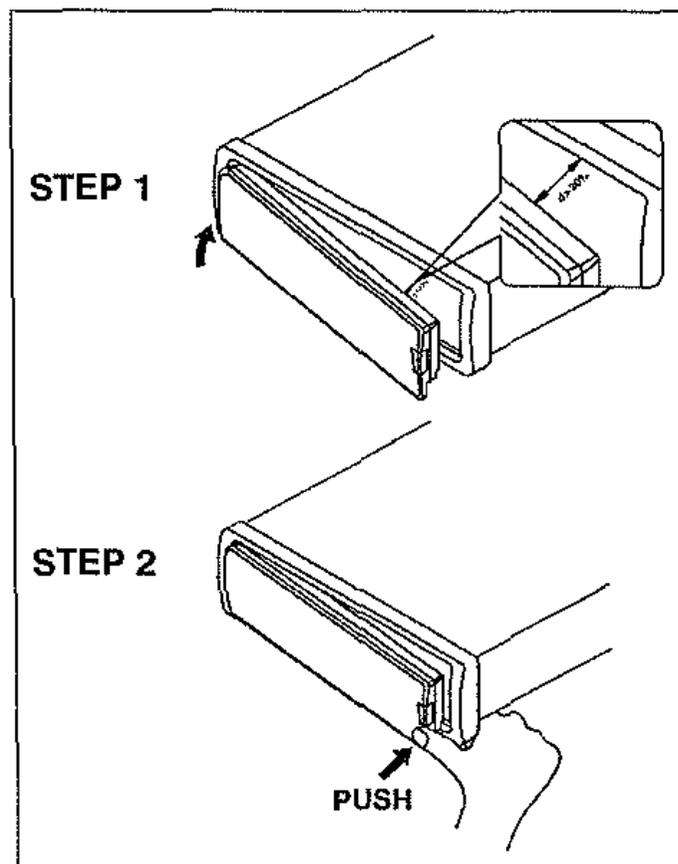
Fuses
When replacing a fuse, make sure the new fuse is the correct type and amperage. Using an incorrect fuse could damage the radio.

INSTALLING THE REMOVABLE FACEPLATE

Faceplate Installation

To install the faceplate:

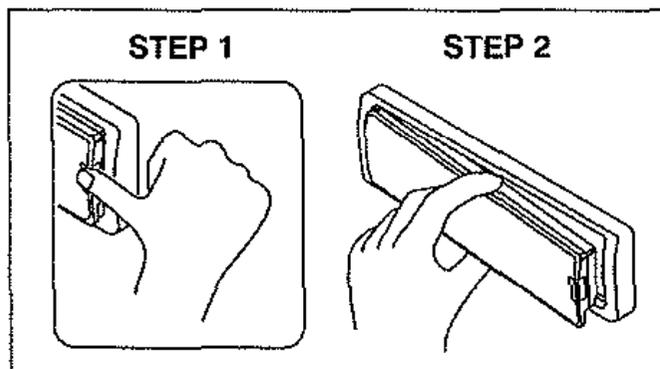
1. Slide the left edge of the front panel into the radio.
2. Gently press the right side into place.



Faceplate Detachment

To remove the faceplate:

1. Press the release  button.
2. Pull gently on the right side of the front panel to remove it.



3. For safekeeping, store the front panel in the protective case provided.

Handling Precautions

- Make sure the front panel is right-side-up when attaching it to the chassis, as it cannot be attached when up-side down.
- Do not press very hard on the front panel when attaching it to the chassis. No more than light to moderate pressure is needed.
- When attaching the front panel, make sure it is centered in the chassis frame and is pressed straight into position.
- Do not drop the front panel.

- Do not put pressure on the display or control buttons when handling the front panel.
- Do not touch the electrical terminals on the front panel or main unit.
- Remove dirt or foreign substances with a clean, *dry* cloth only.
- Do not expose the front panel to extreme temperatures or direct sunlight.
- Keep volatile agents such as benzene, thinner or insecticides away from the front panel.
- Do not disassemble the front panel.
- When taking the front panel with you, please use the supplied carrying case to protect the panel from dirt and damage.
- Make sure there is no dust or dirt on the electrical terminals on the back of the panel as this could cause intermittent operation or other malfunctions.

OPERATING INSTRUCTIONS

① Power On/Off Button (PWR)

Press the **PWR** button (1) to turn the unit on.
Press and hold the **PWR** button to turn the unit off.

