

DENON

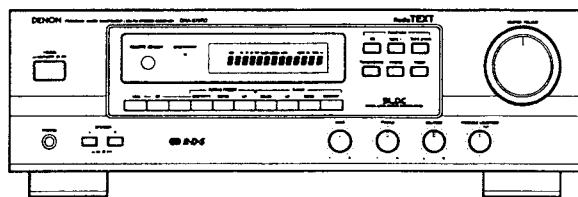
Hi-Fi AM-FM Stereo Receiver

SERVICE MANUAL

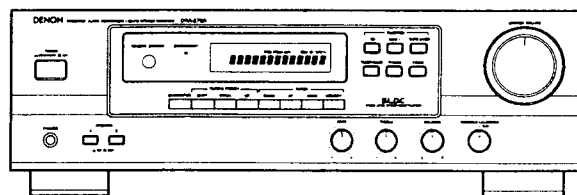
MODEL DRA-375RD

MODEL DRA-275RD/275R

AM-FM STEREO RECEIVER



DRA-375RD/275RD







DRA-275R



— TABLE OF CONTENTS —

OPERATING INSTRUCTIONS	3
DISASSEMBLY	10
WIRE ARRANGEMENT	11
METHOD OF ADJUSTMENT	12, 13
BLOCK LEVEL DIAGRAM	14

• 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.		

• FOR U.S.A. & CANADA MODEL ONLY

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

• POUR LES MODELES AMERICAINS ET CANADIENS UNIQUEMENT

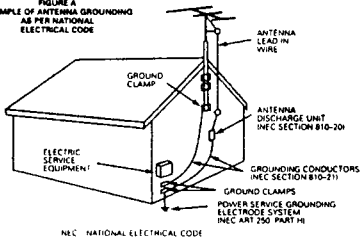
ATTENTION
POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT

SAFETY INSTRUCTIONS

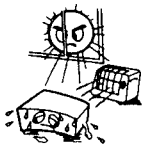



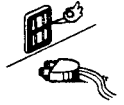




1. **Read Instructions** – All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** – The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** – All warnings on the appliance and in the operating instructions 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 or 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** – Precautions 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.
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. 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.
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
AS PER NATIONAL
ELECTRICAL CODE



NOTE ON USE / OBSERVATIONS RELATIVES A L'UTILISATION / NOTAS SOBRE EL USO

 <ul style="list-style-type: none"> • Avoid high temperatures. Allow for sufficient heat dispersion when installed on a rack. • Éviter des températures élevées. Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère. • Evite altas temperaturas. Permite la suficiente dispersión del calor cuando está instalado en la consola. 	 <ul style="list-style-type: none"> • Keep the set free from moisture, water, and dust. • Protéger l'appareil contre l'humidité, l'eau et la poussière. • Mantenga el equipo libre de humedad, agua y polvo. 	 <ul style="list-style-type: none"> • Do not let foreign objects in the set. • Ne pas laisser des objets étrangers dans l'appareil. • No deje objetos extraños dentro del equipo.
 <ul style="list-style-type: none"> • Handle the power cord carefully. Hold the plug when unplugging the cord. • Manipuler le cordon d'alimentation avec précaution. Tenir la prise lors du débranchement du cordon. • Maneje el cordon de energía con cuidado. Sostenga el enchufe cuando desconecte el cordon de energía. 	 <ul style="list-style-type: none"> • Unplug the power cord when not using the set for long periods of time. • Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes. • Desconecte el cordon de energía cuando no utilice el equipo por mucho tiempo. 	 <ul style="list-style-type: none"> • Do not let insecticides, benzene, and thinner come in contact with the set. • Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil. • No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
 <ul style="list-style-type: none"> • Handle the power cord carefully. Hold the plug when unplugging the cord. • Manipuler le cordon d'alimentation avec précaution. Tenir la prise lors du débranchement du cordon. • Maneje el cordon de energía con cuidado. Sostenga el enchufe cuando desconecte el cordon de energía. 	 <ul style="list-style-type: none"> • Do not obstruct the ventilation holes. • Ne pas obstruer les trous d'aération. • No obstruya los orificios de ventilación. 	 <ul style="list-style-type: none"> • Never disassemble or modify the set in any way. • Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre. • Nunca desarme o modifique el equipo de ninguna manera.

PRECAUTIONS FOR INSTALLATION

- DRA-375RD/275R always install horizontally
- For heat dispersal, leave at least 10 cm of space between the top, back and sides of this unit and the wall or other components.

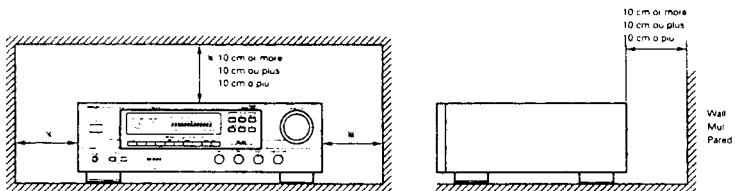
PRECAUTIONS D'INSTALLATION

- Le DRA-375RD/275R doit toujours être installé horizontalement.

- Afin de disperser la chaleur, laisser un espace d'au moins 10 cm entre le haut, l'arrière et les côtés de cet appareil et le mur ou un autre composant.

