DENON

AM-FM STEREO RECEIVER

DRA-297

OPERATING INSTRUCTIONS

□ SAFETY PRECAUTIONS



CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

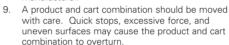
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

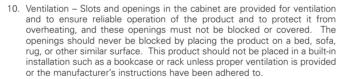
SAFETY INSTRUCTIONS

- 1. Read Instructions All the safety and operating instructions should be read before the product is operated.

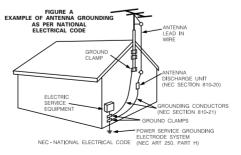
 13. Power-Cord Protection Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against
- Retain Instructions The safety and operating instructions should be retained for future reference.
- 3. Heed Warnings All warnings on the product and in the operating instructions should be adhered to.
- 4. Follow Instructions All operating and use instructions should be followed.
- Cleaning Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
- 6. Attachments Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- 7. Water and Moisture Do not use this product near water for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- Accessories Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should

follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.





- 11. Power Sources This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
- 12. Grounding or Polarization This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.



- Power-Cord Protection Power-supply cords should be routed so that they
 are not likely to be walked on or pinched by items placed upon or against
 them, paying particular attention to cords at plugs, convenience
 receptacles, and the point where they exit from the product.
- 15. Outdoor Antenna Grounding If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
- 16. Lightning For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- 17. Power Lines An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them midht be fatal.
- Overloading Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 19. Object and Liquid Entry Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- Servicing Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 21. Damage Requiring Service Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a) When the power-supply cord or plug is damaged,
 - b) If liquid has been spilled, or objects have fallen into the product,
 - c) If the product has been exposed to rain or water,
 - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
 - e) If the product has been dropped or damaged in any way, and
 - f) When the product exhibits a distinct change in performance this indicates a need for service.
- 22. Replacement Parts When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- 23. Safety Check Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- 24. Wall or Ceiling Mounting The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 25. Heat The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

FCC INFORMATION (For US customers)

1. PRODUCT

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation.

2. IMPORTANT NOTICE: DO NOT MODIFY THIS PRODUCT

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modification not expressly approved by DENON may void your authority, granted by the FCC, to use the product.

3. NOTE

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This product generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the local retailer authorized to distribute this type of product or an experienced radio/TV technician for help.

NOTE ON USE



 Avoid high temperatures.
 Allow for sufficient heat dispersion when installed in a rack.

Handle the power cord carefully.
 Hold the plug when unplugging the cord.



 Keep the apparatus free from moisture, water, and dust.



• Do not let foreign objects into the apparatus.



• Unplug the power cord when not using the apparatus for long periods of time.



• Do not let insecticides, benzene, and thinner come in contact with the apparatus.



* (For apparatuses with ventilation holes)

• Do not obstruct the ventilation holes.



 Never disassemble or modify the apparatus in any way. Thank you for choosing the DENON DRA-297 AM-FM Stereo Receiver. This remarkable component has been engineered to provide outstanding high fidelity reproduction of your favorite music sources. As this product is provided with an immense array of features, we recommend that before you begin hookup and operation that you review the contents of this manual before proceeding.

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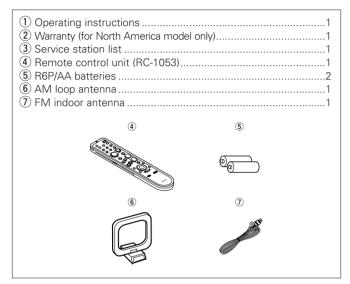
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Accessories

Check that the following parts are attached in addition to the main unit:



Before using

Pay attention to the following before using this unit:

· Moving the unit.

To prevent short-circuits or damaged wires in the connection cables, always unplug the power supply cord and disconnect the connection cables between all other audio components when moving the unit.

· Cautions on using mobile phones.

Using a mobile phone near this unit may result in noise. If so, move the mobile phone away from this unit when it is in use.

· Before turning the power operation button on.

Check once again that all connections are correct and that there are not problems with the connection cables. Always set the power operation button to the standby position before connecting and disconnecting connection cables.

· Store the operating instructions in a safe place.

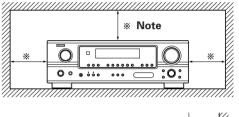
After reading the operating instructions, store them in a safe place as they could come in handy in the future.

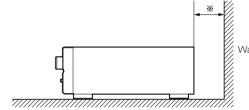
- Whenever the power operation button is in the STANDBY state, the unit is still connected to AC line voltage.
- Please be sure to turn off the power operation button or unplug the cord when you leave home for, say, a vacation.
- Note that the illustrations in these instructions may differ from the actual unit for explanation purposes.

Cautions on installation

Note:

For heat dispersal, do not install this unit in a confined space such as a bookcase or similar enclosure.





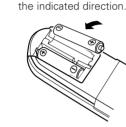
About the remote control unit

In addition to controlling the DRA-297, the attached remote control unit (RC-1053) can also be used to control the following products:

- ① DENON component products
- 2 Component products other than DENON:
 - Set using the preset memory function (page 23).

Inserting the batteries

1) Remove the remote control unit's rear cover.



2 Set two R6P/AA batteries in

the battery compartment in

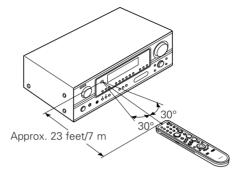
3 Put the rear cover back on.

Notes on batteries:

- Replace the batteries with new ones if the set does not operate even when the remote control unit is operated nearby the unit. (The attached batteries are only for verifying operation.)
- When inserting the batteries, be sure to do so in the proper direction, following the "⊕" and "⊖" marks in the battery compartment.
- To prevent damage or leakage of battery fluid:
- Do not use a new battery together with an old one.
- Do not use two different types of batteries.
- Do not short-circuit, disassemble, heat or dispose of batteries in flames.
- Remove the batteries from the remote if it will not be in use for long periods.
- If the battery fluid should leak, carefully wipe the fluid off the inside of the battery compartment and insert new batteries.
- When replacing the batteries, have the new batteries ready and insert them as quickly as possible.

Operating range of the remote control unit

- Point the remote control unit at the remote sensor when operating it
- The remote control unit can be used from a distance of approximately 23 feet/7 meters, at a horizontal angle of up to 30° with respect to the sensor.



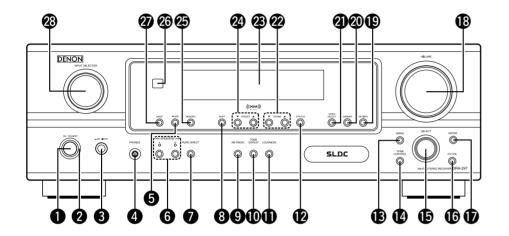
NOTE:

• It may be difficult to operate the remote control unit if the remote sensor is exposed to direct sunlight or strong artificial light.

Part names and functions

For details on the functions of these parts, refer to the pages given in parentheses ().