② Liquid Crystal Display Panel

The Liquid Crystal Display (LCD) panel displays the frequency, time and all activated functions.

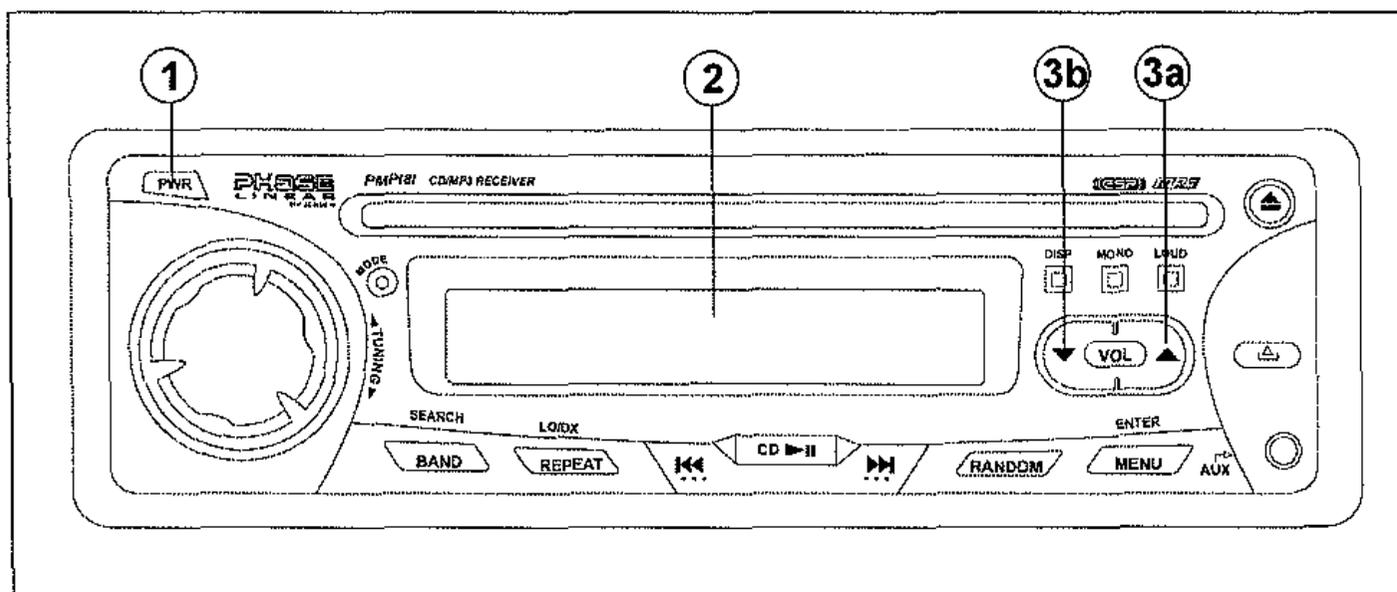
Table 1: LCD Display Indicators

	STEREO	Radio stereo indicator
	ARTIST	Artist name indicator
	ALBUM	Album title indicator
	TRACK	MP3 file indicator
	FOLDER	MP3 folder/directory indicator
	MP3	MP3 disc playing indicator
	MUSIC	Song title indicator
	EQ4	Preset equalizer indicator

NOTE: It is a characteristic of LCD panels that, if subjected to cold temperatures for an extended period of time, they may take longer to illuminate than under normal conditions. In addition, the visibility of the numbers on the LCD may slightly decrease. The LCD read-out will return to normal when the temperature inside the vehicle increases to a normal range.

③ Volume Control (VOL)

To increase the volume level, press the **VOL (Λ)** up button (3a). To decrease the volume level, press the **VOL (V)** down button (3b). The volume will increase/decrease and the level will be shown on display panel from a minimum of "VOL 00" to a maximum of "VOL 47". The display will automatically return to the normal indication 5 seconds after the last volume adjustment or when another function is activated.



OPERATING INSTRUCTIONS

④ MENU Button

Press the **MENU** button repeatedly to access audio functions (volume, bass, treble, balance or fade).