PRECAUCIONES PARA LA INSTALACION

- Instale siempre el DRA-375RD/275R en posición horizontal.
- Para que el calor se disipe, deje por lo menos 10 cm de espacio entre las partes superior, posterior y laterales de esta unidad y la pared u otros componentes.



ENGLISH

— TABLE OF CONTENTS —

NAME AND FUNCTION OF PARTS	6 - 8
CONNECTIONS	9
SPEAKER CONNECTION	10
ANTENNA INSTALLATION	10
USING THE VARIOUS FUNCTIONS	11, 12
PLAYBACK USING THE REMOTE CONTROL	13, 14
TROUBLESHOOTING	15
SPECIFICATIONS	16

Please check to make sure the following items are included with the main unit in the carton:

- (1) Operating Instructions 1
- (2) AM Loop Antenna 1
- (3) FM Indoor Antenna 1
- (4) Remote Control Unit RC-B12 1
- (5) Batteries R6 (AA) 2

FRANCAIS

— TABLE DES MATIERES —

NOMENCLATURE ET FONCTIONS	17 - 19
CONNEXIONS	20
CONNEXION D'ENCEINTE	21
INSTALLATION DE L'ANTENNE	21
UTILISATION DES DIVERSES FONCTIONS	22, 23
LECTURE UTILISANT LA TELECOMMANDE	24, 25
DEPANNAGE	26
SPECIFICATIONS	27

Veuillez contrôler que les articles suivants sont bien joints à l'appareil principal dans le carton:

- (1) Mode d'emploi 1
- (2) Antenne Cadre AM 1
- (3) Antenne FM Interieure 1
- (4) Telecommande RC-B12 1
- (5) Piles de format R6 (AA) 2

ESPAÑOL

— INDICE —

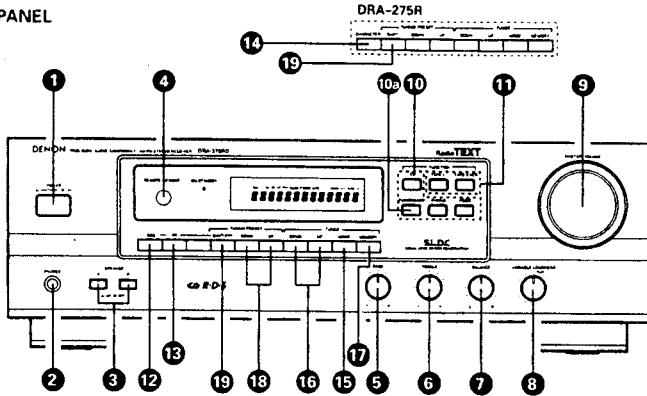
NOMBRE Y FUNCION DE LAS PARTES	28 - 30
CONEXIONES	31
CONEXION DE LOS ALTAVOCES	32
INSTALACION DE ANTENAS	32
USO DE LAS DIVERSAS FUNCIONES	33, 34
OPERACION A CONTROL REMOTO	35, 36
ANTES DE SOLICITAR REPARACIONES	37
ESPECIFICACIONES	38

Por favor verifique asegurandose de que los siguientes articulos son empacados en la caja pero separados de la unidad principal.

- (1) Instrucciones de operacion 1
- (2) Antena AM de Cuadro 1
- (3) Antena FM Interior 1
- (4) Unidad de control remoto RC-B12 1
- (5) Pilas secas R6 (AA) 2

NAME AND FUNCTION OF PARTS

FRONT PANEL



- 1 POWER (Power \square ON / STANDBY \square OFF Switch)**
This switch turns the unit ON or OFF. There is a delay of a few seconds before the unit will operate after this power switch is turned ON. If the unit is turned OFF from the remote control, the unit will be in the STANDBY mode. When in the STANDBY mode, the unit can be turned ON with the power button on the remote control. If the unit will not be used for an extended period, be sure to turn the unit OFF from the front panel power switch.
- NOTE:** This unit includes a STANDBY protection feature. This feature is designed to prevent accidental turn-on from the STANDBY mode in the event of a power failure. Should AC power be disconnected and then reconnected when the unit is in STANDBY mode, the unit will return to the STANDBY mode. To turn the unit ON from the STANDBY mode without the remote control, operate the front panel power switch twice. The unit will then operate normally.
- 2 PHONES (Headphones jack)**
Connect the headphones to the PHONES jacks. When listening with headphones privately, set A, B SPEAKER switches to the OFF position.
- NOTE:** To prevent hearing loss, do not raise the volume level excessively when using headphones.
- 3 SPEAKER (Speaker selector switches)**
These switches are used to engage speaker system A and B. No sound is heard through the speakers when both switches are set to the (OFF) 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 (above 1,000 Hz) is flat. Turn the control clockwise to increase the bass response and counterclockwise 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 1,000 Hz) is flat. Turn the control clockwise to increase the treble response and counterclockwise to decrease it.
- 7 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.
- 8 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 counterclockwise until a natural balance of bass and treble sound has been restored.
- 9 MASTER VOLUME (Volume control)**
This knob is used to adjust the volume level of both channels. Turn the knob clockwise to raise the volume and counterclockwise to lower it.
- 10 FUNCTION (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.
 - VIDEO: Use when playing back the audio from a Hi-Fi video, video disc player or other component connected to the VIDEO terminal.
- 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.
- 10b BAND (Band selector button)**
Press this button to select the FM or AM band, when the set is TUNER function.
- 11 Tape selector (Tape selector / monitor buttons)**
TAPE-1: Press this button once, TAPE-1 indicator will light up and then you can play tape source on TAPE-1 terminal.
In this state you can copy TAPE-1 source to TAPE-2/VCR terminal.
TAPE-2/VCR: Press this button once, TAPE-2 indicator will light up and then you can play tape or video source of TAPE-2/VCR terminal.
Press again the button currently accessed, to play sources selected by input selector **10**, indicator goes out.

