

DENON

AM-FM STEREO RECEIVER

DRA-1025R/825R

OPERATING INSTRUCTIONS
MODE D'EMPLOI



RC-108



DRA-1025R



RC-106



DRA-825R

Serial No: _____

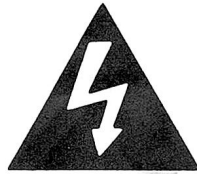
PLEASE RECORD UNIT SERIAL NUMBER INDICATED ON THE REAR PANEL FOR FUTURE REFERENCE.

FOR ENGLISH READERS

PAGE 4 ~ PAGE 13

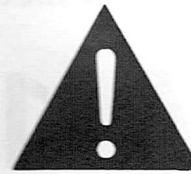
POUR LES LECTEURS FRANCAIS

PAGE 14 ~ PAGE 23



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 of 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 of the presence of important operating and maintenance (servicing) instruction 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.**

CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

SAFETY INSTRUCTIONS

1. Read Instructions — All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions — All operating and use instructions should be followed.
5. Water and Moisture — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands — The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 6A An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

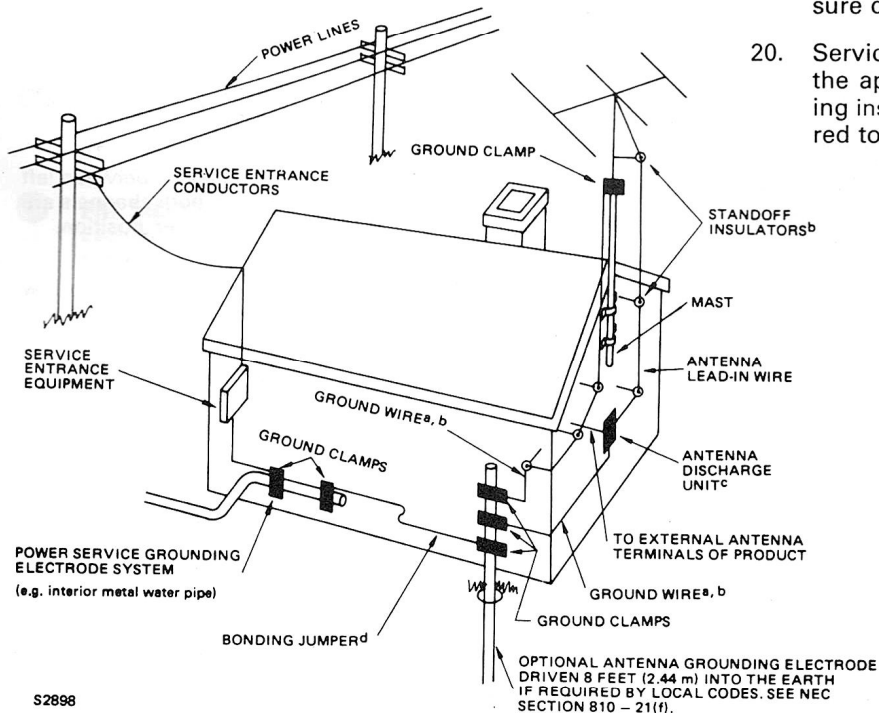


7. Wall of Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. 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 appliance.
13. Protective Attachment Plug – The appliance is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be

sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.

14. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
15. Power Lines – An outdoor antenna should be located away from power lines.
16. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect 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.
17. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
20. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 – "RADIO AND TELEVISION EQUIPMENT"



a Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger, as a ground wire.

b Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.

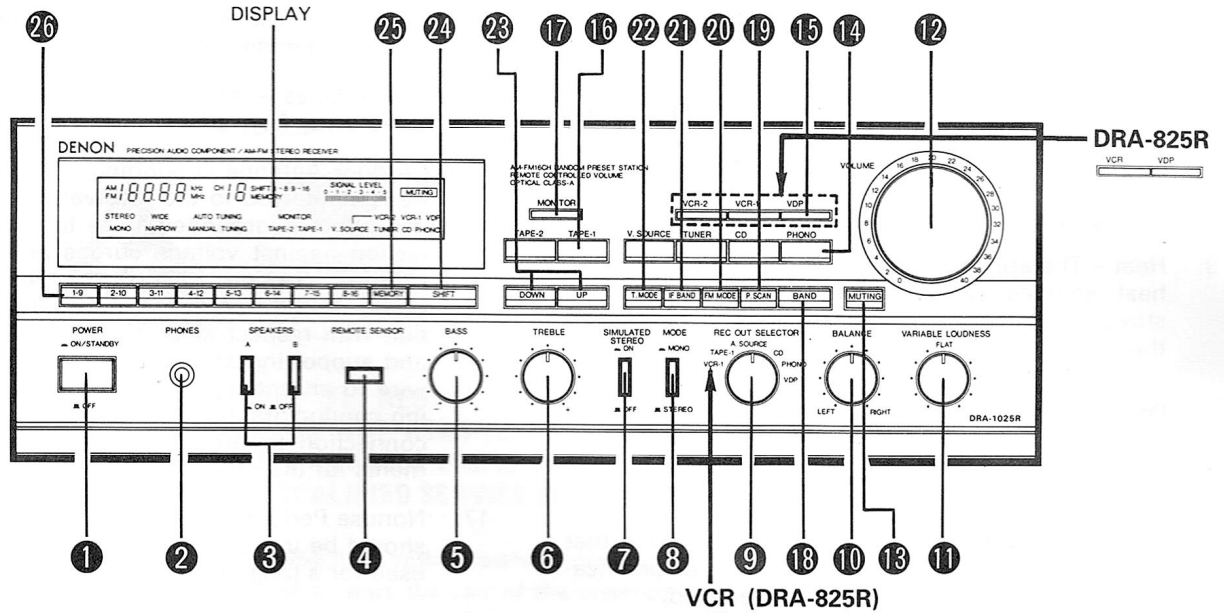
c Mount antenna discharge unit as close as possible to where lead-in enters house.

d Use jumper wire not smaller than No. 6 AWG (13.3 mm²) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j).

NAME AND FUNCTION OF PARTS

FRONT PANEL

DRA-1025R



1 POWER (Power Switch)

When the power cord is plugged into an AC power outlet, pressing this button once, the power is turned on and the DISPLAY lights. It takes a few seconds before sound is output, thanks to the built-in muting circuit, preventing audio output until the receiver has stabilized.

2 PHONES (Headphones Jack)

Connect a pair of headphones (sold separately) to this jack for private listening.

3 SPEAKERS (Speaker Selector Switches)

These switches are used to engage speaker system A and B. Both systems may be used simultaneously, provided your speakers have the correct impedance. No sound is heard through the speakers when both switches are reset to the **■** position.

4 REMOTE SENSOR (Remote Control Sensor)

This sensor receives the infra-red light transmitted from the wireless remote control unit. For remote control, point the wireless remote control unit towards the sensor.

5 BASS (Bass Control)

Use this control to adjust the low-range response. When the control is set to the center position, the frequency characteristic curve (below 100 Hz) is flat. Turn the control clockwise to increase the bass response and counter-clockwise to decrease it.

6 TREBLE (Treble Control)

Use this control to adjust the high-range response. When the control is set to the center position, the frequency characteristic curve (above 10,000 Hz) is flat. Turn the control clockwise to increase the treble response and counter-clockwise to decrease it.

7 SIMULATED STEREO (Simulated Stereo Button)

Press this switch to on (**■**) to enjoy simulated stereo playback.

This feature will offer simulated stereo reproduction of any monaural program source (such as AM broadcasts or monophonic video programs).

- Reset the button to off (**■**) when listening to normal stereo programs.

8 MODE (Mode Switch)

stereo (**■**): Use this position for stereo reproduction.
mono (**■**): Use this position to listen to monaural programs. When checking the speaker phase, it is convenient to use this position.