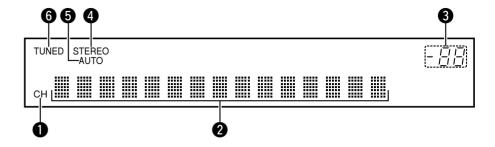
Front panel



	ower operation button DN/STANDBY)	(12)
2 Po	ower indicator	(12)
3 Po	ower switch	(12, 18)
4 H	eadphones jack (PHONES	S) (12)
6 M	ODE button ·····	(14, 18)
6 SI	PEAKER buttons	(12)
7 Pl	JRE DIRECT button	(13)
8 SI	HIFT button	(14)
9 XI	M RADIO button	(16)
() T(ONE DEFEAT button	(13)
() Lo	OUDNESS button	(13)
D S	TATUS button	(13)
® M	ENU button	(16, 17)
() T(ONE CONTROL button	(13)

ø	SELECT knob (13, 17)
(CH VOL button (13)
Ð	ENTER button (17, 18)
1 3	VOLUME control knob ······(12)
1	MUTING button (12)
@	DIMMER button(13)
4	VIDEO SELECT button(13)
2	TUNING buttons (▲, ▼) (14)
3	Display
2	PRESET buttons(14)
②	MEMORY button (14)
20	Remote control sensor (3)
7	BAND button (14)
23	INPUT SELECTOR knob(12)

Display



Signal channel indicator

Lights when the preset channel is displayed at

2

2 Information display

Volume indicator

This displays the volume level.

4 STEREO indicator

This lights when an FM stereo broadcast has been received.

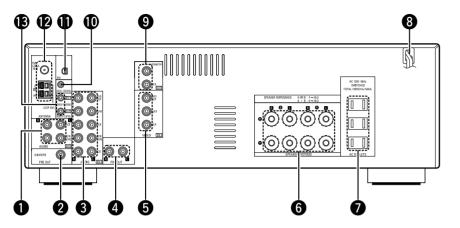
6 AUTO indicator

This lights when the broadcast station is selected in the AUTO tuning mode.

6 TUNED indicator

This lights when an FM/AM broadcast has been received.

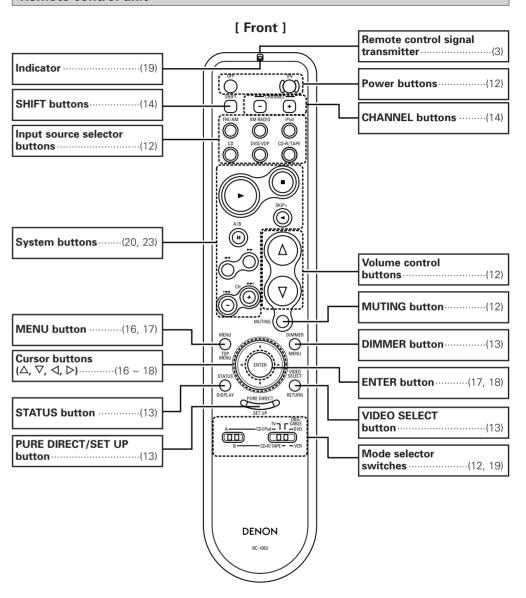
Rear panel



O	AUDIO OUT terminals(8)
2	SUBWOOFER PRE OUT terminal ·····(11)
3	AUDIO IN terminals(8)
4	PRE OUT terminals(11)
6	VIDEO IN terminals ·····(8)
6	Speaker terminals ·····(7)
0	AC outlets (11)

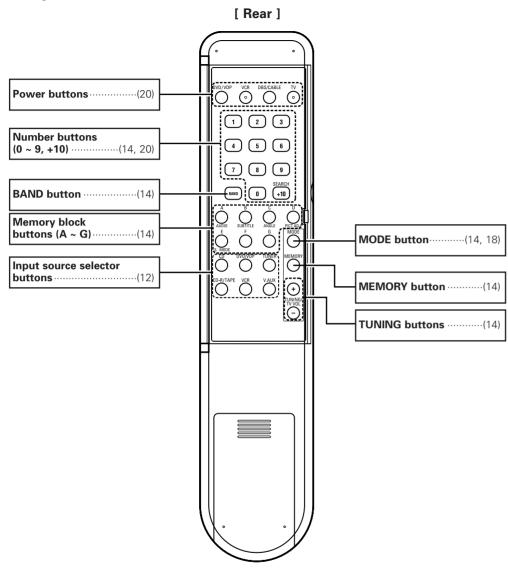
Power supply cord(11)
9 VIDEO OUT terminals(8)
(10) DOCK CONTROL jack(10)
1 XM terminal(10)
② ANTENNA terminals ·····(9)
® REMOTE CONTROL jacks (11)

Remote control unit



NOTE:

• If buttons on the front or rear are pressed strongly, the button on the opposite side will be activated too.



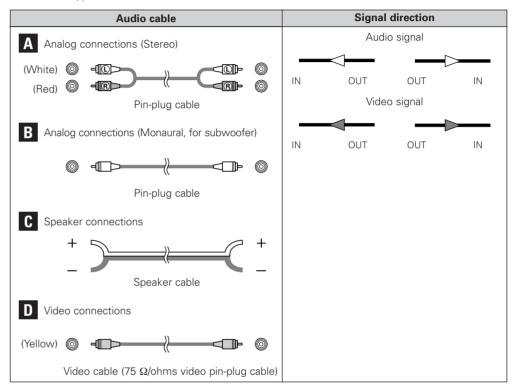
NOTE:

• If buttons on the front or rear are pressed strongly, the button on the opposite side will be activated too.

Connections

Cable indications

The hookup diagrams on the subsequent pages assume the use of the following optional connection cables (not supplied).



NOTE:

- Do not plug in the power supply cord until all connections have been completed.
- When making connections, also refer to the operating instructions of the other components.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Do not bundle power cords together with speaker cables. Doing so could result in humming or noise.

Connections

Speaker connections

Connect the speaker terminals with the speakers making sure that like polarities are matched (+) with \oplus , \ominus with \ominus).

NOTE:

When making connections, take care that none of the individual conductors of the speaker cable come in contact with adjacent terminals, with other speaker cable conductors, or with the rear panel and screws.

NEVER touch the speaker terminals when the power is on. Doing so could result in electric shocks.

Connecting the speaker cables



1. Loosen by turning counterclockwise.

Either tightly twist or terminate the core

2. Insert the cable.



Tighten by turning clockwise.

☐ Speaker impedance

Speaker	Impedance
A, B	4 ~ 16 Ω/ohms
A+B	8 ~ 16 Ω/ohms

Note on speaker impedance

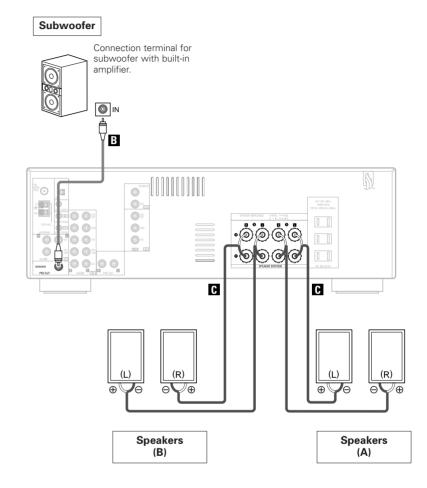
When using speakers with an impedance below the designated value (for example 4 Ω /ohms), playing for long periods of time with the volume high could cause the temperature to rise, activating the protection circuit.