Press and hold the **MENU** button (4) for more than 2 seconds to display the system menu. You can then press the **MENU** button repeatedly to access System Menu functions. Use the **VOL** up/down buttons (3a and 3b) to adjust the settings for a selected function. The display will return to the normal indication 5 seconds after the last adjustment or when another function is activated.

from a minimum of "TRE -7" to a maximum of "TRE 7". "TRB 00" represents a flat response.

④ Left/Right Balance Control

To adjust the left-right speaker balance, press and release the **MENU** button (4) until the "BAL" indication appears on the display panel. Within five seconds, press the **VOL** up/down buttons (3a and 3b) to adjust the balance between the left and right speakers from "BAL 10L" (full left) to "BAL 10R" (full right). "BAL 0" represents an equal balance level between the left and right speakers.

④ Front/Rear Fader Control

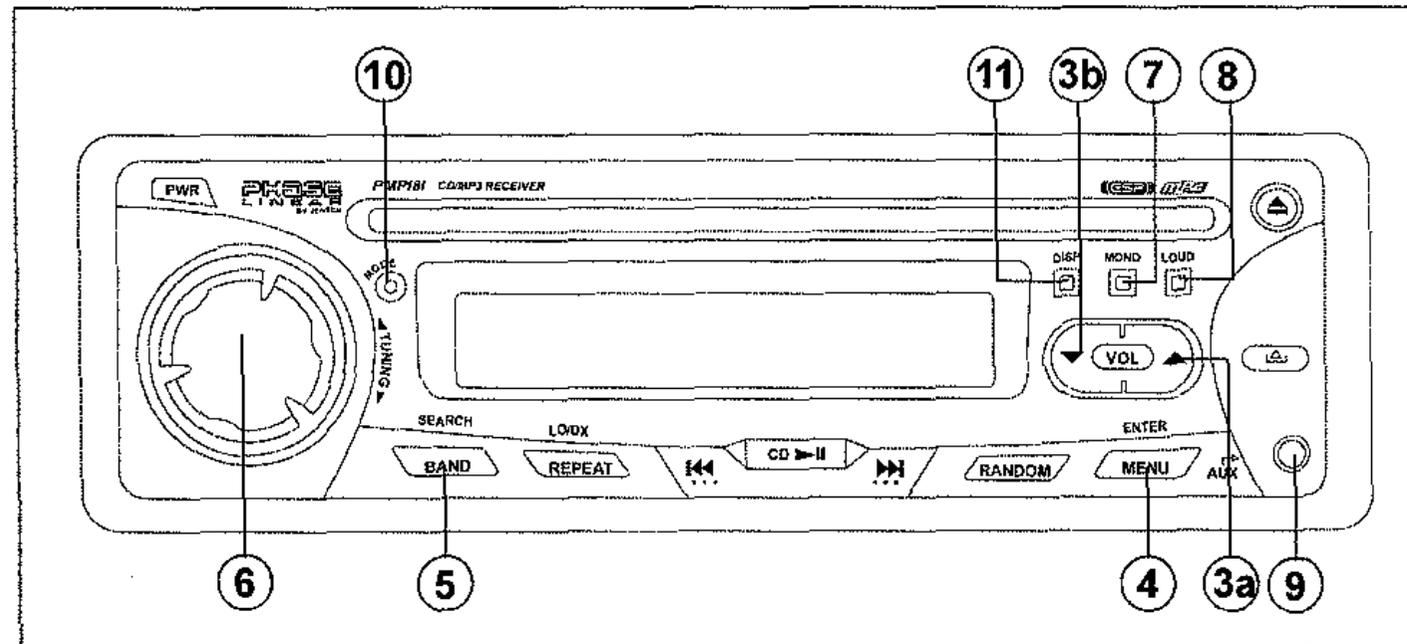
To adjust the front/rear speaker balance, press the **MENU** button (4) until "FAD" appears on the display panel. Within five seconds, press the **VOL** up/down buttons (3a and 3b) to adjust the balance between the front and rear speakers from "FAD 10F" (full front) to "FAD 10R" (full rear). "FAD 0" represents an equal balance level between the front and rear speakers.

④ Bass Control

To adjust the bass level, first select the Bass mode by pressing the **MENU** button (4) until "BAS" appears on the display panel. Within five seconds, press the **VOL** up/down buttons (3a and 3b) to adjust the bass response from a minimum of "BAS -7" to a maximum of "BAS 7". "BAS 0" represents a flat response.

