

DENON

DIGITAL AUDIO PREAMPLIFIER

DAP-5500

OPERATING INSTRUCTIONS

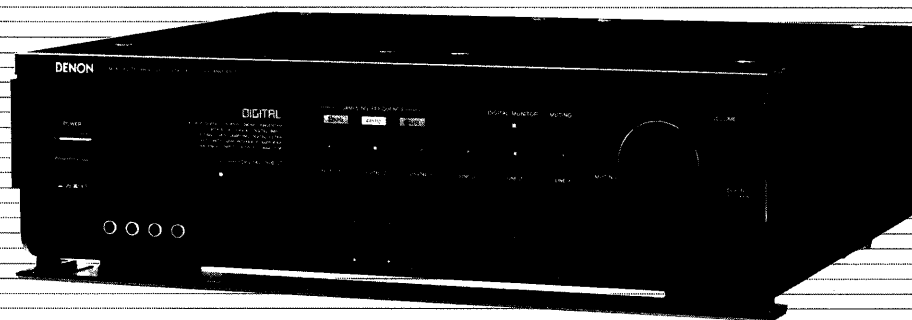
BEDIENUNGSANLEITUNG

MODE D'EMPLOI

BRUKSANVISNING

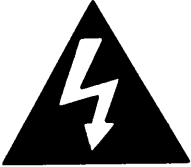
ISTRUZIONI PER L'USO

INSTRUCCIONES DE OPERACION



FOR ENGLISH READERS
FÜR DEUTSCHE LESER
POUR LES LECTEURS FRANCAIS
FÖR SVENSKA LÄSARE
PER IL LETTORE ITALIANO
PARA LECTORES DE ESPAÑOL


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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 PREVENT FIRE OR SHOCK HAZARD.
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

For U.S.A. and Canada models

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.

For United Kingdom model only.

WARNING:

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

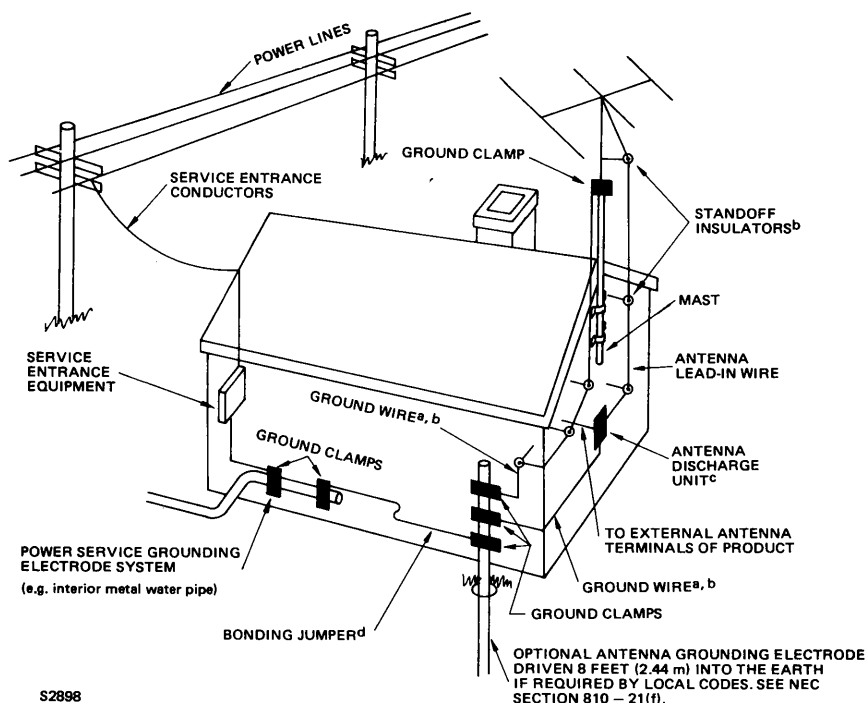
Blue:	Neutral
Brown:	Live

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.
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 — 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.
- 12A. 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.
13. Cleaning — The appliance should be cleaned only as recommended by the manufacturer.
14. Power Lines — An outdoor antenna should be located away from power lines.
15. 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 1.