When the protection circuit is activated, the output to the speakers is cut off and the power indicator blinks. If this happens, unplug the power cord, wait for the set to cool off and improve ventilation around the unit. Also check the wiring of the input cables and the speaker cables. After doing this, plug the power cord back in and turn the unit's power back on.

If the protection circuit is activated again even though there are no problems with the wiring or the ventilation around the unit, switch off the power and contact a DENON service center.

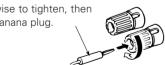
□ Connections

• When making connections, also refer to the operating instructions of the other components.

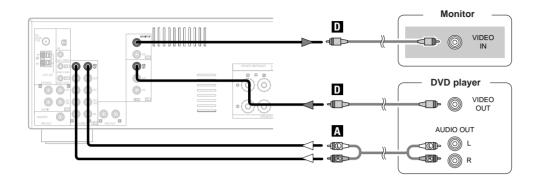


Connecting banana plugs

Turn clockwise to tighten, then insert the banana plug.



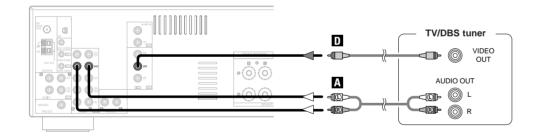
Connecting a DVD player and monitor



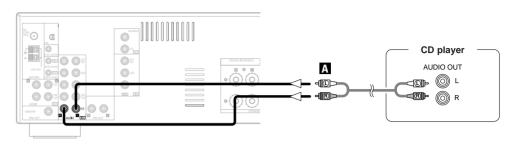


• Connect a non-DVD video disc player (such as a laser disc, VCD/SVCD, or future high definition disc player) to the DVD/VDP terminals in the same way.

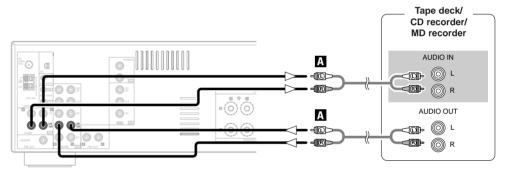
Connecting a TV/DBS tuner



Connecting a CD player

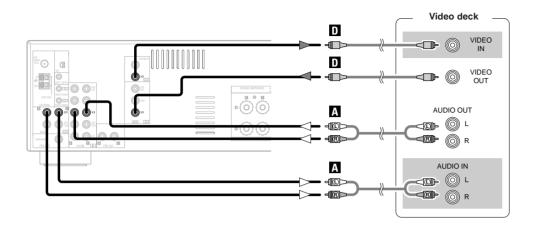


Connecting a tape deck, CD recorder or MD recorder

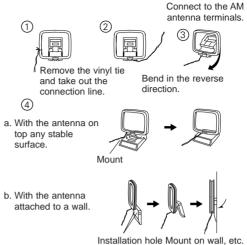


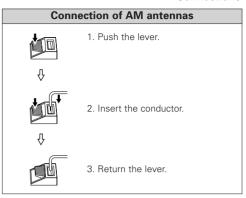
Connections

Connecting a VCR



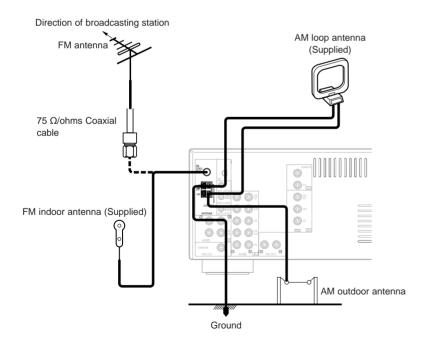
☐ AM loop antenna assembly





Connecting the antenna terminals

An F-type FM antenna cable plug can be connected directly.



NOTE:

- Do not connect two FM antennas simultaneously.
- Even if an external AM antenna is used, do not disconnect the AM loop antenna.
- Make sure the AM loop antenna lead terminals do not touch metal parts of the panel.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

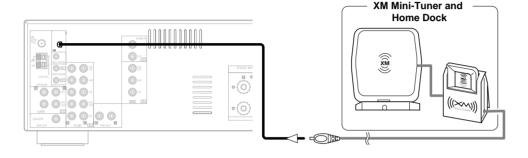
Connections

Connections

Connecting the XM terminal

- DRA-297 is the XM Ready[®] receiver. You can receive XM[®] Satellite Radio by connecting to the XM Mini-Tuner and Home Dock (includes home antenna, sold separately) and subscribing to the XM service.
- Plug the XM Mini-Tuner Home Dock into XM terminal on the rear panel.
- Position the Home Dock antenna near a south-facing window to receive the best signal.
 For details, see "XM Satellite Radio" (@page 15).

When making connections, also refer to the operating instructions of the XM Mini-Tuner and Home Dock.



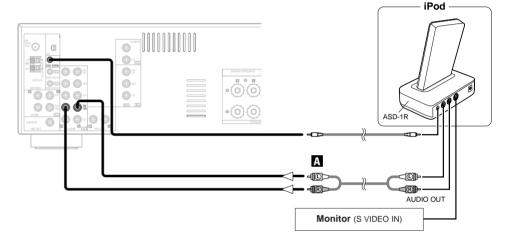
NOTE:

- Keep the power supply cord unplugged until the XM Mini-Tuner and Home Dock connection have been completed.
- The XM name and related logo are registered trademarks of XM Satellite Radio Inc. All rights reserved.
- XM Ready is a registered trademark of XM Satellite Radio Inc. All rights reserved.

Connecting the iPod®

When using an iPod, you must connect the Control Dock for iPod (ASD-1R, sold separately) and the DOCK CONTROL jack on the DRA-297 with a mini-jack and assign the iPod to any AUDIO terminal(s). The diagram below shows an example of connections for when the iPod is assigned to the CD-R/TAPE terminals.

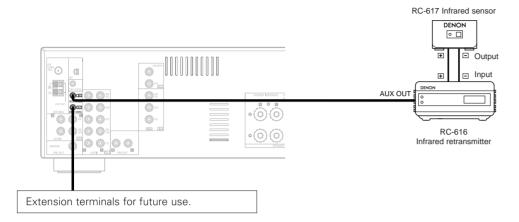
- * For instructions on assigning the iPod to a specific terminal, see "Setting the iPod Assignment" (
 page 16).
- * For instructions on playing the iPod, see "Playing the iPod" (P page 16).





• The optional standard Control Dock for iPod is DENON ASD-1R sold separately.

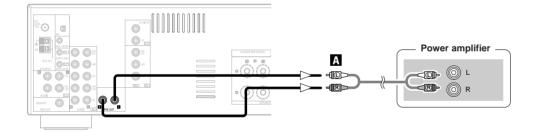
Connecting a room-to-room remote control unit



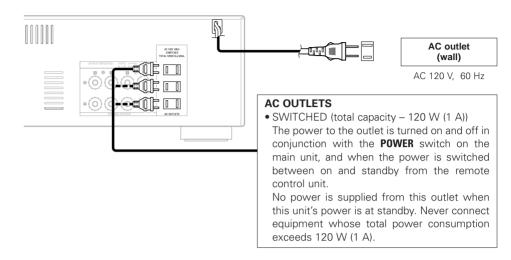
NOTE:

 For instructions on installation and operation of separately sold devices, refer to the devices' operating instructions.