12 RDS button (DRA-375RD)

This button is used for the RDS search (refer to page 11) and PTY search (refer to page 11), and TP search (refer to page 11) operations, and to input the station name. (refer to page 12)

13 RT (Radio Text) button (DRA-375RD)

This button is used for displaying radio text messages. When this button is pressed while the station currently tuned in is offering a radio text message service, the message scrolls on the display. This mode turns on and off each time the button is pressed. (refer to page 11)

14 CHARACTER button (DRA-275R)

This button is used to write station names. (refer to page 12)

15 MODE (Tuning mode button)

This switches between auto and manual tuning. Auto tuning: When the UP button **10** is pressed, the radio is tuned automatically to a higher frequency. Press the DOWN button **11** to tune to a lower frequency. Use this position to eliminate noise when no signals or weak signals are being received. Manual tuning: In this position, the radio can be tuned manually. Reception is automatically manual when in the manual mode.

16 TUNER (Tuning up / down buttons)

Use these to change the received frequency to a higher frequency (UP) or a lower frequency (DOWN). When writing station names, use these buttons to select the letters. (refer to page 12)

17 MEMORY (Memory button)

This switch is used to store the desired radio station to a memory.

• Presetting stations

After pressing the MEMORY button, press the SHIFT/PTY button (the SHIFT button for the DRA-275R), then select the memory block. A to E. Now use the PRESET UP and DOWN buttons to specify the preset channel number. Press the MEMORY button again to store the station at the specified preset channel.

18 TUNING PRESET (Preset station buttons)

These buttons are used for storing stations or recalling stations which have been preset. Using the SHIFT/PTY button (the SHIFT button for the DRA-275R) you can preset a total of 40 FM or AM stations into preset channels.

Once a radio has been memorized the same station can later be tuned in instantly simply by recalling the corresponding preset channel with PRE-SET UP or DOWN button.

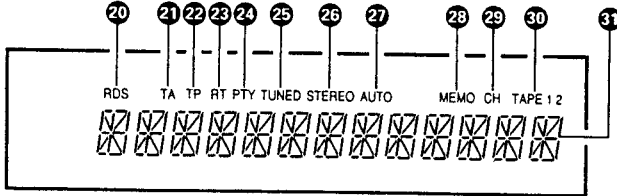
19 • SHIFT / PTY button (DRA-375RD)

Use this button to select the memory blocks, A (1 to 8), B (1 to 8), C (1 to 8), D (1 to 8) or E (1 to 8).

For PTY search, use this button to select the program type. When writing station names, use this button to set the writing position.

• SHIFT button (DRA-275R)

Use this button to select the memory blocks, A (1 to 8), B (1 to 8), C (1 to 8), D (1 to 8) or E (1 to 8).

DISPLAY**20 RDS indicator (DRA-375RD)**

This lights when receiving RDS broadcasts, and flashes during the RDS search operations.

21 TA (Traffic Announcement) indicator (DRA-375RD)

This lights when receiving traffic announcements.

22 TP (Traffic Programme) indicator (DRA-375RD)

This flashes during the TP search operation and lights when TP stations are tuned in.

23 RT indicator (DRA-375RD)

This lights when the RT (Radio Text) button is pressed.

24 PTY indicator (DRA-375RD)

This flashes during the PTY (Programme Type) search operation.

25 TUNED indicator

This lights when a station is properly tuned in.

26 STEREO indicator

This lights when receiving stereo broadcasts. It remains off when receiving AM broadcasts.

27 AUTO indicator

This indicates the tuning mode. It lights in the auto mode, and remains off in the manual mode.

28 MEMO indicator

This indicator flashes for approximately 10 seconds when the MEMORY button has been pressed and a station can be stored on a PRESET CHANNEL button. This flashes continuously during the auto memory operation.

29 CH indicator

This lights when the preset channel number and shift mode (A, B, C, D or E) are displayed.

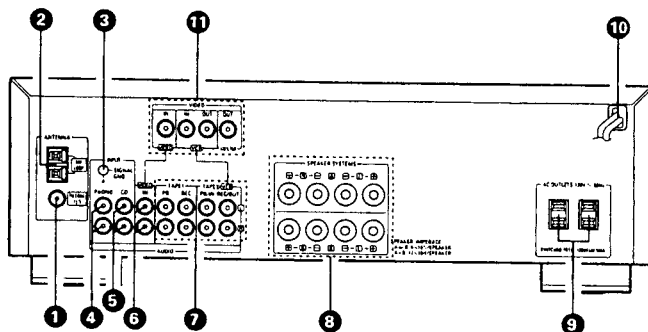
30 TAPE-1 / TAPE-2 indicator

The TAPE-1 indicator lights when the TAPE-1 source is selected with the tape selector buttons. The TAPE-2 indicator lights when the TAPE-2/VCR source is selected.