9 REC OUT SELECTOR (Recording Selector Switch)

Use to select the source you want to record from or to select components, connected to the TAPE-1, TAPE-2, VCR-1 and VCR-2 terminals, for dubbing operation.

- VDP: Use this position to record from a Video Disc Player.
- PHONO: Use this position to record from a record player.
- CD: Use this position to record from a CD player.
- A. SOURCE: Use this position to record the Audio Source of INPUT SELECTOR 14 except V. SOURCE.
- TAPE-1: Use this position to record the sound from the component connected to TAPE-1 onto that connected to the TAPE-2, VCR-1 and VCR-2 jacks (TAPE-2 and VCR for DRA-825R).
- VCR-1 (VCR for DRA-825R): Use this position to record the sound from the component connected to VCR-1 (VCR for DRA-825R) onto that connected to the TAPE-1, TAPE-2 and VCR-2 jacks (TAPE-1 and TAPE-2 for DRA-825R).

10 BALANCE (Balance Control)

Use this control to balance the volume levels between left and right channels. The volume levels in both channels are equal when the control is set to the center position.

11 VARIABLE LOUDNESS (Loudness Control)

At low volumes, the human ear is less sensitive to low (BASS) and high (TREBLE) frequencies. Use this control to compensate for this deficiency when listening at low volume levels. Turn this control counter-clockwise until a natural balance of bass and treble sound has been restored.

12 VOLUME (Volume Control)

This knob is used to adjust the volume level of both channels. Turn the knob clockwise to raise the volume and counter-clockwise to lower it.

13 MUTING (Muting Switch)

Pressing this switch, the output level is attenuated about 20 dB and the MUTING indicator lights. Press the switch again to restore the volume level.

- 14 INPUT SELECTOR (Input Selector Buttons)**
 These buttons are used to select the audio input source.
- PHONO: Press to play a record on a record player connected to the PHONO input jacks.
 - CD: Press to listen to a compact disc player or another component connected to the CD input jacks.
 - TUNER: Press to listen to FM or AM programs.
 - V. SOURCE: Press to listen to the audio portion of a Hi-Fi VCR, TV tuner, video disc player or another component connected to the VDP or VCR terminals.

* If a function switch is pressed quickly, the function may not actually change and no signal may be heard from the speakers for an instant. To avoid this, be sure to press function switches carefully. Even if the function does not change and no signal is heard from the speakers for an instant when a function switch is pressed, this will not affect copies (when recording a source other than the tuner).

15 VIDEO INPUT SELECTOR (Video Input Selector Buttons)

- These buttons are used to select the video program source.
- VDP: Press for playback of a component, such as a video disc player or TV tuner, connected to the VDP terminal.
 The video signal can be copied from the VDP terminals to the VCR-1 or VCR-2 terminals.
 - VCR (1, 2): Press for recording/playback of a Hi-Fi VCR and another video component connected to these terminals.
 The video signal can be copied from VCR-1 to VCR-2, or VCR-2 to VCR-1 as desired.

NOTE: The DRA-825R features only one set of VCR jacks. Thus, recording is only possible from VDP to VCR. Dubbing between two VCRs is not possible unless one VCR is connected to the VDP terminal.

16 TAPE SELECTOR (Tape Selector Switches)

- TAPE-1: Press to select the tape deck connected to the TAPE-1 terminals as the source.
- TAPE-2: Press to select the tape deck connected to the TAPE-2 terminals as the source.

17 MONITOR (Tape Monitor Switch)

Press this switch (ON) to play TAPE-1 or TAPE-2 and release (OFF) to play the source selected by the INPUT SELECTOR 14.

18 BAND (Band Selector Switch)

Press this switch to select the FM or AM band.

19 P. SCAN (Preset Station Scan Button)

Press this switch to scan stations that have been preset into the memory. Each preset station will be tuned in for 5 seconds.

20 FM MODE (FM Mode Switch)

Each time this switch is pressed, the FM mode will change between stereo and monaural reception.

When presetting FM stations into the memory, the FM mode is stored simultaneously.

STEREO: FM stereo and mono signals can be received. When this position has been set, interstation noise on the FM band is suppressed.

MONO: All FM programs are received in monaural. AM is not affected. If there is too much noise when a program is received in the STEREO mode, set this switch to MONO.

21 IF BAND (IF Bandwidth Selector Button)

Selects the bandwidth of the intermediate frequency amplifier for FM broadcasts only. Two positions are available, "WIDE" and "NARROW". When presetting FM stations into the memory, the IF bandwidth mode is stored simultaneously.

22 TUNING MODE (Tuning Mode Switch)

This switch allows selection between Auto Tuning and Manual Tuning.

AUTO TUNING: Pressing the UP key, the tuner will begin tuning to a higher frequency and pressing the DOWN key, it will begin tuning to a lower frequency until a broadcasting station is found.

MANUAL TUNING: Stations are tuned in manually by use of the UP and DOWN keys.

23 TUNER UP/DOWN (Tuning Buttons)

Press these buttons to tune in a station. In the MANUAL TUNING mode, each press of the buttons will change the frequency in 100 kHz steps on FM and 10 kHz steps on AM. Keeping one of these buttons pressed, the frequency will change until the button is released.

During the AUTO TUNING mode, pressing one of these buttons will affect station search up or down the band.

24 SHIFT (Shift Button)

Each time this button is pressed, the preset station range will be shifted between "1 ~ 8" and "9 ~ 16".

25 MEMORY (Memory Button)

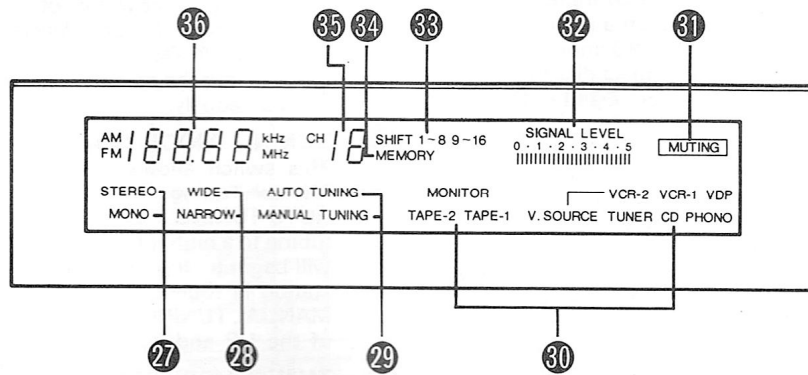
This switch is used to store the desired radio station on a PRESET CHANNEL button. When pressing this button, the MEMORY indicator lights for approximately 5 seconds. During this interval, the desired station can be stored in the memory.

26 PRESET CHANNEL 1 ~ 16 (Preset Station Buttons)

These buttons are used for storing stations or recalling stations which have been preset. Using the SHIFT button you can preset a total of 16 FM and 16 AM stations into preset channels 1 ~ 8 and 9 ~ 16.

Once a radio has been memorized on a PRESET CHANNEL button, the same station can later be tuned in instantly simply by pressing the corresponding PRESET CHANNEL button.