Connecting the PRE OUT terminals

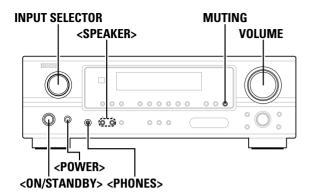


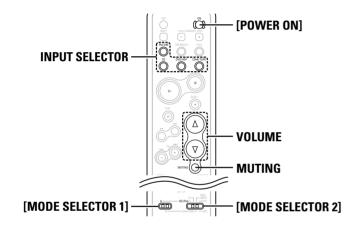
Connecting the power supply cord

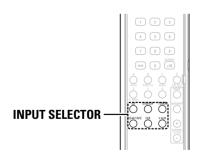


NOTE:

- Insert the plugs securely. Incomplete connections will result in the generation of noise.
- Only use the AC OUTLETS for audio equipment. Never use it for hair driers, monitors or other electrical appliances.







About the button names in this explanation

< > : Buttons on the main unit

1 : Buttons on the remote control unit

Button name only:

Buttons on the main unit and remote control unit

Operation

Before operating

1 Press < POWER>.

ON:

The power indicator lights red.

OFF:

The power turns off and the indicator is off.

? Set [MODE SELECTOR 1] to "A".

3 Set [MODE SELECTOR 2] to "CD/iPod".

Press <ON/STANDBY> or [POWER ON].

• The power indicator blinks green and the power turns on.

Playing the input source

1 Use **INPUT SELECTOR** to select the input source you want to play.

9 Start playback on the selected component.

* For operating instructions, refer to the component's manual.

3 Use VOLUME to adjust the volume.

The volume level is displayed on the volume level display.

Turning the sound off temporarily (MUTING)

Press MUTING.



• Canceling MUTING mode:

To cancel the muting mode, either press **MUTING** or adjust the volume.

Listening over headphones

Connect the headphones to <PHONES>.

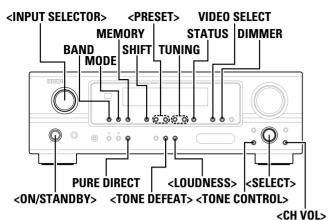
• No sound is produced from the speakers automatically.

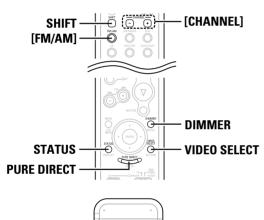
NOTE:

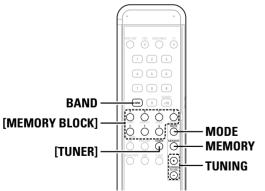
 To prevent hearing loss, be careful not to raise the volume level excessively when using headphones.

Switching the speakers

 $\label{eq:corresponding} \textbf{Press} \verb| SPEAKER> to turn the corresponding speaker pair on. \\$







About the button names in this explanation

> : Buttons on the main unit

[] : Buttons on the remote control unit

Button name only :

Buttons on the main unit and remote control unit

Checking the currently playing program source, etc.

Press STATUS.

 The current program source and various settings are indicated on the display.

Switching the brightness of the display

Press DIMMER.

* The brightness of the display can be adjusted in three steps. The display can also be turned off.

Selecting the play mode (PURE DIRECT)

This mode reproduces the sound with extremely high quality. The display that could affect the audio signals are turned "OFF".

Press PURE DIRECT.

Setting the tone control

☐ Adjusting the tone

1 Press <TONE CONTROL> to select "BASS" or "TREBLE".

9 Use **SELECT**> to set the level.

* Can be adjusted within the range of -10 dB to +10 dB.

☐ When you do not want to adjust the tone

Press **TONE DEFEAT** to select "TONE DEFEAT ON".

☐ When listening with the volume turned low

Press <LOUDNESS> to select "LOUDNESS ON".

Adjusting the speaker volume

1 Press **<CH VOL>** to select the speaker.

* The settable speaker switches each time this button is pressed.

2 Use **SELECT>** to adjust the volume.

* Can be adjusted within the range of -12 dB to +12 dB.

Combining the currently playing sound with the desired image (VIDEO SELECT function)

Press VIDEO SELECT until the desired image appears on the display.



- To cancel, press **VIDEO SELECT** to select "SOURCE".
- The video source selected with the video select function is stored in the memory for the different input sources.

Listening to the radio

Check that the remote control unit is set to "A".

Auto preset memory

This unit is equipped with a function for automatically searching for FM broadcast stations and storing them in the preset memory.

1 Press **< ON/STANDBY>** and set the DRA-297's power to the standby mode.

7 Hold **PRESET** \triangle and press **ON/STANDBY**.

- The unit automatically begins searching for FM broadcast stations.
- ** When the first FM broadcast station is found, that station is stored in the preset memory at channel A1. Subsequent stations are automatically stored in order at preset channels A1 to A8, B1 to B8, C1 to C8, D1 to D8, E1 to E8, F1 to F8 and G1 to G8 for a maximum of 56 stations.
- * Channel A1 is tuned in after the auto preset memory operation is completed.



- If an FM station cannot be preset automatically due to poor reception, use the "Manual tuning" operation to tune in the station, then preset it using the manual "Preset memory" operation.
- To interrupt this function, press <0N/STANDBY>.

■ Default settings

Auto tuner presets		
A1 ~ A8	87.5 / 89.1 / 98.1 / 107.9 / 90.1 / 90.1 / 90.1 / 90.1 MHz	
B1 ~ B8	520 / 600 / 1000 / 1400 / 1500 / 1710 kHz, 90.1 / 90.1 MHz	
C1 ~ C8	90.1 MHz	
D1 ~ D8	90.1 MHz	
E1 ~ E8	90.1 MHz	
F1 ~ F8	90.1 MHz	
G1 ~ G8	90.1 MHz	

Auto tuning

- **1** Use **INPUT SELECTOR**> to select "TUNER" or press [TUNER].
- **?** Press BAND to select "AM" or "FM".
- * When listening to the XM Satellite Radio (P page 15).
- **3** Press MODE to set the auto tuning mode. The "AUTO" indicator lights.
- The AUTO indicator lights
- **⚠** Press TUNING.
 - Automatic searching begins.



- If tuning does not stop at the desired station, use to the "Manual tuning" operation.
- "AM" or "FM" can be selected directly by pressing [FM/AM].

Manual tuning

- **1** Use **INPUT SELECTOR** to select "TUNER" or press [TUNER].
- **?** Press BAND to select "AM" or "FM".
- * When listening to the XM Satellite Radio (page 15).
- **3** Press MODE to set the manual tuning mode.
- * Check that the display's "AUTO" indicator turns off.
- **4** Press TUNING.
- * The frequency changes continuously when the button is held in.



- When the manual tuning mode is set, FM stereo broadcasts are received in monaural and the "STEREO" indicator turns off.
- "AM" or "FM" can be selected directly by pressing [FM/AM].