FIGURE 1
EXAMPLE OF ANTENNA GROUNDING ACCORDING
TO NATIONAL ELECTRICAL CODE INSTRUCTIONS
CONTAINED IN ARTICLE 810 — "RADIO AND
TELEVISION EQUIPMENT"



S2898

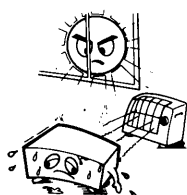
- a Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger, as a ground wire.
- b Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4–6 feet (1.22–1.83 m) apart.
- c Mount antenna discharge unit 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).

16. Nonuse Periods — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
17. Object and Liquid Entry — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
18. 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.
19. 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.

Please read the instructions before using. Following the instructions and operating hints will ensure top performance for many years.

Keep the Operating Instructions in a secure place.

NOTE ON USE



Be careful of high temperatures.

- Do not place the amplifier where it will be exposed to direct sunlight or close to heating devices.

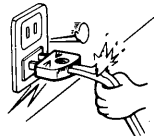
Installation in a cabinet

- Avoid installing the amplifier in a sealed, airtight cabinet.
- If a cabinet is to be used, make certain that the amp is placed in a well-ventilated section. If necessary, cut out sufficient space in the cabinet walls to allow heat to escape.



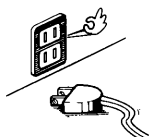
Humidity, water and dust must be prohibited.

- Do not place the amplifier in dusty areas or those subject to high humidity. Do not place vases or other containers filled with water on top of the equipment.



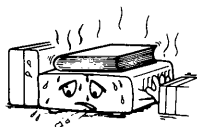
Be careful with the power supply cord.

- Do not pull out the plug by yanking on the power supply cord. Always take the plug in hand pull it out.



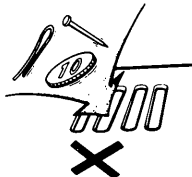
During your absence

- If no one will be in the room for a long period and the amplifier is not being used, make certain to pull out the plug from the wall socket.



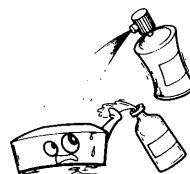
Do not place objects on top of the ventilation holes.

- Placing objects on top of the ventilation holes will result in malfunction.
- The ventilation holes are extremely important in allowing heat to escape from the amplifier. If they are covered up, the internal temperature of the amplifier will rise abnormally. Be careful to avoid this.



Do not allow foreign matter to get inside the equipment.

- Do not allow needles, hairpins, coins, etc. to slip inside the amplifier.



Handling the cabinet

- The quality and color of the cabinet will be affected if it is exposed to insect repellent or solvents such as benzene or paint thinners. Do not use these on the cabinet. To remove dirt, use a soft cloth. Use caution with chemically treated cloth.



Do not open the cabinet.

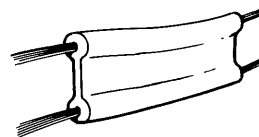
- It is extremely dangerous to open the cabinet or its bottom lid and reach inside. Do not open the amplifier. If a problem occurs with the equipment, unplug the power supply cord at once, and contact the store where you purchased the amplifier.

INSTALLATION PRECAUTIONS

This device (digital audio device) uses a microcomputer for control of the internal electronic circuits. In the event that this device is used at the same time as a tuner or television, interference could occur either in the sound from the tuner or the picture on the television.

Please take the following precautions to avoid such occurrences.

- Keep this device as far away from the tuner or television as possible.
- Keep the power cable and other cables connected to this device separated from the antenna wires of the tuner or television.
- Interference is particularly likely to occur when an indoor antenna or a 300 ohm feeder line is used, so instead use an outdoor antenna and a 75 ohm coaxial cable for the antenna.



300 ohm feeder line



75 ohm coaxial cable

The following separate parts are contained in the shipping box.