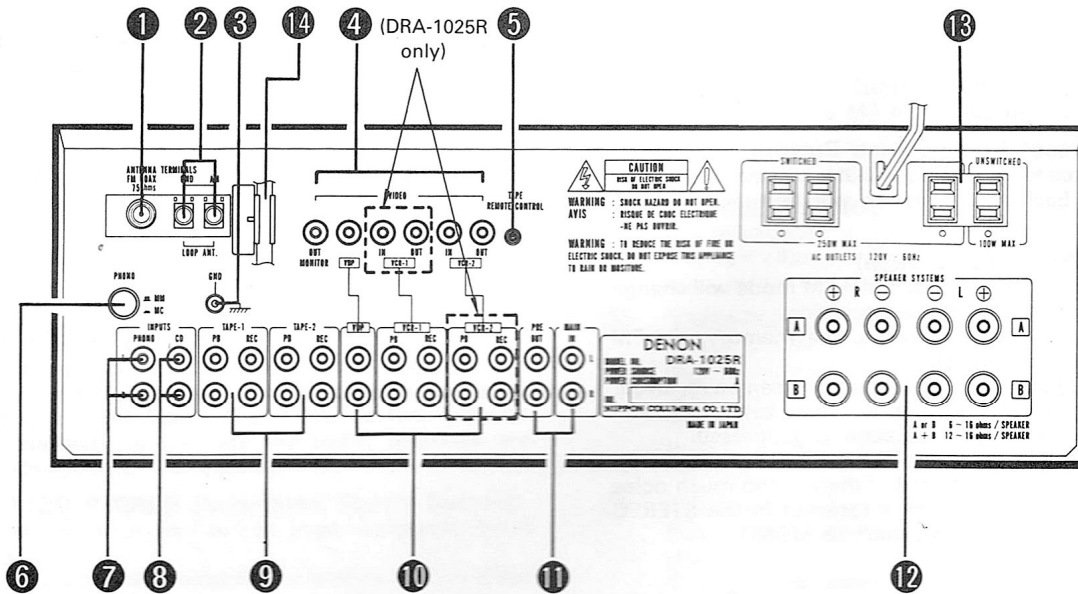
DISPLAY



- 27 STEREO/MONO (FM Mode Indicators)**
The STEREO indicator lights when an FM stereo signal is received while the FM MODE switch is set to STEREO. The MONO indicator lights when the MONO mode has been set with the FM MODE switch, even if the station is broadcasting in stereo.
- 28 WIDE/NARROW (IF Band Indicators)**
These indicators show the selected IF band.
- 29 AUTO/MANUAL TUNING (Tuning Mode Indicators)**
These indicators show the tuning mode that has been selected using the TUNING MODE Switch.
- 30 FUNCTION INDICATOR (Input Selector Indicators)**
The program source which has been selected with the INPUT SELECTOR buttons and TAPE SELECTOR buttons lights. Also, tape monitoring is indicated by the MONITOR indicator.
- 31 MUTING (Muting Indicator)**
This indicator flashes when the MUTING switch is engaged. The indicator will also flash for a few seconds when the power is turned on until the receiver has stabilized. Furthermore, the indicator will start flashing if the muting relay is triggered.



- 32 SIGNAL LEVEL (Signal Strength Indicators)**
These indicator show the signal strength level of the AM and FM station being received. Tune in a station until the maximum number of indicators light. Optimum reception is achieved when all indicators light.
- 33 SHIFT 1 ~ 8/9 ~ 16 (Shift Indicator)**
The preset channel station, selected with the Shift button, is displayed as SHIFT 1 ~ 8 or 9 ~ 16 on the display.
- 34 MEMORY (Memory Indicator)**
This indicator lights for approximately 5 seconds when the MEMORY button has been pressed and a station can be stored on a PRESET CHANNEL button.
- 35 CH (Preset Channel Display)**
When pressing one of the PRESET CHANNEL buttons, the corresponding channel number is digitally displayed while the frequency together with the stored FM and IF band modes stored on that channel are also displayed.
- 36 Frequency Display**
The tuned in station frequency is displayed in numerals. Indication is in MHz for FM reception and in kHz for AM reception.

BACK PANEL



- 1 FM ANT (FM Antenna Terminals)**
Both 75-ohm coaxial cable and 300-ohm feeder cable can be used for connecting FM antennas. For the antenna connecting procedure, see ANTENNA INSTALLATION (page 7).

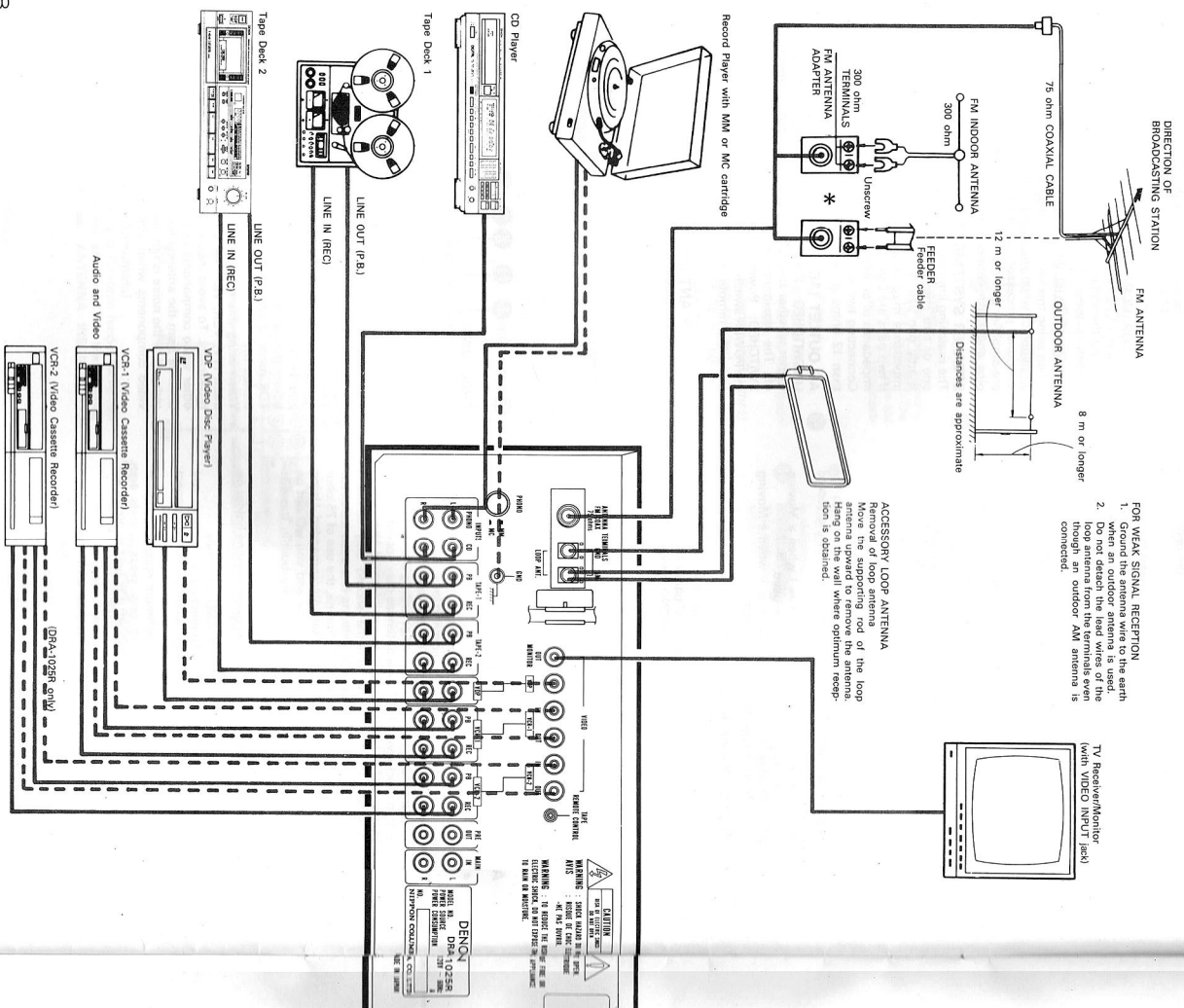
- 2 AM ANT (AM Antenna Terminals)**
Connect the attached AM loop antenna to these terminals. (Refer to page 7 for connection details.) You can also connect an outdoor AM antenna to these terminals.