31 Multi function display

This displays the frequency, station name, programme type, etc.

REAR PANEL



- 1 FM ANT (FM antenna terminals)**
75-Ω/ohms coaxial cable can be connected to this terminal. For antenna connecting procedure, refer to page 9 and 10.
- 2 AM ANT (AM antenna terminals)**
Connect the attached AM loop antenna. (Refer to page 9 and 10 for connections).
- 3 GND (Grounding terminal)**
The grounding wire of the turntable is connected here.
 - Hum or noise may be generated if the grounding wire is not connected.
- 4 PHONO (Phono input terminals)**
The output cord of the turntable is connected here. Since the input sensitivity of "PHONO" is extremely high, do not use the unit without the input pin cord. If used without this cord, the speakers may generate hum.
- 5 CD**
The output cord of the CD player is connected here.
- 6 VIDEO**
The audio outputs of VIDEO equipment, such as a VCR or Video Disc may be connected here.
- 7 TAPE-1, TAPE-2/VCR (Tape deck and/or VCR playback/recording terminal)**
Two tape decks or tape deck and VCR can be connected to these jacks for full-fledged playback, recording and tape dubbing operation.
- 8 SPEAKER SYSTEMS (Speaker terminals)**
Two pairs of speakers A and B can be connected to these terminals.

- 9 AC OUTLET (AC power outlets)**
This AC outlet is controlled by the power switch. Maximum capacity is 120 W.
- 10 AC CORD (Power cord)**
Connect this cord into the wall outlet.
- 11 VIDEO (Video input/output terminals)**
As a full-featured AV center, this receiver makes possible connection of a TV monitor, VCR and/or a video disc player (Video) to these jacks.
 - ① Simulcast monitor**
Select the desired audio source after selecting VIDEO function. You can monitor the selected audio source with the picture from the VIDEO input.
 - ② VCR monitor**
When the TAPE-2/VCR is selected, you can only monitor the sound and picture from the TAPE-2/VCR input. Even you select the audio source after selecting TAPE-2/VCR, the sound and picture remains TAPE-2/VCR.
 - ③ Simulcast copy**
If you select the audio source after selecting VIDEO function, you can record the selected audio and picture from VIDEO input into VCR.

CAUTION

Protective Circuit

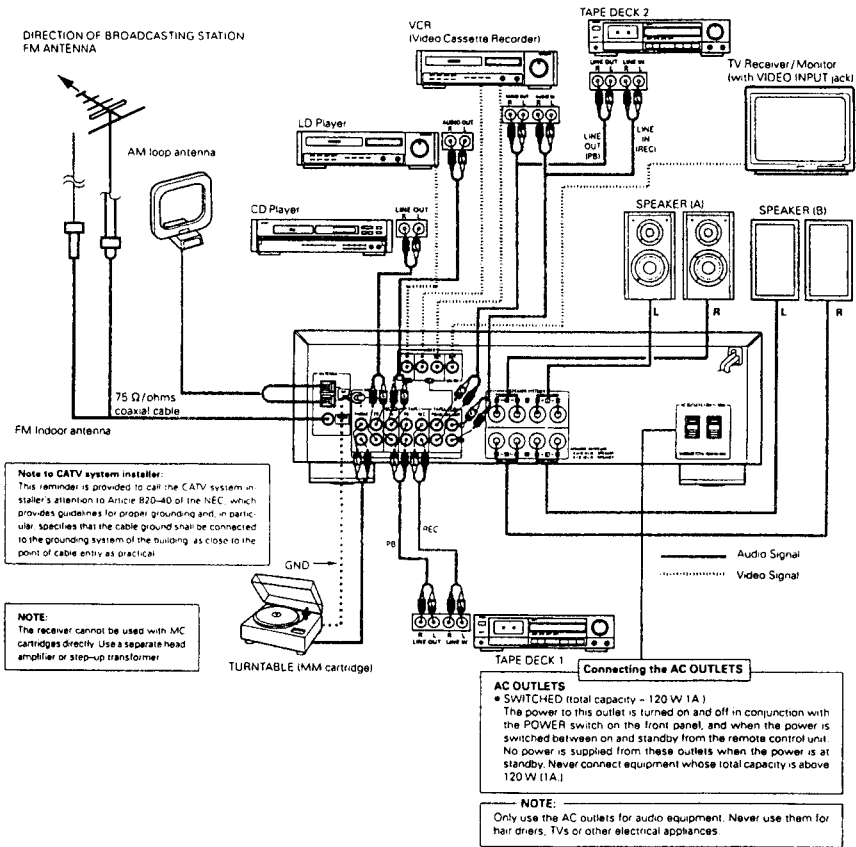
This set is equipped with a high speed protective circuit. This circuit protects the internal circuitry from damage due to large currents flowing when the speaker jacks are not completely connected or when an output is generated by a short circuit.