④ Treble Control

To adjust the treble level, press the **MENU** button (4) until "TRE" appears on the display panel. Within five seconds, press the **VOL** up/down buttons (3a and 3b) to adjust the treble



OPERATING INSTRUCTIONS

④ Preset Equalizer (DSP)

To adjust the preset equalizer (DSP mode), *press and hold* the **MENU** button to access the System Menu and then press the **MENU** button repeatedly to navigate to the DSP option. The preset equalizer applies preset sound effects to the unit's audio output signal. Within five seconds, press the **VOL** up/down buttons (3a and 3b) to choose between the following modes: "POP", "ROCK", "CLASSIC", "FLAT" or "DSP OFF".

④ Electronic Anti-Skip Protection (ESP)

To adjust the ESP function, *press and hold* the **MENU** button to access the System Menu and then press the **MENU** button repeatedly to navigate to the ESP option. Within five seconds, press the **VOL** up/down buttons (3a and 3b) to choose between the following modes:

- ESP 12: Normal road conditions
- ESP 45: Rough, uneven road conditions

④ Audible Beep

To turn on/off the audible beep heard when a function is selected, *press and hold* the **MENU** button to access the System Menu and then press the **MENU** button repeatedly to navigate to the Beep option. Within five seconds, press the **VOL** up/down buttons (3a and 3b) to choose between the following modes: "BEEP ON" or "BEEP OFF".

⑤ AM/FM Band Selector (BAND)

During radio play, each time the **BAND** button (5) is pressed, the radio band changes. The indications "AM" or "FM" will appear on the display panel according to your selection.

⑥ Tuning Control

Rotate the **TUNING** control (6) clockwise to tune the radio station higher or counter-clockwise to tune the station lower.

⑦ FM Mono Select (MONO)

During FM radio operation, the **MONO** button (7) is used to select monaural or stereo reception of the broadcast signal. Under normal reception conditions, the unit should be left in the stereo mode (indicated by the stereo icon when tuned to an FM stereo signal). If the

signal is too noisy for comfortable listening, press the **MONO** button; the "STEREO" indication will disappear from the display panel and "MONO" will appear. To return to stereo reception mode, press the button again.

⑧ Loudness Control (LOUD)

When listening to music at low volume levels, this feature will boost the bass and treble ranges to compensate for the characteristics of human hearing. Press the **LOUD** button (8) to activate this feature. "LOUD ON" appears on the display panel. Press the **LOUD** button (8) again to turn the LOUD function off.

⑨ Aux In Jack

Use the Aux In jack to connect a portable media device for playback through the vehicle sound system.

⑩ Mode Selector (MODE)

Press this **MODE** button (10) to select TUNER, S-CDP, MP3 or Aux.

OPERATING INSTRUCTIONS

⑩ Local/Stereo Reception Selector (REPEAT, LO/DX)

During radio operation, received signals are usually in stereo mode as indicated by the "ST" icon. However, when the signals are weak or intermittent, you can activate the Local (LOC) mode by pressing the **REPEAT (LO/DX)** button (16). This mode favors access to local stations whose signals are much stronger; thereby improving radio reception. Press the **REPEAT (LO/DX)** button again to terminate Local receive mode.

⑪ Display Selector (DISP)

This unit can display either the clock time or radio frequency/CD player functions. Press the **DISP** button (11) to display the time for approximately 5 seconds. The correct time-of-day can be set by pressing and holding the **DISP** button.

Setting the Clock

To set the clock, perform the following steps:

1. Press the **DISP** button (11) to display the clock.
2. Press and hold the **DISP** button (11) until the time display flashes.

3. Within 5 seconds, press the **VOL** down button (3b) to adjust the minutes to the desired setting.
4. Press the **VOL** up button (3a) to adjust the hour.
5. Press the **DISP** button again to return to radio frequency or disc play or wait five seconds and normal operation will resume automatically.

CD PLAYER OPERATING INSTRUCTIONS

⑫ Disc Slot

With the label surface facing up, gently insert the disc into the slot until the soft-loading mechanism engages and disc play begins. "S-CDP" will appear momentarily. Once loaded, the track number and elapsed time will appear in the display.

NOTE: The unit is designed for play of standard 5" (12 cm.) compact discs only. Do not attempt to use 3" (8 cm.) CD singles in this unit, either with or without an adaptor, as damage to the player and/or the disc may occur. Such damage will not be covered by the warranty on this product.