Preset memory

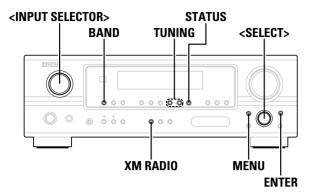
- **1** Use the "Auto tuning" or "Manual tuning" operation to tune in the station to be preset in the memory.
- **?** Press MEMORY.
- **3** Press [MEMORY BLOCK] (A to G) or SHIFT to select the desired memory block (A to G).
- **4** Press <PRESET> or [CHANNEL] to select the desired preset channel (1 to 8).
- **5** Press MEMORY again.
 Store the station in the preset memory.

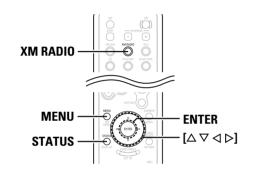


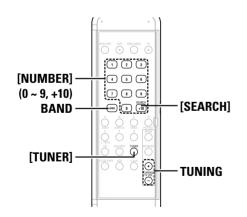
To preset other channels, repeat steps 2 to 4.
 A total of 56 broadcast stations can be preset — 8 stations (channels 1 to 8) in each of blocks A to G.

Recalling preset stations

- **1** Press [MEMORY BLOCK] (A to G) or SHIFT to select the memory block.
- **2** Press < PRESET> or [CHANNEL] to select the desired preset channel.







About the button names in this explanation

< > : Buttons on the main unit

[] : Buttons on the remote control unit

Button name only :

Buttons on the main unit and remote control unit

XM Satellite Radio

☐ ABOUT XM SATELLITE RADIO

XM Satellite Radio offers an extraordinary variety of commercial-free music, plus the best in sports, news, talk and entertainment. XM is broadcast in superior digital audio from coast to coast. From rock to reggae, from classical to hip hop, XM has something for every music fan. XM's dedication to playing the richest selection of music is matched by its passion for live sporting events, talk radio, up-to-theminute news, stand-up comedy, children's programming, and much more. For U.S. customers, information about XM Satellite Radio is available online at www.xmradio.com. For Canadian customers, information about XM Canada is online at www.xmradio.ca.

☐ XM READY® LEGAL

Hardware and required monthly subscription sold separately. Other fees and taxes, including a one-time activation fee may apply. Subscription fee is consumer only. All fees and programming subject to change. Channels with frequent explicit language are indicated with an XL. Channel blocking is available for XM radio receivers by calling 1-800-XMRADIO (US residents) and 1-877-GET-XMSR (Canadian residents).

For a full listing of the XM commercial-free channels and advertisingsupported channels, visit lineup.xmradio.com (US residents) or xmradio.ca (Canadian residents).

Subscriptions subject to Customer Agreement available at xmradio.com (US residents) and xmradio.ca (Canadian residents). Only available in the 48 contiguous United States and Canada. ©2006 XM Satellite Radio Inc. All rights reserved. All other trademarks are the property of their respective owners.

☐ XM READY® SUBSCRIPTIONS

Once you have installed the XM Mini-Tuner Dock, inserted the XM Mini-Tuner, connected the XM Dock to your XM Ready® home audio system, and installed the antenna, you are ready to subscribe and begin receiving XM programming. There are three places to find your eight character XM Radio ID: on the XM Mini-Tuner, on the XM Mini-Tuner package, and on XM Channel 0. Record the Radio ID in the following eight squares for reference.

1 1			1 1		1 1	
1 1	 1 1	1 1	1 1	1 1	1 1	
1 1	 1 1	1 1	1 1	1 1	1 1	

Note: The XM Radio ID does not use the letters "I", "O", "S" or "F". Activate your XM Satellite Radio service in the U.S. online at http://activate.xmradio.com or call 1-800-XM-RADIO (1-800-967-2346). You will need a major credit card. XM will send a signal from the satellites to activate the full channel lineup. Activation normally takes 10 to 15 minutes, but during peak busy periods you may need to keep your XM Ready home audio system on for up to an hour. When you can access the full channel lineup on your XM Ready home audio system you are done. For more information or to subscribe in Canada, visit XM on the Web at www.xmradio.ca or call XM's Listener Care at 1-877-GET-XMSR (1-877-438-9677).

Checking the XM signal strength and Radio ID

1 Use **INPUT SELECTOR** to select "TUNER" or press [TUNER].

2 Press BAND to select "XM".

3 Press STATUS until "SIGNAL" is displayed.

 The display changes as shown below according to the receiving condition.

Display	Condition	
GOOD	Signal strength is good	
MARGINAL	Signal strength is marginal	
WEAK	Signal strength is poor	
NO	Loss of the signal	

4 Adjust the antenna location until "SIGNAL:GOOD" is displayed.

5 Press **STATUS** until the XM channel (ex.XM001) is displayed.

6 Press TUNING to select channel 0 (XM000).

XM000 Radio ID ← Radio ID

Operation

Channel selection

1 Use **INPUT SELECTOR**> to select "TUNER" or press [TUNER].

? Press **BAND** to select "XM".



3 Press TUNING to reach the desired channel.

- * The channel changes continuously when you press and hold TUNING.
- * When the artist name and song title are received, they are displayed.

Category search

Press $[\triangleleft \triangleright]$ in the XM mode.

• The current category name is displayed.



2 Press $[\triangleleft \triangleright]$ to select the category, and press $[\triangle \triangleright]$ to select the channel within the selected category.



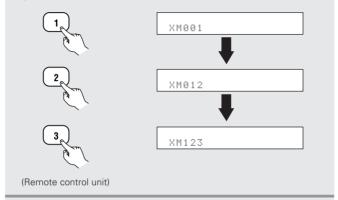
- "LOADING" is displayed while receiving the channel or information.
- "UPDATING" is displayed while updating encryption code.
- When the selected channel is not available, "XM - -" is displayed.
- Information on the artist name, song title, category and signal level can be checked using STATUS.
- The XM Satellite Radio channels can be preset in the same way as AM/FM band (P page 14).
- "XM" can be selected directly by pressing XM RADIO.

Direct access of channels

1 Press [SEARCH] in the XM mode.

? Press [NUMBER] to enter the desired channel.

** For example, if you want to access channel 123 (ex.XM123) press [NUMBER] as shown below.



3 Once all number have been input, press ENTER to change the channel.

If the next [NUMBER] is not pressed within several seconds, the channel automatically switches to the channel number that was input.

Playing the iPod®

The music recorded on the iPod can be played when using a Control Dock for iPod (ASD-1R, sold separately). The iPod can be controlled using the buttons on the main unit and the remote control unit.



iPod is a trademark of Apple Computer, Inc., registered in the U.S. and other countries.

With the iPod, non-copyrighted contents and contents that may be legally reproduced or played may be reproduced and played by individuals for their personal use. Violating copyrights is prohibited by law.

Setting the iPod Assignment

It is possible to assign the Control Dock for iPod's (ASD-1R, sold separately) audio and video signals to any input terminals on the DRA-297 and play them.

1 Press MENU.

2 Use $\langle SELECT \rangle$ or press $[\triangleleft \triangleright]$ to select the input terminals.

NONE:

This is the factory default setting.

DVD, VCR, V.A, CDR, CD:

When using a Control Dock for iPod, it is possible to connect with the audio input terminal of the assigned function.