This protective circuit's operation cuts off the output to the speakers. In such a case, be sure to turn the power to the set off and check the connections to the speakers. Then turn the power on again. After muting for several seconds, the set will operate normally.

NOTES

- This receiver has a full back-up system. When the power is turned on, the FUNCTION is set automatically to the last mode before the power was turned off.
- 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 place the AM loop antenna where noise is reduced. If the noise is not reduced, turn off the power of the video components when listening to AM broadcasts.

CONNECTIONS

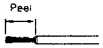
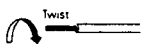




Notes on Connection

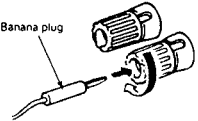
- Do not plug the power cord into the AC wall outlet until all connections have been completed.
- Make sure channels are correctly connected. Connect Left channels to Left channels and Right channels to Right channels. Follow the color markings of plugs and terminals to make sure mistakes are not made.
- 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.

SPEAKER CONNECTION

Confirm polarity (+, -) and left and right channels (L, R). Connect the speaker pairs to the SPEAKER terminals A or B on the back panel. Connections must be made with power cord disconnected.

Preparing the cord	
1. Peel off the sheath	
2. Twist the wires.	

Connecting the front speaker terminals	
1. Loosen by turning counterclockwise	
2. Insert the cord and tighten by turning clockwise.	

Connecting banana plugs	
	<p>Turn clockwise to tighten, then insert the banana plug</p>

- **Speaker Impedance**
 - When speaker systems A and B are used separately, speakers with an impedance of from 8 to 16 Ω/ohms can be connected.
 - Be careful when using two pairs of speakers (A + B) at the same time, since use of speakers with an impedance outside the range of 12 to 16 Ω/ohms will lead to damage.
 - The protection circuit may operate or damage may occur when speakers with an impedance outside of the above range are used.

ANTENNA INSTALLATION

- **FM ANTENNA**
The supplied indoor FM antenna 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. A indoor FM antennas may not consistently ensure stable reception, due to environment changes. In such cases, the indoor FM antenna should only be used temporarily until an outdoor FM antenna has been installed.
When connecting an outdoor FM antenna, the use of 75 Ω/ohms coaxial cable (3C-2V, 5C-2V) is strongly recommended.

Note:

- Do not connect two FM antennas simultaneously.

- **AM LOOP ANTENNA**
Tune in an AM station, listen to the sound, then install the antenna in a position as far from the set as possible in which distortion and noise are minimum. Good reception of AM stations is not possible if the loop antenna is not connected or if it is touching metal objects.

USING THE VARIOUS FUNCTIONS

1. Presetting stations in the memory

The frequency and the name of the radio station (including names which you have input yourself), are also stored in the memory.

In particular, the various RDS functions can be used effectively when RDS stations are stored in the memory.

How to preset the memory.

Press the MEMORY button **17**. The "MEMO CH" indicator on the display flashes. Next, use SHIFT/PTY button **18** to select the memory block A, B, C, D or E. Now press the TUNING PRESET UP or DOWN button **16** to specify the preset channel number, and then press the MEMORY button **17** to store the station in the memory.

The preset channel numbers for the different memory blocks are as follows:

Memory block A	1 to 8
Memory block B	1 to 8
Memory block C	1 to 8
Memory block D	1 to 8
Memory block E	1 to 8

* The DRA-275R does not have a SHIFT/PTY button. Use the SHIFT button **18** instead.

2. Auto Memory (FM only)

The DRA-375RD/DRA-275R is equipped with an auto memory function.

Connect the antenna, set it so that stations can be received, then hold in the MEMORY button and press the POWER button to turn the power on. Stations for which the auto tuning function operates are stored in the preset memory in the order A1 to AB, B1 to BB, and so on, through EB.

Channel A1 is tuned in after the auto memory operation is completed.

Using this function makes it possible to find out the overall reception conditions of the receivable stations. The memory can be used effectively by recalling the channels in the preset memory, and replacing stations whose reception is poor with stations whose reception is good, using the procedure described in 1) above.

3. Recalling preset stations

Use the SHIFT/PTY button **18** to select memory block A, B, C, D or E, then press the TUNING PRESET UP or DOWN button **16** to recall the station stored in the memory.

If the TUNING PRESET UP or DOWN buttons are pressed without pressing the SHIFT/PTY button **18**, the stations are recalled in the order A1 to AB, B1 to BB, and so on, through EB.

* The DRA-275R does not have a SHIFT/PTY button. Use the SHIFT button **18** instead.

4. RDS search (for FM only) (DRA-375RD only)

Use this function to automatically tune to stations offering Radio Data Service. This operation is also possible by pressing the TUNER button on the remote control unit once when the function is set to the TUNER mode.

Operation	Display
1. Press the RDS button 19 once.	RDS SEARCH ↓
2. Press the TUNING PRESET UP or DOWN button 16 .	"RDS SEARCH" flashes on the display. (Preset memory channels A1 to EB are being searched.) If no RDS station is found with the above operation, all the reception bands are searched. The station name is displayed, when the RDS station is tuned. RDS search starts again.
3. Press the TUNER UP or DOWN button 16 again while the RDS mark is flashing.	If no other RDS station is found when all the frequencies are searched, "NO RDS" is displayed.)