⑬ Disc Play/Pause Select

Press the CD ▶/|| button (13) to freeze disc play. Press CD ▶/|| again to resume disc play. Press and hold the CD ▶/|| button (13) to activate the First Track function and automatically play the first track on the disc.

⑭, ⑮ Track Selector (TUNE/TRACK)

The Track Select functions are used to quickly access the beginning of a particular track. Each time the track up (>>|) button (15) is pressed,

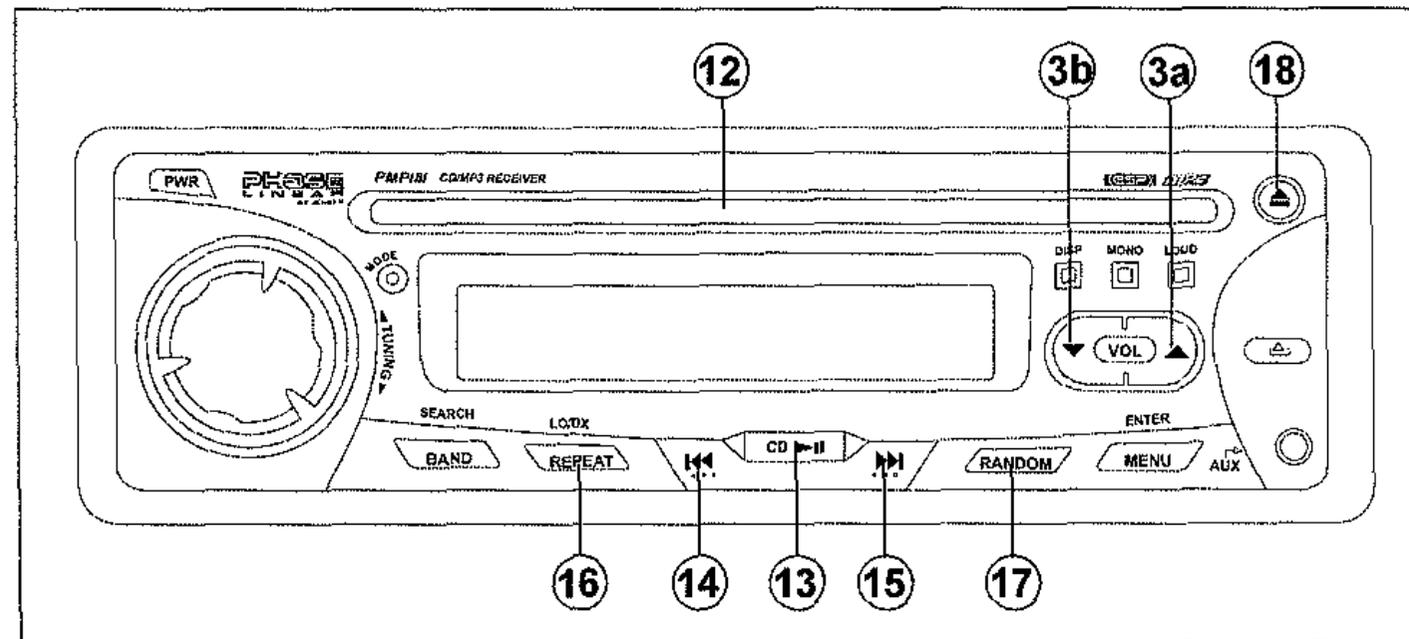
the next higher track number is selected, as shown on the display panel. Each time the track down (|<<) button (14) is pressed, the next lower track number is selected, as shown on the display panel.

⑭, ⑮ Cue/Review Functions

Press and hold the track up (>>|) button (15) to advance rapidly forward or the track down (|<<) button (14) to advance rapidly backward. During either function, the elapsed time of each track will be shown on the display panel.

⑯ Track Repeat Play Select (REPEAT)

During disc play, press the REPEAT button (16) to repeat play of the selected track ("RPT ON" will appear on the display panel). Play of the track will continue to repeat until REPEAT is pressed again and the "RPT ON" indication disappears from the display panel. Repeat Play mode can also be canceled by activating the Random Play (17) function.