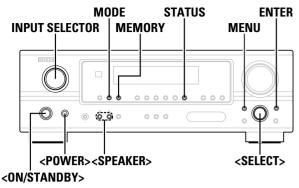
3 Press ENTER.

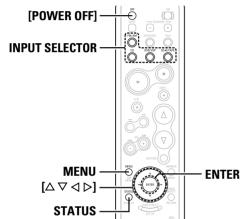


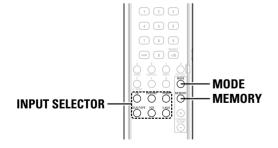
- The optional standard Control Dock for iPod is DENON ASD-1R sold separately.
- To assign to a different function after a function has already been assigned, switch to a function other than the one that is assigned then repeat the procedure.

NOTE:

- DENON will accept no responsibility whatsoever for loss or damage of data on an iPod occurring when the iPod is used connected to the DRA-297.
- Some of the functions may not operate, depending on the type of iPod and the software version.







About the button names in this explanation

: Buttons on the main unit

[] : Buttons on the remote control unit

Button name only

Buttons on the main unit and remote control unit

Listening to music

- **1** Connect the DRA-297 and iPod using the Control Dock for iPod (ASD-1R) (page 10).
- 2 Assign the input terminal at "Setting the iPod Assignment" (page 16).
- **3** Use INPUT SELECTOR to select the function assigned in step 2.
 - Display "Remote iPod" on the main unit's display.

Remote iPod

- * If the screens above are not displayed, the iPod may not be properly connected. Check the connections and settings.
- **4** Operate using MENU, <SELECT>, $[\triangle \nabla \lhd \triangleright]$, and ENTER while watching the iPod's screen.



 The optional standard Control Dock for iPod is DENON ASD-1R sold separately.

Listening to music in the Browse mode

The mode switches between the Remote mode and the Browse mode if **MODE** is pressed for at least 2 seconds.

1 Use **SELECT>** or press $[\triangle \nabla]$ to select the music file, then press **ENTER** or $[\triangleright]$.

* Press [◁] to return to the music menu screen.

2 Press ENTER or [▷].
• Playback starts.

Pause:

Press **ENTER** during playback.

Press again to resume.

Manual search:

Press and hold in $[\Delta \nabla]$ during playback.

- ∆: Fast reverse
- ∇: Fast forward

Track search:

Press $[\Delta \nabla]$ during playback.

- Δ: Move to beginning of previous track
- ∇: Move to beginning of next track

Stop:

Press ENTER for at least 2 seconds during playback.

Repeat play:

Press MODE.

The mode switches as follows each time MODE is pressed.

• Repeat One: Single track repeat

• Repeat All: All track repeat

Shuffle play:

Press MEMORY.

The mode switches as follows each time **MEMORY** is pressed.

- Shuffle Songs: Single track shuffle
- Shuffle Albums: Album shuffle
- * In the Remote mode, only **SELECT>**, $[\Delta \nabla \triangleleft \triangleright]$, and **ENTER** can be used.



- When **STATUS** is pressed during playback, the front panel display switches between the title name, artist name and album name.
- Depending on the iPod's software version, it may not be possible to operate the iPod from the DRA-297. Use the latest version of the software. Information on the latest version of the software can be obtained on the Apple Computer website.
- With the DRA-297 it is possible to display folder names and file names on the screen like titles. The DRA-297 can display up to 64 characters, consisting of numbers, capital letters and small letters. A "?" mark is displayed in place of non-compatible characters.

Operation

Viewing still pictures and videos (only for iPods equipped with the slideshow / video function)

Use this procedure to view photo and video data stored on the iPod on a monitor.

Press MODE for at least 2 seconds to switch from the Browse mode to the Remote mode.

- "Remote iPod" is displayed on the DRA-297's display.
- **2** Watching the iPod's screen, press $[\triangle \nabla]$ to select "Photos" or "Video", then press ENTER or $[\triangleright]$.
 - The iPod's photo and video data are displayed on the monitor.



• To output photo or video data recorded on the iPod to the monitor, the iPod's "TV Out" setting (under "Video Settings") must be set to "ON".

For details, refer to the iPod's operating instructions.

Disconnecting the iPod

Press **<0N/STANDBY>** or **[POWER OFF]** and set the DRA-297's power to the standby mode.

* The iPod can be disconnected after switching to a function other than the one to which the iPod input is assigned.

Recording the program source (recording the source currently being monitored)

1 Select the input source to be played.

2 Start recording on the tape or video deck.

* For instructions, refer to the component's operating instructions.



• The AUDIO IN's signal selected with **INPUT SELECTOR** are output to the CD-R/TAPE and VCR AUDIO OUT terminals.

☐ Simultaneous recording

The signals of the source selected with **INPUT SELECTOR** are output simultaneously to the CD-R/TAPE and VCR REC OUT terminals. If a total of two tape and/or video decks are connected and set to the recording mode, the same source can be recorded simultaneously on every decks.

About the memory functions

☐ Last function memory

The various settings set when the DRA-297's power is switched to standby are stored in the memory. When the power is turned back on, the settings made when the power was switched to standby are recalled.

■ Backup memory

The various settings are stored in the memory for about 1 week, even when the power is turned off or the power cord is unplugged.

Initialization of the microprocessor

If the indication on the display is not normal or if the operation of the unit is not correct, then the microprocessor should be reset by the following procedure.

1 Switch off the unit using **POWER**>.

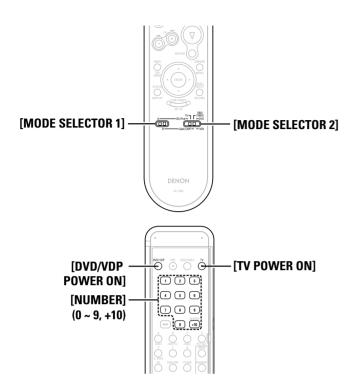
2 Keep both **SPEAKER** (A and B) depressed and turn on the unit by pressing **POWER**.

3 Check that the entire display is flashing at 1-second intervals and release the buttons.

• The microprocessor will be initialized.



- If step 3 does not work, start over from step 1.
- If the microprocessor has been reset, all the button settings are reset to the default values (the values set upon shipment from the factory).



Operating DENON audio components

- **✓** Set [MODE SELECTOR 1] to "A" or "B".
- **2** Set [MODE SELECTOR 2] to the position for the component to be operated.
- 3 Operate the audio component.
- * For details, refer to the component's operating instructions.
- *While this remote control is compatible with a wide range of infrared controlled components, it may be the case that some component models cannot be operated with this remote control.

Setting the preset memory function

- DENON and other makes of components can be operated by setting the preset memory.
- This remote control unit can be used to operate components of other manufacturers without using the learning function by registering the manufacturer of the component as shown in the list of preset codes (**F* End of this manual).
- Operation is not possible for some models.
- **↑** Set [MODE SELECTOR 1] to "A" or "B".
- ** Set to the A side for the CD/iPod, TV, DBS/CABLE or DVD position, and to the B side for the CD-R/TAPE or VCR position.
- **2** Set [MODE SELECTOR 2] to the component to be registered.
- **3** Press [DVD/VDP POWER ON] and [TV POWER ON] at the same time.
 - The indicator starts flashing.