5. PTY search (for FM only) (DRA-375RD only)

Use this function to find stations broadcasting a designated type of programme type (PTY).

This operation is also possible by pressing the TUNER button on the remote control unit twice when the function is set to the TUNER mode. Next, press the PANEL button on the remote control unit, select the PTY category, then press the TUNING PRESET UP or DOWN buttons to start the PTY search function in the specified direction.

Operation	Display
1. Press the RDS button 19 twice.	PTY SEARCH ↓
2. Press the SHIFT/PTY button 18 .	Programme type or PTY. Designated programme type (Always do this to designate the programme type if "PTY" is displayed in step 1.)
3. Press the TUNING PRESET UP or DOWN button 16 .	"PTY SEARCH" flashes on the display. (Preset memory channels A1 to EB are being searched.) If there is no station broadcasting the designated programme type with the above operation, all the reception bands are searched. The station name is displayed after searching stops. PTY search starts again.
4. Press the TUNING PRESET UP or DOWN button again while the PTY mark is flashing.	If no other station broadcasting the designated programme type is found when all the frequencies are searched, "NO PROGRAMME" is displayed.)

If no other station broadcasting the designated programme type is found when all the frequencies are searched, "NO PROGRAMME" is displayed.)

* The programme types which can be displayed are listed on page 12.

6. TP search (for FM only) (DRA-375RD only)

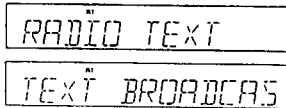
This function is used to find stations scheduled to broadcast traffic programmes (TP stations).

This operation is also possible by pressing the TUNER button on the remote control unit three times when the function is set to the TUNER mode.

Operation	Display
1. Press the RDS button 19 3 times.	TP SEARCH ↓
2. Press the TUNING PRESET UP or DOWN button 16 .	"TP SEARCH" flashes on the display. (Preset memory channels A1 to EB are being searched.) If no TP station is found with the above operation, all the reception bands are searched. The station name is displayed after searching stops. TP search starts again.
3. Press the TUNING PRESET UP or DOWN button again while the TP mark is flashing.	If no other TP station is found when all the frequencies are searched, "NO PROGRAMME" is displayed.)

7. RT (Radio Text) (for FM only) (DRA-375RD only)

When the RT button **20** is pressed while the station currently tuned in is offering a radio text message service, the message scrolls on the display. (The RT indicator lights when the RT button is pressed.)



(If "NO TEXT DATA" is displayed if no radio text message is being broadcast.)

8. Writing station names

You can write in station names yourself (Up to 8 characters) (Refer to the table of characters on page 12.)

- | Operation | Display |
|--|-------------------------|
| 1 Press the RDS button 4 times. | First space flashes |
| 2 Use the TUNER UP and DOWN buttons Ⓛ to select the desired characters | First letter flashes |
| 3 Use the SHIFT/PTY button Ⓜ to move to the next place | Specified place flashes |
| 4 After writing the entire station name, store it in the memory (Refer to page 7.) | |

- * The DRA-275R does not have an RDS button. Use the CHARACTER button **Ⓛ** instead.
- * The DRA-275R does not have a SHIFT/PTY button. Use the SHIFT button **Ⓜ** instead.

Each operation should be completed while the specified place is flashing

NOTE: This unit may not identify RDS stations as such if the paging station provides multiple RDS data. Tuning may not stop at such stations during the RDS search and PTY search operations.

RDS Emergency Alert

"ALERT" will flash on the display when the unit receives the Emergency Programme Type Code (PTY31) from an RDS station. This feature may not operate properly if the signal from the RDS station is too weak or is subjected to interference. It is not possible to select the "ALERT" display from the PTY search mode.

9. Clearing station names

1. Recall the station name you want to clear.
2. Press the RDS button 4 times until the character at the first place flashes.
3. Then press the SHIFT/PTY button for at least 2 seconds. The current station name will then be cleared.

- * The DRA-275R does not have an RDS button. Use the CHARACTER button instead.
- * The DRA-275R does not have a SHIFT/PTY button. Use the SHIFT button instead.

Note: Station names MUST be stored in a preset memory to be retained. If the power is turned off, or if the band (AM/FM) is changed, the station name will be lost. Be sure to store the entered station name in a Preset Memory before changing the band or turning the power switch OFF.

RDS Emergency Alert Feature

The RDS Emergency Alert Feature is activated by a signal sent at the sole discretion of the RDS broadcaster. The RDS Emergency Alert Feature is included in this product for the convenience of the consumer, and is not intended to augment or replace the Official Emergency Broadcast System as administered by the Federal Communications Commission. For this reason, Nippon Columbia Co. and its Subsidiaries, including but not limited to DENON America, Inc. and DENON Canada, Inc., refuse all warranties, claims of merchantability or fitness, or liabilities, whether incidental, consequential or otherwise, related to, either directly or indirectly, the operation or lack of operation of this feature. This exclusion applies to any and/or all Nippon Columbia Co. Products, whether present or future, that implement, in any form or variation, the RDS Emergency Alert Feature.