CD PLAYER OPERATING INSTRUCTIONS

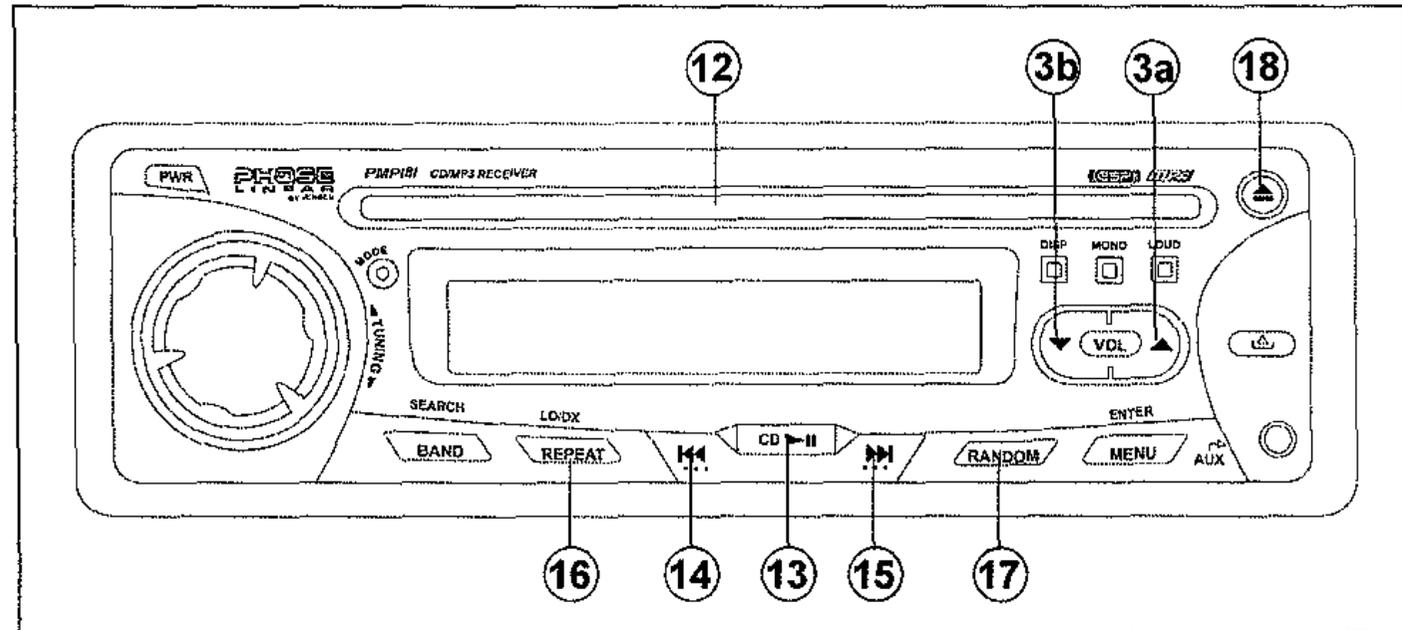
17 Random Play Select (RANDOM)

During disc play, press the **RANDOM** button (17) to play the tracks on the disc in a random, shuffled order ("RDM ON" will appear on the display panel). In Random Play mode, you can press the track |<< or >>| buttons (14 and 15) to select tracks in a random order instead of the normal progression. Press **RANDOM** again to cancel Random Play mode. Random Play mode can also be canceled by activating the Repeat Play (16) function.

18 Disc Eject Button

When the disc eject ▲ button (18) is pressed, disc play is stopped, the disc is ejected, and the unit will change to radio operation. If the disc is not removed from the unit within 15 seconds, the disc will be re-loaded.

NOTE: To prevent a disc from accidentally being damaged, always remove the disc from the unit when disc play is finished.



MP3 PLAYER OPERATION

Instructions for Insert/Eject, Play/Pause, Track Selection, Cue/Review, Repeat, and Random are the same for CD and MP3 operation. Please see the CD Player Operation section for information about these topics.