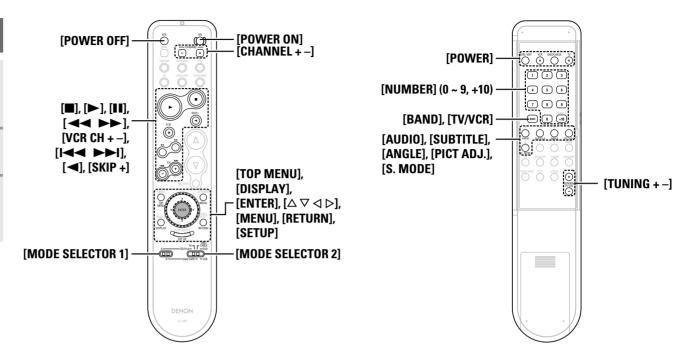
- **4** Referring to the included list of preset codes, press [NUMBER] to input the preset code (a 3-digit number) for the manufacturer of the component whose signals you want to store in the memory.
- **5** To store the codes of another component in the memory, repeat steps 1 to 4.



- The signals for the pressed buttons are emitted while setting the preset memory. To avoid accidental operation, cover the remote control unit's transmitting window while setting the preset memory.
- Depending on the model and year of manufacture, this function cannot be used for some models, even if they are of makes listed in the list of preset codes.
- Some manufacturers use more than one type of remote control code. Refer to the included list of preset codes to change the number and verify correct operation.
- The preset memory can be set for one component only among the following: CD/iPod, DBS/CABLE and CD-R/TAPE.

Operating a component stored in the preset memory

- **■** Set [MODE SELECTOR 1] to "A" or "B".
- ** Set to the A side for the CD/iPod, TV, DBS/CABLE or DVD position, and to the B side for the CD-R/TAPE or VCR position.
- **2** Set [MODE SELECTOR 2] to the component you want to operate.
- **3** Operate the component.
- * For details, refer to the component's operating instructions.
- * Some models cannot be operated with this remote control unit.



☐ Functions of buttons for the different devices

[Front]

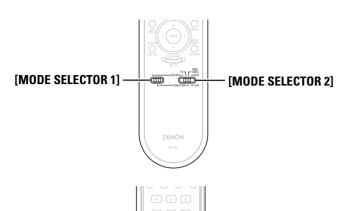
Device operated	CD player or iPod	TV (Monitor)	Satellite tuner	Cable TV	DVD player	CD recorder	Tape deck	MD recorder	Video deck
MODE SELECTOR 1		A					В		
MODE SELECTOR 2	CD/iPod	TV	DBS/	CABLE	DVD		CD-R/TAPE		VCR
OFF	Power off	-	_	-	Power off	Power off	Power off	Power off	-
ON	Power on	Power on	Power on	Power on	Power on	Power on	Power on	Power on	Power on
CHANNEL –	Preset –	TV channels –	Channels –	Channels —	Preset –	Preset –	Preset –	Preset –	TV channels –
CHANNEL +	Preset +	TV channels +	Channels +	Channels +	Preset +	Preset +	Preset +	Preset +	TV channels +
>	Play	Punch through	Punch through	Punch through	Play	Play	Forward play	Play	Play
•	Stop	Punch through	Punch through	Punch through	Stop	Stop	Stop	Stop	Stop
II, A/B	Pause	Punch through	Punch through	Punch through	Pause	Pause	A/B switching	Pause	Pause
◀, SKIP +	Disc skip +	Punch through	Punch through	Punch through	Disc skip +	-	Reverse play	-	-
44	Search (reverse)	Punch through	Punch through	Punch through	Search (reverse)	Search (reverse)	Rewind	Search (reverse)	Search (reverse)
>>	Search (forward)	Punch through	Punch through	Punch through	Search (forward)	Search (forward)	Fast forward	Search (forward)	Search (forward)
I◀◀, VCR CH –	Skip (reverse)	Punch through	Punch through	Punch through	Skip (reverse)	Skip (reverse)	-	Skip (reverse)	Channel –
►►I, VCR CH +	Skip (forward)	Punch through	Punch through	Punch through	Skip (forward)	Skip (forward)	-	Skip (forward)	Channel +
MENU	Menu	Menu	Menu	Menu	Top menu	Menu	Menu	Menu	-
$\triangle \nabla \triangleleft \triangleright$	Cursor operation	Cursor operation	Cursor operation	Cursor operation	Cursor operation	Cursor operation	Cursor operation	Cursor operation	-
DIMMER	Dimmer	Dimmer	Dimmer	Dimmer	Menu	Dimmer	Dimmer	Dimmer	Dimmer
ENTER	Enter	Enter	Enter	Enter	Enter	Enter	Enter	Enter	_
STATUS	Status	Display	Display	Display	Display	Status	Status	Status	_
VIDEO SELECT	Video selection	Return	Return	Return	Return	Video selection	Video selection	Video selection	_
PURE DIRECT	Pure direct	Pure direct	Pure direct	Pure direct	Set up	Pure direct	Pure direct	Pure direct	Pure direct

Operating the remote control unit

[Rear]

Device operated	CD player or iPod	TV (Monitor)	Satellite tuner	Cable TV	DVD player	CD recorder	Tape deck	MD recorder	Video deck
MODE SELECTOR 1	A				В				
MODE SELECTOR 2	CD/iPod	TV	DBS/0	CABLE	DVD		CD-R/TAPE		VCR
POWER	Power on/off	Power on/off	Power on/off	Power on/off	Power on/off	Power on/off	Power on/off	Power on/off	Power on/off
NUMBER (0 ~ 9, +10)	Channels	Channels	Channels	Channels	Channels	Channels	Channels	Channels	Channels
BAND	FM/AM/XM switching	TV/VCR switching	TV/VCR switching	TV/VCR switching	TV/VCR switching	FM/AM/XM switching	FM/AM/XM switching	FM/AM/XM switching	TV/VCR switching
A, AUDIO	Memory block	-	-	-	Audio	Memory block	Memory block	Memory block	-
B, SUBTITLE	Memory block	-	-	-	Subtitle	Memory block	Memory block	Memory block	-
C, ANGLE	Memory block	-	-	-	Angle	Memory block	Memory block	Memory block	-
D, PICT ADJ.	Memory block	-	-	-	Picture adjust	Memory block	Memory block	Memory block	-
E, S.MODE	Memory block	-	-	-	Search mode	Memory block	Memory block	Memory block	-
TUNING +	Tuning +	TV volume +	Volume +	Volume +	TV volume +	Tuning +	Tuning +	Tuning +	TV volume +
TUNING –	Tuning —	TV volume –	Volume —	Volume —	TV volume –	Tuning —	Tuning —	Tuning —	TV volume –
Default setting (Preset code)	DENON (111)	HITACHI (134)	-	ABC (007)	DENON (111)	-	DENON (114)	-	HITACHI (108)
Special remarks	1)	①, ③	①,	3	1), 2		1)		1)

- Special remarks:
 ① It is only possible to set the preset memory for one device per mode. When a new code is preset, the previous code is automatically deleted.
 ② Note that the function names of the DVD buttons on the remote control unit may differ for some brands. Check beforehand.
- 3 The CD, TAPE/CD-R/MD, VCR or DVD/VDP buttons can be assigned to a TV or satellite tuner (or cable TV) (F) page 23).