* The following programme types (PTY) can be designated:

<input type="text" value="NEWS"/>	News	<input type="text" value="SOFT"/>	Soft
<input type="text" value="INFORMATION"/>	Information	<input type="text" value="NOSTALGIA"/>	Nostalgia
<input type="text" value="SPORTS"/>	Sports	<input type="text" value="JAZZ"/>	Jazz
<input type="text" value="TALK"/>	Talk	<input type="text" value="CLASSICAL"/>	Classical
<input type="text" value="ROCK"/>	Rock	<input type="text" value="R + B"/>	R & B
<input type="text" value="CLS ROCK"/>	Classic Rock	<input type="text" value="SOFT R+B"/>	Soft R & B
<input type="text" value="ADULT HITS"/>	Adult Hits	<input type="text" value="LANGUAGE"/>	Language
<input type="text" value="SOFT ROCK"/>	Soft Rock	<input type="text" value="REL MUSIC"/>	Religious Music
<input type="text" value="TOP 40"/>	Top 40	<input type="text" value="REL TALK"/>	Religious Talk
<input type="text" value="COUNTRY"/>	Country	<input type="text" value="PERSONALITY"/>	Personality
<input type="text" value="OLDBIES"/>	Oldies	<input type="text" value="PUBLIC"/>	Public

Table of characters

The characters are input in the order shown to the right. Use the TUNER UP/DOWN buttons **Ⓛ** to select the desired characters.

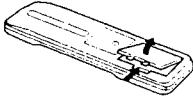
<input type="text" value="→ ABC DEF GHI JKLMNOPQRSTU VWXYZ"/>
<input type="text" value="↪ 0 1 2 3 4 5 6 7 8 9 [\] ^ _ ` * + , - . : ; SPACE"/>

PLAYBACK USING THE REMOTE CONTROL

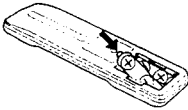
The accessory RC-812 remote control unit is used to control the RECEIVER from a distance

(1) Inserting the dry cell batteries

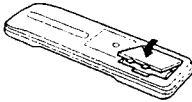
- 1 Remove the rear cover on the remote control unit



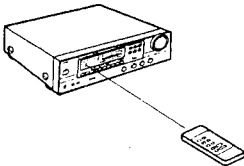
- 2 Insert two size "AA" (R6) dry cell batteries as shown in the diagram on the battery supply unit



- 3 Close the rear cover



(2) Directions for use



Notes on Use of the Batteries

- The remote control unit uses size "AA" (R6) dry cell batteries.
- The batteries will need to be replaced approximately once a year. This will depend upon how often the remote control 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 diagram on the remote control battery supply unit, and making sure to align the plus and minus sides of each battery.
- Batteries are prone to damage and leakage. Therefore
 - Do not combine new batteries with used ones.
 - Do not combine different types of batteries.
 - Do not jumper the opposite poles of the batteries, expose them to heat or break them open, or put them into open fire.
- When the remote control is not to be used for a long period of time, remove the batteries from the unit.
- If the batteries have leaked, remove any battery fluid from the inside of the battery supply unit by wiping it out thoroughly, and insert new batteries.

- 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 7 meters / 20 feet 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.

Note 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 misoperation.

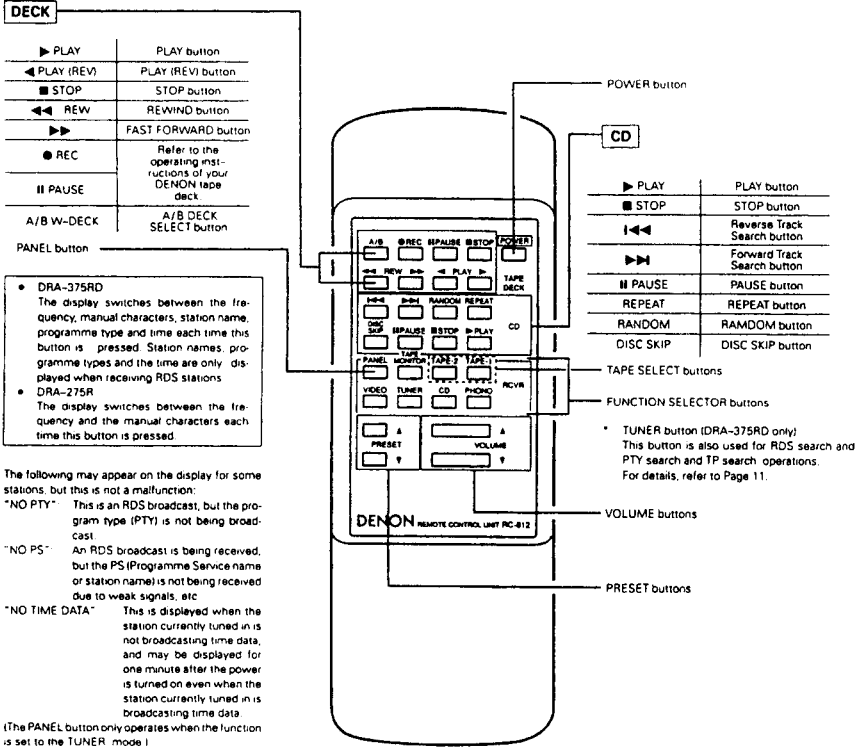
Besides being able to operate the DRA-375RD/275R receiver with this remote control unit, you can also operate a DENON cassette deck and CD player from this handy full-system remote control unit.