After inserting an MP3 disc, "MP3 DISC" momentarily appears, followed by the track number and elapsed playing time. After these initial indications, the following information is displayed repetitively:

- Track number and elapsed time
- Folder name
- Track name
- Song name (if available)
- Album name (if available)
- Artist name (if available)

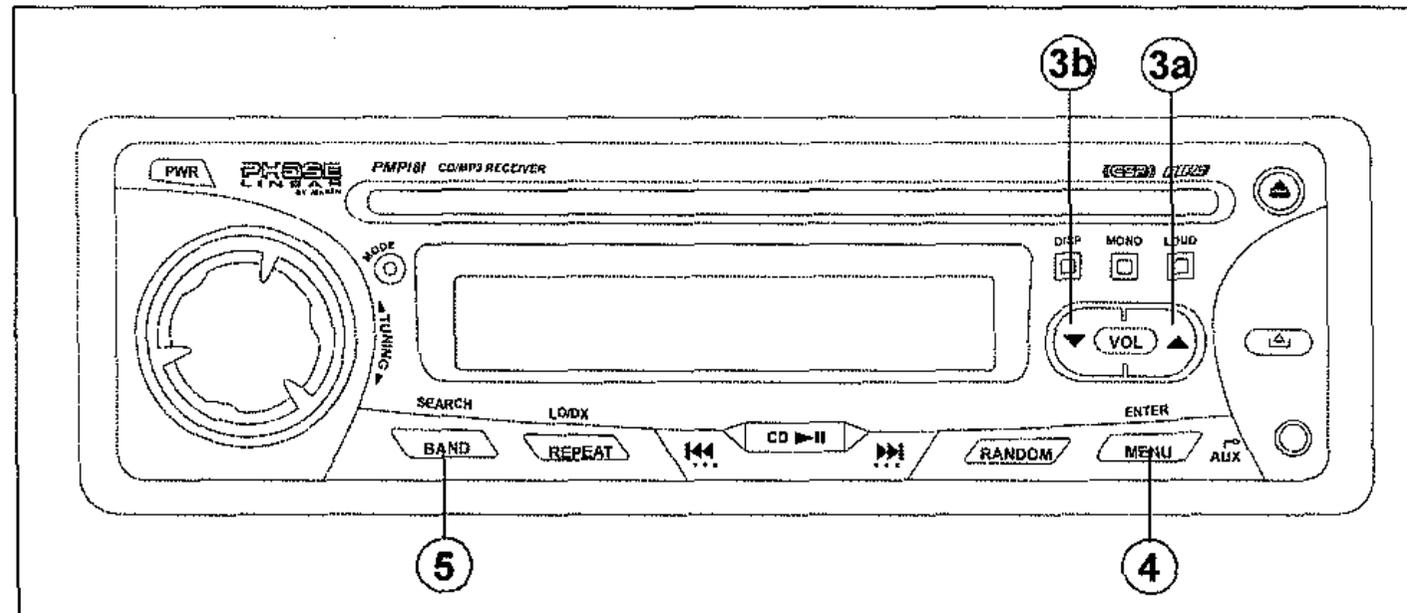
Direct Track Search

1. Press and hold the **BAND** (Search) button (5) once to enable direct track searching (TRK SCH).
2. Press the **MENU** (Enter) button (4) to confirm.
3. Use the **VOL** up/down buttons (3a and 3b) to select the desired song/file.
4. If the track number is a single digit, press and hold the **MENU** button to play the selected track.

If the track number is 2 or 3 digits, press the **MENU** button to move to the second and then first digits. Enter the right-most digit first and move to the left. For example, if the track number you want to play is 132, you would enter 2 first, followed by 3 and then 1, pressing the **MENU** button after each entry. If you make a mistake, press the **BAND** button to return to the previous digit and correct your entry. After entering two or three digits, press and hold the **MENU** button (4) to play the selected song/file.

File Search

1. Press and hold the **BAND** (Search) button (5) to enter search mode. Press again to enable file name searching (FILE SCH).
2. Press the **MENU** (Enter) button to confirm.
3. Use the **VOL** up/down buttons (3a and 3b) to scroll through all available folders.
4. After locating the correct folder, do one of the following:
 - Press and hold the **MENU** button to play the first track in the selected folder.
 - Press the **MENU** button to display the tracks in the selected folder. Repeat this



procedure to navigate through up to 8 levels of folders.

Character Search

1. *Press and hold* the **BAND** (Search) button (5) to enter search mode. Press twice more to enable directory or file name searching (CHAR SCH).
2. Press the **MENU** (Enter) button to confirm. Character "A" will flash on the screen.
3. Use the **VOL** up/down buttons (3a and 3b) to select the characters A-Z, *, and 0-9.
4. Press the **MENU** button (4) to confirm entry of each character and move to the next space, up to eight characters.
5. Press and hold the **MENU** button (4) to begin the search. If not found, "NOT FND" will be displayed.