- 3 GND (Ground Terminal)**
Connect the grounding wire of the turntable here. Unless the grounding wire is connected, hum or noise may be generated while playing records.
- 4 VIDEO (Video Input/Output Terminals)**
As a full-featured A/V center, this receiver makes possible connection of a TV monitor, VCRs and/or a video disc player (VDP) to these jacks. Use the VIDEO INPUT SELECTOR buttons on the front panel to select the desired source for playback, recording or dubbing.
- 5 TAPE/REMOTE CONTROL (Tape Deck Remote Control Jack)**
Remote control of the connected DENON cassette deck is enabled by connecting the tape deck remote control lead to this jack. The jack is a mini-jack designed for connection of a 3.5 mm plug.
NOTE: Do not connect headphones or a microphone to this jack. Use this jack only to connect a Denon cassette deck with a remote control jack (wired). Remote control of the tape deck using the receiver remote control unit is not possible unless the deck is equipped with such a jack.
- 6 PHONO (Cartridge Selector Switch)**
Use this switch to set the built-in phono equalizer to the type of cartridge (MM or MC) being used on the record player
MC: Depress the switch to "MC" () when a Moving Coil magnet-type cartridge is used.
MM: Release the switch to "MM" (), when a Moving Magnet-type cartridge is used.
- 7 PHONO (Phono Input Jacks)**
Connect the output cord of a record player here. Use connection cables equipped with RCA pin-plugs and set the PHONO switch on the rear panel to the correct position when completing the PHONO connections.
- 8 CD (CD Input Jacks)**
Connect the output cord of a CD player here.
- 9 TAPE-1, TAPE-2 (Tape Deck Playback/Recording Terminals)**
Two tape decks can be connected to these jacks for full-fledged playback, recording and tape dubbing operations.
- 10 VCR/VDP (VCR/VDP Audio Playback/Recording Terminals)**
Connect the audio terminals of video components in your system to these terminals.
- 11 PRE-OUT/MAIN IN Jacks**
When using this unit separately as a pre-amplifier or main amplifier, or when you want to connect a graphic equalizer, surround processor or other component between the pre-amplifier and main amplifier stages, remove the short pins and make connections to these terminals.
- 12 SPEAKER SYSTEMS (Speaker Terminals)**
The matching impedance of this amplifier is 6 ohms. Either one or two speaker pairs may be connected. If only one pair is connected the recommended speaker impedance may be anywhere between 6 and 16 ohms. If two pairs are connected, however, use speakers with an impedance of at least 12 ohms for optimum performance. Connecting two speaker pairs with an impedance of less than 12 ohms is not recommended.
- 13 AC OUTLET (AC Convenience Outlet)**
UNSWITCHED: Power is always supplied to this outlet no matter whether the POWER switch has been turned on or off. The maximum capacity is 100 W.
SWITCHED: Power to this outlet is turned on and off by the POWER switch, or when the power is turned on and off using the remote control unit. The maximum capacity is 250 W.
- 14 AM LOOP ANT (AM Loop Antenna)**
The AM loop antenna should be correctly connected to the AM ANT terminals to assure satisfactory reception on the AM band. Adjust the antenna for optimum reception while receiving an AM broadcast. Do not place a pin cord, SP cords, or power cords or other electric cords near the antenna as this may generate noise.

ANTENNA INSTALLATION

- FM ANTENNA**
The supplied T-type indoor FM antenna (300 ohms) can be used inside wooden houses for receiving local FM stations and other strong FM signals. Stretch out the ends of the antenna and mount the antenna on the wall or ceiling where optimum reception is achieved. FM T-type antennas may not consistently ensure stable reception, due to environment changes. In such cases, the FM T-type antenna should only be used temporarily until an outdoor FM antenna has been installed. When connecting an outdoor FM antenna, the use of 75 ohm coaxial cable (3C-2V, 5C-2V) is strongly recommended. Using a 300-ohm feeder cable will cause noise and you will not be able to achieve the high sound quality the built-in tuner is capable of delivering.
 - AM ANTENNA**
Attach the supplied AM loop antenna to the antenna holder on the back panel. Connect the leads to the AM and GND terminals. Also use the AM terminals for connecting an outdoor AM antenna (when making such a connection do not disconnect the AM loop antenna.) Adjust the loop antenna to obtain optimum reception. Where broadcast stations are distant and only weak signals are received, or where signals are blocked, it is best to install an outdoor AM antenna.
 - GROUNDING**
If you experience reception noise, grounding the receiver is recommended. Connect a thick insulated wire to the "GND" terminal, and attach the unconnected bare end to a metal water pipe, grounding rod, or grounded copper plate.
* NEVER connect the grounding wire to a gas pipe. This could cause fire or explosion.
- NOTES**
- This receiver has a full back-up system. When the power is turned on, the INPUT SELECTOR, VIDEO INPUT SELECTOR and TAPE SELECTOR buttons are set to the last mode set before the power was turned off. However, the TAPE MONITOR mode is always initialized as "OFF" when the power is turned on.
 - When using this receiver in close proximity to video equipment (TV, VCR, VDP, etc.), noise may be generated in AM broadcasts. To avoid this, keep the receiver as far away from other video components as possible, or detach the AM loop antenna from the antenna holder and place it where noise is reduced. If the noise is not reduced, turn off the power of the video components when listening to AM broadcasts.

CONNECTIONS

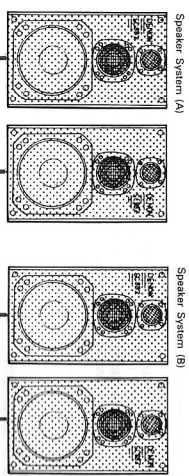
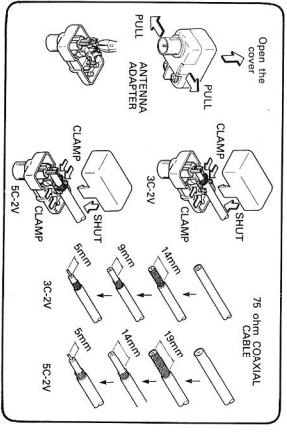
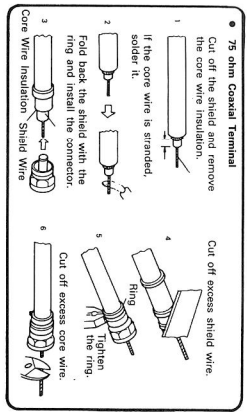


FOR WEAK SIGNAL RECEPTION:

1. Ground the antenna wire to the earth when an outdoor antenna is used.
2. Do not attach the lead wires of the system through an outdoor AM antenna if connected.

ACCESSORY LOOP ANTENNA

Removal of loop antenna: Move the supporting rod of the loop antenna upward to remove the antenna. Then, the loop antenna is removed.



Connecting the Speakers

Connect the speaker for the left channel (the left side as viewed facing the front) to the L SPEAKER SYSTEM terminals on the back panel, and the speaker for the right channel to the R SPEAKER SYSTEM terminals. Observe the correct polarity of the terminals: connect (-) leads to (-) terminals and (+) leads to (+) terminals. Two pairs of speakers can be connected. If only one pair of speakers is to be used, connect it to the SYSTEM A terminals.

Note to CATV System Installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that 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.

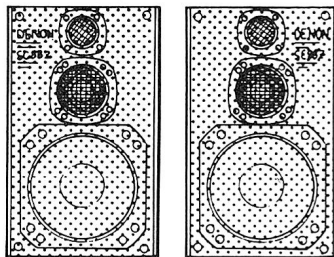
Notes:

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

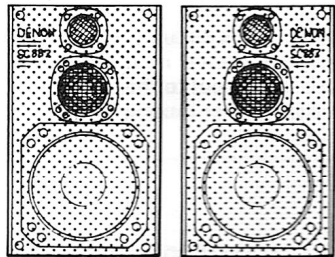
Notes on Connection

- Do not plug the power cord into the AC wall outlet until all connections have been completed.
- Make sure channels are correctly connected. Connect Left channels to Left channels and Right channels to Right channels. Follow the color markings of plugs and terminals to make sure mistakes are not made.
- Connect all pin-plugs securely, pushing them completely into the jacks. Incomplete connections will cause noise generation.
- Binding the connection cables to power cords, or running such cables close to power supply transformers will cause humming or noise, and should thus be avoided.
- The PHONO input jacks are extremely sensitive. Avoid using the power amplifier if no connection has been made to these jacks, as this otherwise may cause low humming from the speakers when the power amplifier is on. In case a record player is not used, short-circuit the jacks by inserting a jumper pin into them.