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 to create a remarkably ergonomic and versatile DENON system with all the quality sound reproduction that the devoted audiophile expects.

Remote Control Unit RC-812 supplied with DRA-375RD/275R



- The RC-812 Remote Control Unit can control CD players and cassette decks made by DENON
- Note that operation may not be possible for some models
- Buttons are conveniently separated into groups, each group controlling one specific component. The groups are RECEIVER, 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.
- A part of 1st digit of fluorescent display light 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. Are the speakers, turntable, and other components operating properly?

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
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 FUNCTION buttons are in wrong position • The protective circuit is operating • The fuse has blown out • The power switch was set to OFF the last time the power was turned off from the remote control unit 	<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 • Set the power switch to ON, then turn the power on from the remote control unit. Or, push the power switch on the front panel twice.
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-375RD: 60 watts per channel minimum RMS, both channels driven at 8 Ω /ohms from 20 Hz ~ 20 kHz no more than 0.05% total harmonic distortion.	
	DRA-275R: 40 watts per channel minimum RMS, both channels driven at 8 Ω /ohms from 20 Hz ~ 20 kHz no more than 0.05% total harmonic distortion.	
Power Bandwidth (IHF):	10 Hz ~ 40 kHz (T.H.D. 0.15% both channels driven into 8 Ω /ohms)	
Total Harmonic Distortion:	0.03% (-3 dB at rated output, 8 Ω /ohms)	
Frequency Response:	PHONO RIAA Standard Curve (Recording Output)	
	MM	20 Hz ~ 20 kHz \pm 0.5 dB
	CD, VIDEO,	20 Hz ~ 50 kHz \pm 1.5 dB
	TAPE-1,	(at 1W)
	TAPE-2/VCR	
Input Sensitivity and Impedance:	PHONO MM	2.5 mV 47 k Ω /k ohms
	CD, VIDEO,	150 mV 47 k Ω /k ohms
	TAPE-1, TAPE-2/VCR	
Maximum Input Level (at 1 kHz):	PHONO MM	180 mV
Signal to Noise Ratio (IHF-A):	PHONO MM	78 dB (at 5.0 mV input)
	CD, VIDEO,	95 dB
	TAPE-1, TAPE-2/VCR	
Tone Controls:	BASS	\pm 10 dB at 100 Hz
	TREBLE	\pm 10 dB at 10 kHz
Loudness, Control Effect:	VARIABLE LOUDNESS	
	50 Hz/10 kHz, +10 dB/+5 dB	

VIDEO SECTION

Input terminal:	VCR-IN, VIDEO	1 V _{p-p} /75 Ω /ohms
Output terminal:	VCR-OUT, MONITOR	1 V _{p-p} /75 Ω /ohms
Frequency response:	5 Hz ~ 6 MHz \pm 1.5 dB	

TUNER SECTION

(FM) (note: μV at 75 Ω/ohms, 0 dBf = 1×10^{-15} W)	
Receiving Range:	87.50 ~ 108.00 MHz
Usable Sensitivity:	0.9 μ V (10.3 dBf)
50 dB Quieting Sensitivity:	MONO 1.6 μ V (15.3 dBf) STEREO 23 μ V (38.5 dBf)
Signal to Noise Ratio (IHF-A):	MONO 82 dB STEREO 78 dB
Total Harmonic Distortion (at 1 kHz):	MONO 0.1% STEREO 0.15%
Capture Ratio:	1.5 dB
Image Rejection:	42 dB
AM Suppression:	50 dB
Selectivity (\pm 400 kHz):	55 dB
Frequency Response:	30 Hz ~ 15 kHz \pm 0.5 dB
Stereo Separation (at 1 kHz):	40 dB
[AM]	
Receiving Range:	520 ~ 1710 kHz
Usable Sensitivity:	18 μ V
Signal to Noise Ratio:	55 dB

GENERAL

Power Supply:	AC 120V 60 Hz
Power Consumption:	2.6 A (DRA-375RD) 2.3 A (DRA-275R)
Dimensions:	434 mm (17-3/32")W \times 142 mm (5-19/32")H \times 315 mm (12-25/64")D (DRA-375RD) 434 mm (17-3/32")W \times 142 mm (5-19/32")H \times 315 mm (12-25/64")D (DRA-275R)
Weight:	6.6 kg (14 lbs 9 oz) (DRA-375RD) 5.8 kg (12 lbs 13 oz) (DRA-275R)

REMOTE CONTROL UNIT

Remote control system:	RC-812 Infrared pulse system
Power supply:	3V DC Two size "AA" (R6) dry cell batteries
External dimensions:	60 mm (2-23/64")W \times 175 mm (6-57/64")H \times 18 mm (45/64")D
Weight:	120 g (4 oz) (Includes batteries)

Design and specifications are subject to change without prior notice.