CARE AND MAINTENANCE

Your new radio/CD player does not require any maintenance. However, proper understanding of its use and handling will help you obtain maximum enjoyment of its capabilities. We recommend that you keep this manual for reference on the many features of this unit as well as how to set the clock. The following points should be observed:

- When cleaning the interior of the vehicle, do not get water or cleaning fluids on the unit.
 - The CD player is a precision instrument and will not operate properly in extreme heat or cold. If such conditions occur, wait until the interior of the vehicle reaches a normal temperature before using the player.
 - If the temperature inside the player gets too hot, a protective circuit will automatically stop play of the disc. In this case, allow the unit to cool before operating the player again.
 - Never insert anything other than a 5" (12 cm) compact disc into the player as the mechanism can be damaged by foreign objects.
 - Do not attempt to use 3" (8 cm) CD-Single discs in this unit, either with or without an adaptor, as damage to the player and/or disc may occur. Such damage will not be covered by the Warranty on this product.
- When not using the disc player, always remove the compact disc. Do not leave an ejected disc sitting in the disc slot as this can expose it to sunlight and other causes of damage.
 - Do not attempt to open the unit chassis. There are no user-serviceable parts or adjustment points inside.
 - When the vehicle warms up during cold weather or under damp conditions, condensation may appear on the lens of the disc player. Should this occur, the player will not operate properly until the moisture has evaporated.
 - The unit is designed with a vibration dampening CD mechanism to minimize interruption of disc play due to normal vibration. When driving on rough roads, however, occasional sound skips may occur. This will not scratch or damage the disc and normal play will resume when the rough conditions cease.

Handling Compact Discs

Dirt, dust, scratches and warping can cause skips in the playback and deterioration of sound quality. Please follow these guidelines to take care of your compact discs:

- Carefully wipe fingerprints, dust and dirt from the disc's playing surface with a soft cloth.

Wipe in a straight motion from the center to the outside of the disc.

- Never use chemicals such as record sprays or household cleaners to clean CDs, as they can irreparably damage the disc's surface.
- Discs should be kept in their storage cases when not in use.
- Do not expose discs to direct sunlight, high temperatures or high humidity for long periods.
- Do not stick paper, tape or labels on disc surfaces.

RESET BUTTON

A Reset button is located behind the faceplate on the left side (the front panel must be removed to access the button). The Reset function should only be activated under the following circumstances as it will erase the time and pre-set memories: Upon initial installation after all wiring is completed; if there is a malfunction of any of the switches on the unit, pressing the Reset button may clear the system and return to normal operation.

SPECIFICATIONS

CD-R and CD-RW Capability

Depending on media type and method of "recording/burning", some CD-R/RWs may be incompatible with this unit. After "recording/burning", **the session must be closed**. Please refer to your software's recommended procedures for closing a disc/session. Review your recording software to familiarize yourself with the correct "recording/burning" procedures. We recommend using the latest versions of ROXIO™ or NERO™ burning software. This unit will only recognize the **CDDA/CDC and .MP3** formats "recorded / burned" onto a CD-R/RW. This unit does not support .WAV, .WMA, .OGG or other formats.

Technical Specifications



CEA Power Ratings

Power Output: 7 watts RMS X 4 channels into 4-ohms @ < 1% THD+N
 Signal to Noise Ratio: 70dBA below reference.
 (Reference: 1 watt, 4-ohms)
 Frequency Response: 20Hz to 20kHz, -3dB
 Reference Supply Voltage: 14.4VDC

CD Player

Signal to Noise Ratio: >85dBA
 Frequency Response: 20Hz to 20kHz, -3dB
 Channel Separation: > 55dB @ 1kHz
 D/A converter: 1Bit/Ch

FM Tuner

Mono Sensitivity: 18dBf
 50dB Stereo Quieting Sensitivity: 20dBf
 Stereo Separation @ 1kHz: >30dB
 Frequency Response: 30Hz to 12kHz, -3dB

AM Tuner

Tuning Range: 530kHz - 1710kHz

Sensitivity @ 20dB Signal to Noise: 30uV
 Frequency Response: 30Hz - 2kHz, -3dB

General

Power Supply: 11 to 16VDC, negative ground
 Fuses: 7 amp/AGC
 Dimensions: 7" X 7" X 2" (178mm x 178mm x 51mm)

Specifications subject to change without notice.