Speaker System (A)

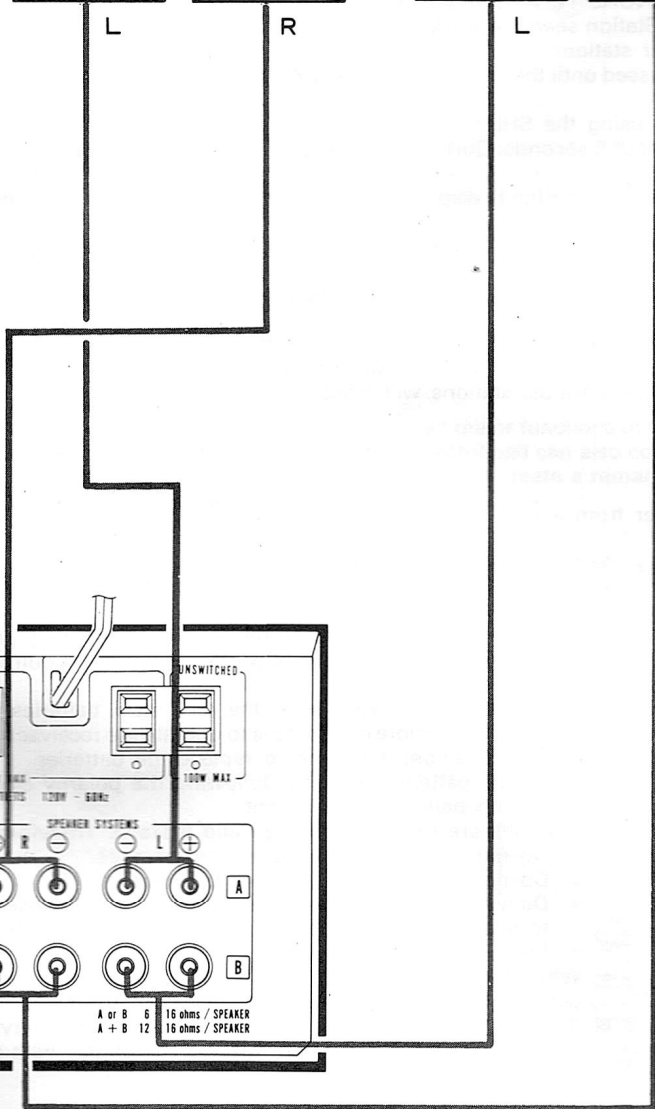


Speaker System (B)



• Connecting the Speakers

Connect the speaker for the left channel (the left side as viewed facing the front) to the L SPEAKER SYSTEM terminals on the back panel, and the speaker for the right channel to the R SPEAKER SYSTEM terminals. Observe the correct polarity of the terminals: connect (-) leads to (-) terminals and (+) leads to (+) terminals. Two pairs of speakers can be connected. If only one speaker system is to be used, connect it to the SYSTEM A terminals.



Note to CATV System Installer:

This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that 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.

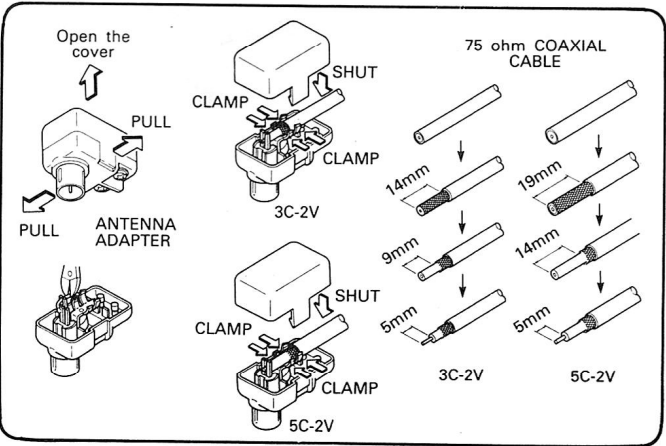
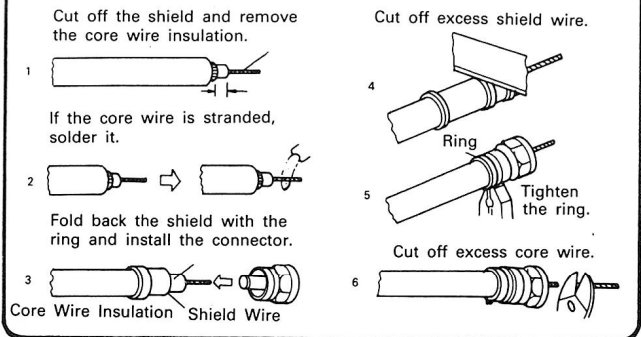
Notes:

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

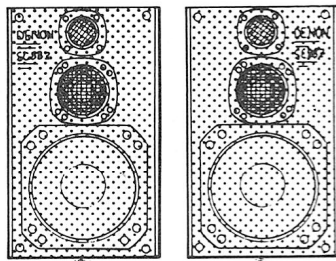
Notes on Connection

- Do not plug the power cord into the AC wall outlet until all connections have been completed.
- Make sure channels are correctly connected. Connect Left channels to Left channels and Right channels to Right channels. Follow the color markings of plugs and terminals to make sure mistakes are not made.
- Connect all pin-plugs securely, pushing them completely into the jacks. Incomplete connections will cause noise generation.
- Binding the connection cables to power cords, or running such cables close to power supply transformers will cause humming or noise, and should thus be avoided.
- The PHONO input jacks are extremely sensitive. Avoid using the power amplifier if no connection has been made to these jacks, as this otherwise may cause low humming from the speakers when the power-amplifier is on. In case a record player is not used, short-circuit the jacks by inserting a jumper pin into them.

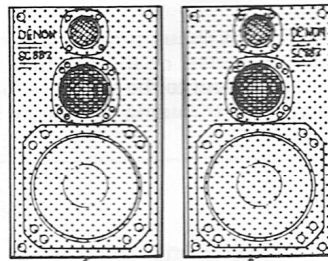
• 75 ohm Coaxial Terminal



Speaker System (A)



Speaker System (B)



• **Connecting the Speakers**

Connect the speaker for the left channel (the left side as viewed facing the front) to the L SPEAKER SYSTEM terminals on the back panel, and the speaker for the right channel to the R SPEAKER SYSTEM terminals. Observe the correct polarity of the terminals: connect (-) leads to (-) terminals and (+) leads to (+) terminals. Two pairs of speakers can be connected. If only one speaker system is to be used, connect it to the SYSTEM A terminals.