-[D]

Setting the punch through function

"Punch Through" is a function allowing you to operate ▶, ■, ◄, ■, ◄, ▶▶, I◄◄ and ▶▶I on CD, DVD/VDP, TAPE/CD-R/MD or VCR components when in the TV or DBS/CABLE mode. By default, nothing is set.

- **✓** Set [MODE SELECTOR 1] to "A".
- **2** Set [MODE SELECTOR 2] to the component to be registered (TV or DBS/CABLE).
- **3** Press [A] and [D] at the same time. The indicator starts flashing.
- ▲ Input the number of the component you want to set.

	No.
CD	1
DVD/VDP	2
TAPE/CD-R/MD	3
VCR	4
No setting	0

Troubleshooting

If a problem should arise, first check the following.

- 1. Are the connections correct?
- 2. Have you operated the receiver according to the Operating Instructions?
- 3. Are the speakers and other components operating properly?

If this unit is not operating properly, check the items listed in the table below. Should the problem persist, there may be a malfunction. Disconnect the power immediately and contact your store of purchase.

Symptom	Cause	Measures	Page
Display not lit and sound not produced when POWER switch set to on.	Power supply cord not plugged in securely.	Check the insertion of the power supply cord plug.	11
Display lit but sound not produced.	• Speaker cables not securely connected. • INPUT SELECTOR knob position is	Connect securely.Switch to the proper position.	7 12
	not appropriate. • Volume control set to minimum. • MUTING is on.	Turn volume up to suitable level. Switch off MUTING.	12 12
Nothing is displayed on monitor.	DRA-297's video output terminals and monitor's input terminals are not properly connected. Monitor's input setting is wrong.	Check that the connections are correct. Set the monitor's input selector to the terminals to which video signals are connected.	8
Copying from DVD to VCR is not possible.	Copying between a source such as DVD and a VCR is not usually possible, as DVDs are often encoded with copy-protection signals that prevent VCR recording.	Copying is not possible.	_
No sound is produced from subwoofer.	 Subwoofer's power is not on. Subwoofer's output is not connected. The subwoofer's channel volume level is set to "-12 dB". 	Turn on the power.Connect properly.Turn the subwoofer's channel volume level up.	— 11 13

Troubleshooting

Symptom	Cause	Measures	Page
This unit does not operate properly when remote control unit is	Batteries dead. Remote control unit too far from this unit.	Replace with new batteries. Move closer.	3
used.	Obstacle between this unit and remote control unit. Different button is being pressed. ⊕ and ⊖ ends of batteries inserted in reverse.	Remove obstacle.Press the proper button.Insert batteries properly.	_ _ 3
Power has turned off and the power indicator is blinking red.	The set's internal temperature has risen and the protection circuit has been activated.	Put the DRA-297 in a well-ventilated place. Turn off the power, then wait for the	7
	The core wires of the speaker cables are touching each other or the DRA- 297's rear panel, activating the protection circuit.	set to fully cool off before turning the power back on. • Check the connections of all the speaker cables.	7
	DRA-297 is malfunctioning.	• Turn off the power and contact a DENON customer service center.	7
"CHECK ANTENNA" is displayed in the XM mode.	DRA-297's XM connectors and the XM Mini-Tuner and Home Dock is not properly connected.	Check that the connection are correct.	10, 15
"NO SIGNAL" is displayed in the XM mode.	• The signal cannot be received.	Reposition your XM Mini-Tuner and Home Dock.	15
"OFF AIR" is displayed in the XM mode.	The selected channel is not currently broadcasting.	Select the another channel.	15
Receiving only XM channels 0 and 1.	• The XM Tuner is not activated.	Contact XM Radio.	10, 15

Specifications

☐ Audio section

Power amplifier

Rated output: 50 W + 50 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.08 % T.H.D.)

Output terminals: A or B 4 ~ 16 Ω/ohms A + B8 ~ 16 Ω/ohms

Analog

(LINE input-PRE OUT)

Input sensitivity / input impedance: 200 mV / 47 kΩ/kohms

Frequency response: 10 Hz ~ 100 kHz: +1, -3 dB (TONE DEFEAT ON) 98 dB (IHF-A weighted) (TONE DEFEAT ON) S/N: Total harmonic distortion: 0.009 % (-3 dB at rated output, 8 Ω /ohms) (1 kHz)

Rated output: 1.2 V

☐ Video section

Standard video terminals

Input / output level and impedance: 1 Vp-p, 75 Ω/ohms

Frequency response: 5 Hz ~ 10 MHz — +1, -3 dB

☐ Tuner section [FM] [AM]

(note: μ V at 75 Ω /ohms, 0 dBf = 1 x 10⁻¹⁵ W)

Receiving Range: 87.5 MHz ~ 107.9 MHz 520 kHz ~ 1710 kHz

1.0 μV (11.2 dBf) **Usable Sensitivity:** 18 μV

50 dB Quieting Sensitivity: MONO 1.6 µV (15.3 dBf) **STEREO** 23 µV (38.5 dBf) S/N (IHF-A): MONO 77 dB (IHF-A weighted)

STEREO 72 dB (IHF-A weighted)

Total Harmonic Distortion (at 1 kHz): MONO 0.15 % (1 kHz)

STEREO 0.3 % (1 kHz)

☐ General

Power supply: AC 120 V, 60 Hz

Power consumption:

3.0 A

Maximum external dimensions: 434 (W) x 147 (H) x 417 (D) mm (17-3/32" x 5-25/32" x 16-27/64")

Mass: 8.5 kg (18 lbs 11.8 oz)

☐ Remote control unit (RC-1053)

Batteries: R6P/AA Type (Two batteries)

External dimensions: 52 (W) x 243 (H) x 21 (D) mm (2-3/64" x 9-9/16" x 53/64")

Mass: 175 g (Approx. 6.2 oz) (included batteries)

^{*} For purposes of improvement, specifications and design are subject to change without notice.

☐ List of preset codes

Denon 014, *[111] Asha 087 Goldstar 000, 006, 012, 062, 088 Mitsubishi 001, 003, 006 Aiwa 009 Audio Dynamic 005, 085 Gradiente 094 017, 027, 025 Hitachi 010 Audiovox 088 Grundig 042 Motorola 081 JVC 006, 011 Beaumark 087 Harley Davidson 094 Motorola 081 Konka 012, 013 Broksonic 086, 093 Harman Kardon 040, 062 Montgomery Ward 001, 002, 003 Magnavox 005 Calix 088 Hi-Q 091 063, 081, 115 Mitsubishi 004 Candle 006, 087, 088, 089, 090 Hitachi 009, 013, 023, 026, 058, MTC MTC 009, 087, 098 Panasonic 014 Canon 049, 057 *[108], 109, 110, 111 Multitech 007, 009, 017 Philips 005, 015, 016, 017 Capehart 025, 055, 056, 056, 071 JC Penny 004, 005, 007, 023, 028, 087, 088 NAD 038 Sanyo	, 039, 040, , 009, 049, , 117
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