Note to CATV System Installer:

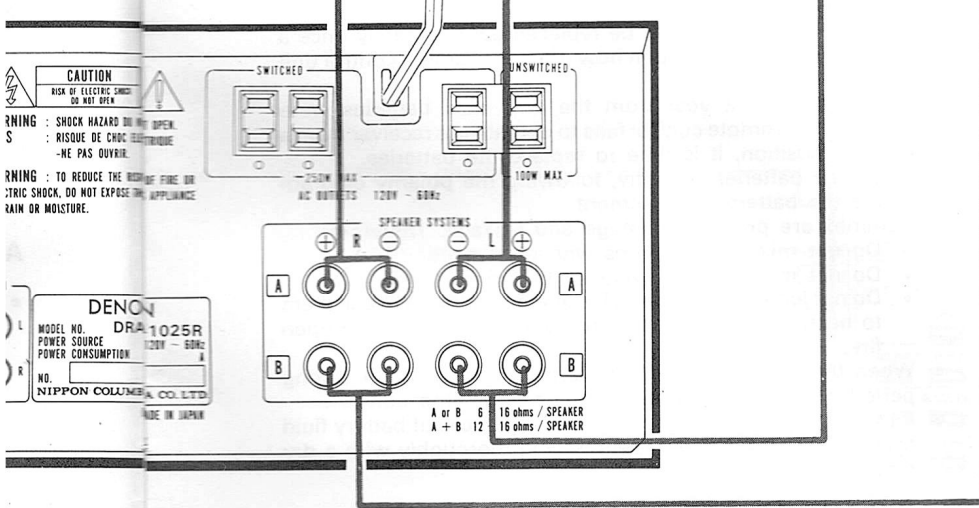
This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Notes:

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

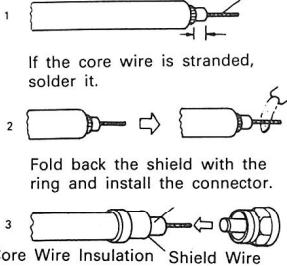
Notes on Connection

- Do not plug the power cord into the AC wall outlet until all connections have been completed.
- Make sure channels are correctly connected. Connect Left channels to Left channels and Right channels to Right channels. Follow the color markings of plugs and terminals to make sure mistakes are not made.
- Connect all pin-plugs securely, pushing them completely into the jacks. Incomplete connections will cause noise generation.
- Binding the connection cables to power cords, or running such cables close to power supply transformers will cause humming or noise, and should thus be avoided.
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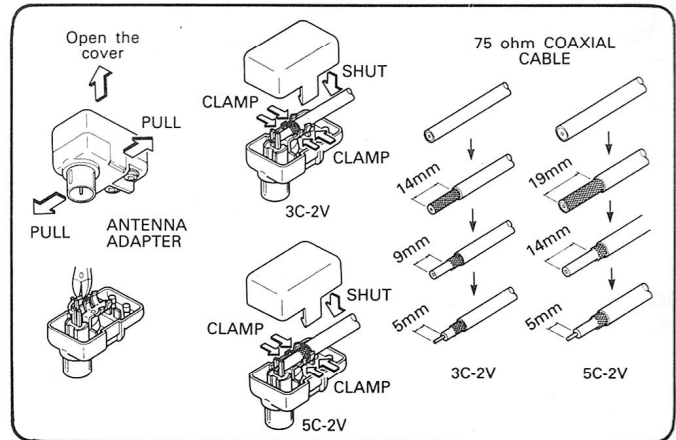
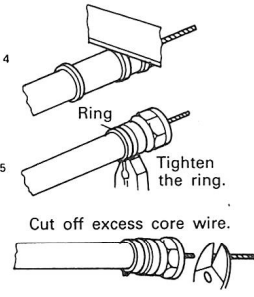


• **75 ohm Coaxial Terminal**

Cut off the shield and remove the core wire insulation.



Cut off excess shield wire.



CAUTION**Protection Circuit**

The receiver is equipped with a high-speed protection circuit. This circuit protects the internal circuitry from damage due to large currents flowing if the speaker jacks are not completely connected or if an output is generated by a short circuit. In such a case, the protection circuit will operate to cut off the output to the speakers. Should this happen, turn the power off and check the speaker connections. Then turn the power on again. After muting for several seconds, the receiver should be operating normally.

PRESETTING RADIO STATIONS

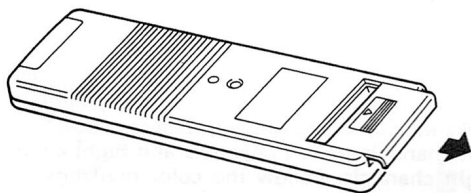
1. Choose "FM" or "AM" with the BAND SELECT Switch.
 2. Set the TUNING MODE Switch to the AUTO TUNING or MANUAL TUNING mode.
 - AUTO TUNING: Press the UP or DOWN TUNING button. Station search will take place, up or down the band, until a station is found. Press again to search for another station.
 - MANUAL TUNING: Keep the UP or DOWN TUNING button pressed until the desired station is tuned in. Fine-tune by pressing one of the buttons in small steps.
 3. Select the preset station range, MEMORY 1 ~ 8 or 9 ~ 16, using the SHIFT button.
 4. Press the MEMORY button. The MEMORY indicator lights for about 5 seconds. During this time, press one of the PRESET CHANNEL buttons.
 5. The channel number corresponding to the pressed PRESET CHANNEL button is displayed and the indicated frequency together with the FM and IF band modes are stored in memory for that channel.
- NOTE:** In case "MEMORY" disappears from the display before you press a PRESET CHANNEL button, press the MEMORY button once again to make the indicator light.
- The receiver features a "last channel" memory system. It stores the last channel used before power was turned off, and will set this channel when power is turned on again.
 - Stations stored in the memory will be kept for up to one month in case a power failure occurs or the power cord is disconnected. (Value given considering an ambient temperature of 60°F (20°C) and relative humidity of 65%.) Should power to the receiver be interrupted for longer periods, stations will need to be reset.

REMOTE CONTROL OPERATION

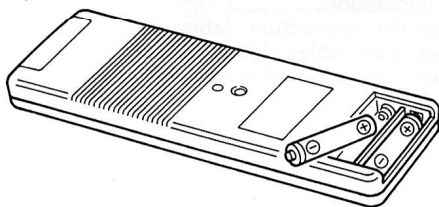
The accessory remote control unit is used to control the receiver from a convenient distance.

(1) Inserting the Dry Cell Batteries

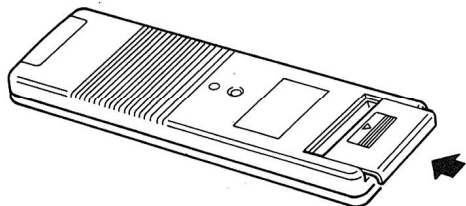
- 1 Remove the battery cover on the remote control unit.



- 2 Insert two size "AAA" (R03) dry cell batteries as shown in the diagram on the battery supply unit.

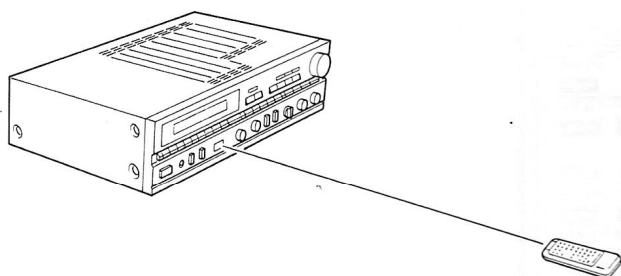


- 3 Replace the battery cover.

**Notes on Battery Usage**

- The remote control unit uses size "AAA" (R03) dry cell batteries.
- The batteries will need to be replaced approximately once a year. This will depend upon how often the remote control unit is used.
- If, in less than a year from the time new batteries were inserted, the remote control fails to operate the receiver from a near-by position, it is time to replace the batteries.
- Insert the batteries properly, following the polarity diagram inside the battery compartment.
- Batteries are prone to damage and leakage. Therefore:
 - Do not mix new batteries with used ones.
 - Do not mix different types of batteries.
 - Do not jumper opposite poles of the batteries, expose them to heat, break them open, nor expose of them into open fire.
- When the remote control unit is not to be used for a long period of time, remove the batteries from the unit.
- If the batteries have leaked, remove any traces of battery fluid from the battery compartment wiping thoroughly with a dry cloth. Then insert new batteries.

(2) Directions for use



- Operate the remote control unit while pointing it towards the remote control sensor on the receiver as shown in the diagram left.
- The remote control unit can be used at distances up to about 8 meters in a straight line from the receiver. This distance will decrease if there are obstructions blocking the infra-red light transmission or if the remote control unit is not directed straight at the receiver.

Notes on Operation

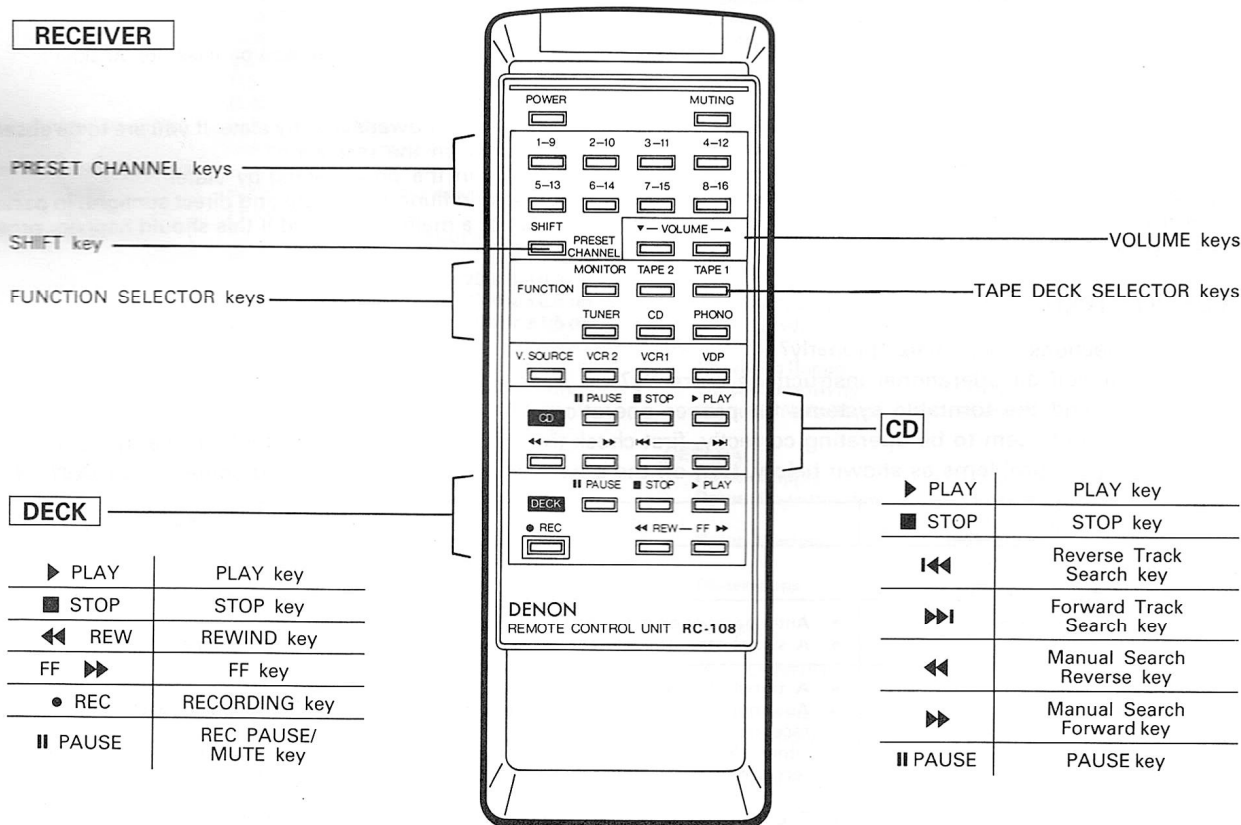
- Do not press the operating buttons on the receiver and the remote control unit at the same time. This will cause misoperation.
- Operation of the remote control unit will become less effective or erratic if the infrared remote control sensor on the receiver is exposed to strong light or if there are obstructions between the remote control unit and the sensor.
- In case you operate your VCR, TV or other components by remote control, do not operate buttons on two different remote control units at the same time. This will cause mis-operation.

Besides being able to operate the DRA-1025R or DRA-825R receiver with this remote control unit, you can also operate a DENON cassette deck and CD player from this handy full-system remote control unit.

Remote Control Section
Full-system Remote Control Unit

The full-system remote control unit operates all major functions of the receiver such as function switching, volume control, and preset station selection. But that's not all! The same control pad can also control the major functions of a DENON CD player and cassette deck when combined with the DRA-1025R or DRA-825R to create a remarkably ergonomic and versatile DENON system with all the quality sound reproduction that the devoted audiophile expects.

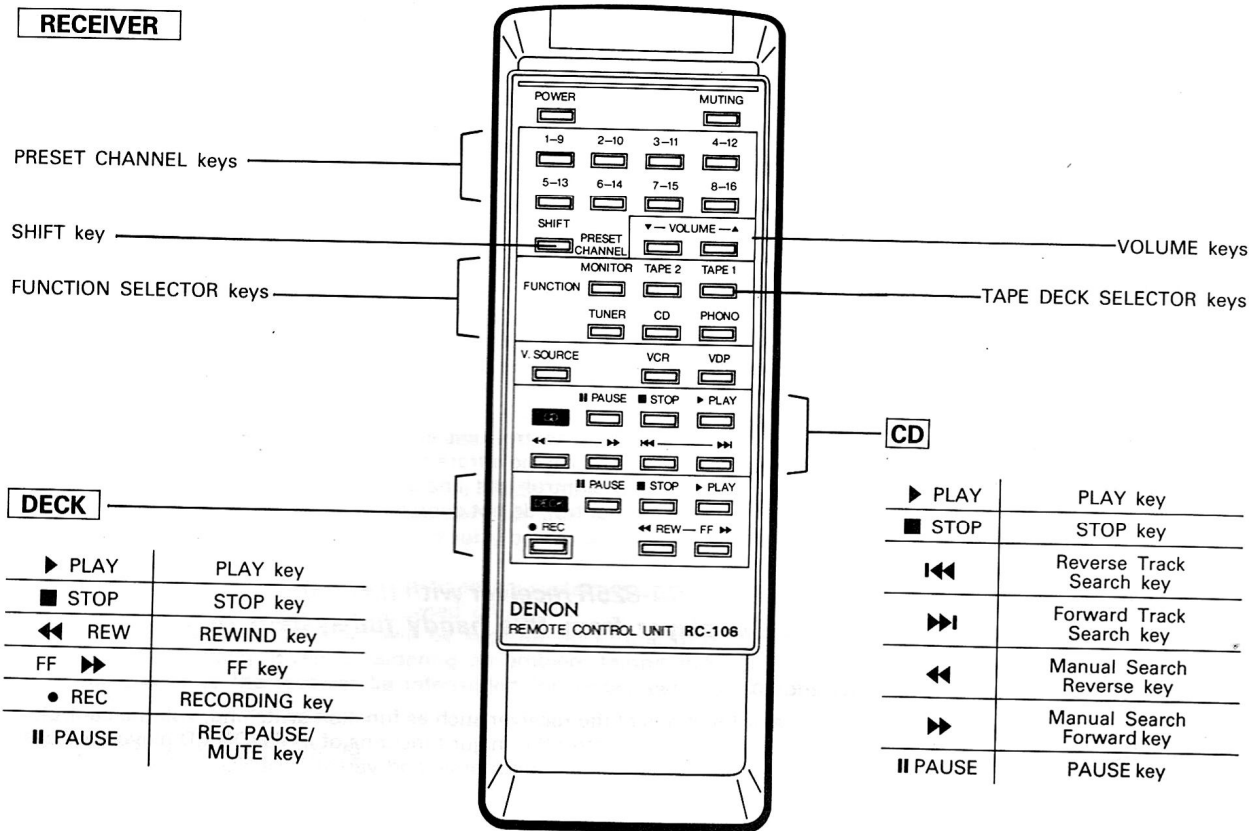
Remote Control Unit RC-108 supplied with DRA-1025R



- The RC-108 Remote Control Unit can control all CD players (excluding the DCD-1800R) and cassette decks made by DENON.
- Keys are conveniently separated into groups, each group controlling one specific component. The groups are RECEIVER, FUNCTION, CD and DECK.

For details on operating other components, refer to the instruction manuals for the CD player and/or cassette deck.

Remote Control Unit RC-106 supplied with DRA-825R



- The RC-106 Remote Control Unit can control all CD players (excluding the DCD-1800R) and cassette decks made by DENON.
- Keys are conveniently separated into groups, each group controlling one specific component. The groups are RECEIVER, FUNCTION, CD and DECK.

For details on operating other components, refer to the instruction manuals for the CD player and/or cassette deck.

CAUTION:

- If the power is turned off with the remote control unit, the receiver is switched to the power stand-by state. If you are to be absent for a long period of time, be sure to turn the power off using the POWER switch on the receiver.
- The LED indicator in the VOLUME control knob lights while the receiver is in the power stand-by state.
- You may experience erratic operation of the remote control unit if it is operated in fluorescent light and direct sunlight, in particular if this light strikes the remote control sensor on the receiver. However, this is not a malfunction, and if this should happen, protect the sensor against such light.

TROUBLESHOOTING

1. Have all connections been made properly?
2. Have you followed all operational instructions correctly?
3. Check speaker and the turntable systems for proper operation.

When your unit does not seem to be operating correctly, first check the items in the following table. If the symptom does not correspond to any of the problems as shown below, turn off the power sources immediately and contact your DENON dealer.

Problem	Cause	Remedy
FM AND AM RECEPTION		
Radio program can not be received.	<ul style="list-style-type: none"> • Antenna connection is wrong. • A signal strength is weak. 	<ul style="list-style-type: none"> • Check the connection. • Check the antenna installation.
Noise is reproduced.	<ul style="list-style-type: none"> • A signal strength is weak. • Automobile ignition noise interferes with reception. • Other electrical equipment interferes with reception. 	<ul style="list-style-type: none"> • Install an outdoor antenna. • Keep the antenna away from the street. • Keep the equipment away from this set, or turn off the power of the other equipment.
The preset frequencies are erased.	<ul style="list-style-type: none"> • The memory back-up term (about 1 month) passed. 	<ul style="list-style-type: none"> • Preset again.
In automatic tuning, the frequency doesn't stop at the radio station.	<ul style="list-style-type: none"> • A signal strength is weak. 	<ul style="list-style-type: none"> • Use manual tuning
In automatic tuning, it stops at the one step lower or higher frequency than the radio station.	<ul style="list-style-type: none"> • Noise or strong signal strength is received. 	<ul style="list-style-type: none"> • Use manual tuning for optimum reception.

Problem	Cause	Remedy
PLAYBACK OF THE AUDIO EQUIPMENTS		
No sound is produced with power on.	<ul style="list-style-type: none"> Input and speaker cords connection are wrong. Speaker switch is off. The INPUT SELECTOR buttons are in wrong position. The protective circuit is operating. The fuse has blown out. 	<ul style="list-style-type: none"> Check the connection. Turn on speaker switch. Check these position. Turn the power off once, check the connections to the speakers, then turn the power on again. Ask your dealer, or the nearest DENON representative.
Audible hum when playing records.	<ul style="list-style-type: none"> The input and grounding cords connection of the turntable are wrong. The cords connection of the cartridge are wrong. The interference from the nearby TV or radio transmission antenna. 	<ul style="list-style-type: none"> Check the connection. Check the connection. Ask your dealer, or the nearest DENON representative.
Howling is produced when the volume control is turned up too high while playing records.	<ul style="list-style-type: none"> The vibrations and sounds transmit from the speakers to the turntable. 	<ul style="list-style-type: none"> Insulate the vibrations, or keep the speakers away from the turntable.
Cracking noise is produced when playing records.	<ul style="list-style-type: none"> The record is stained with the dust. The stylus tip of the cartridge is stained with the dust. The cartridge is defective. 	<ul style="list-style-type: none"> Clean the record. Clean the stylus tip. Try the other cartridge.

SPECIFICATIONS

AMPLIFIER SECTION

Continuous Power Output:

DRA-1025R: 125 watts per channel minimum RMS, both channels driven into 8 ohms from 20 Hz ~ 20 kHz, no more than 0.015% THD 1 kHz (6 ohm load) 150 W + 150 W (0.03% THD)

DRA-825R: 90 watts per channel minimum RMS, both channels driven into 8 ohms from 20 Hz ~ 20 kHz, no more than 0.015% THD. 1 kHz (6 ohm load) 110 W + 110 W (0.03% THD)

Power Bandwidth (IHF):

5 Hz ~ 40 kHz (0.05% THD, both channels driven into 8 ohms)

Total Harmonic Distortion (20 Hz to 20 kHz):

0.006% (-3 dB volume leverl, into 8 ohms)

Frequency Response:

PHONO RIAA Standard Curve (Recording Output)

MM	20 Hz ~ 20 kHz	±0.3 dB
MC	30 Hz ~ 20 kHz	±0.5 dB
CD, TAPE-1, 2, VDP, VCR	20 Hz ~ 50 kHz	±1.5 dB (at 1 W)

Input Sensitivity and Impedance:

PHONO	MM	2.5 mV	47 k ohms
	MC	0.2 mV	100 ohms
CD, TAPE-1, 2, VDP, VCR		150 mV	More than 29 k ohms

Maximum Input Level (at 1 kHz):

PHONO	MM	150 mV
	MC	12 mV

Signal to Noise Ratio (IHF-A):

PHONO	MM	92 dB at 5.0 mV input
	MC	75 dB at 0.5 mV input
CD, TAPE-1, 2, VDP, VCR		103 dB

Tone Controls:

BASS ±10 dB at 100 Hz
TREBLE ±10 dB at 10 kHz

Loudness, Control Effect:

VARIABLE LOUDNESS, 10 position -
50 Hz: +10 dB, 10 kHz: +5 dB

MAIN-IN terminals

Input sensitivity/impedance:

1 V/47 k ohms

TUNER SECTION

[FM] (note: μV at 75 ohms, 0 dBf = $1 \times 10^{-15}\text{W}$)

Receiving Range:	87.5 ~ 108 MHz
Usable Sensitivity:	0.9 μV (10.3 dBf)
50 dB Quieting Sensitivity:	MONO 1.5 μV (14.8 dBf) STEREO 20 μV (37.3 dBf)

Signal to Noise Ratio (IHF-A):	MONO 86 dB STEREO 82 dB
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Total Harmonic Distortion (at 1 kHz):	MONO 0.04% (WIDE) STEREO 0.07% (WIDE)
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Capture Ratio:	1.2 dB
Image Rejection:	80 dB
AM Suppression:	60 dB
Selectivity (± 400 kHz):	50 dB (WIDE) 75 dB (NARROW)

Frequency Response:	20 Hz ~ 15 kHz +0.2 -0.5 dB
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Stereo Separation (at 1 kHz):	55 dB (WIDE)
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[AM]

Receiving Range:	520 ~ 1710 kHz
Usable Sensitivity:	18 μV
Signal to Noise Ratio:	55 dB

GENERAL

Power Supply:	AC 120V, 60 Hz
Power Consumption:	4.5A (DRA-1025R) 3.5A (DRA-825R)
Power Outlets:	SWITCHED 250 W UNSWITCHED 100 W

Dimensions:	434 mm (17-3/32")W x 162 mm (6-3/8")H x 394 mm (15-1/2")D 12.0 kg (26 lbs 7 oz) (DRA-1025R) 10.5 kg (23 lbs 2 oz) (DRA-825R)
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Weight:

REMOTE CONTROL UNIT

Remote control system:	Infrared pulse system
Power supply:	3V DC Two size "AAA" (R03) dry cell batteries

External dimensions:	60 mm (2-23/64")W x 180 mm (7-5/64")H x 18 mm (45/64")D
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Weight:	80 g (about 2 oz) (Including batteries)
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Design and specifications are subject to change without prior notice.

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	TOTAL
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