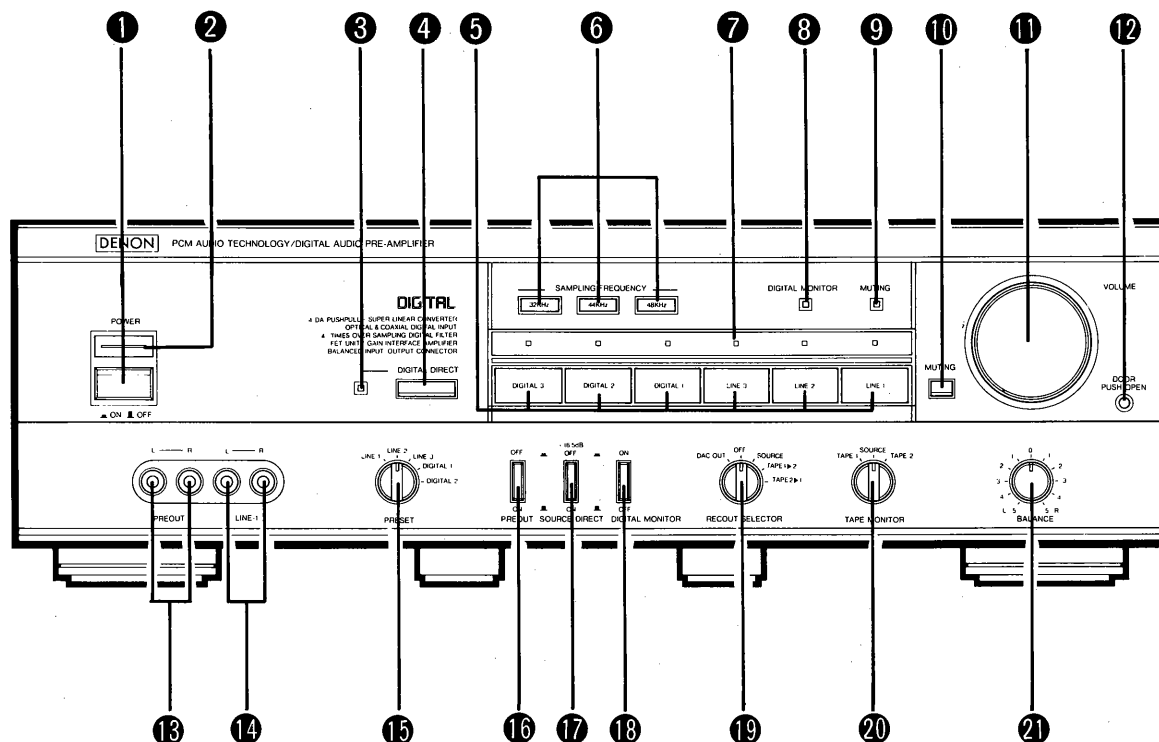
Please check to make sure they are present.

Operating Instructions 1
Pin Cord 1

"SERIAL NO. _____"

PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE CABINET FOR FUTURE REFERENCE"

NAME AND FUNCTION OF EACH PART



1 POWER (Power switch)

Plug the power cord into the AC outlet and press this pushbutton switch to light up the power indication LED 2 and supply power to the unit. The unit will operate after several seconds of muting operation. The muting indication LED 9 will flash on and off during the muting period.

2 POWER (Power "ON" indication)

This will light up when the power switch is set to "ON", indicating the operating condition.

3 DIGITAL DIRECT (Digital direct indication)

The orange LED indicates DIGITAL DIRECT.

4 DIGITAL DIRECT (Digital direct switch)

Use this switch when playing back components connected to the DIGITAL INPUT terminals (DIGITAL-1 ~ 3, DIGITAL TAPE MONITOR). When the DIGITAL DIRECT switch is set to "ON", LED 3 will light up.

Immediately after the power is switched on the function selected by the PRESET switch will take effect and the DIGITAL DIRECT switch will switch "ON" or "OFF".

Operation at Power "ON"

Position of the PRESET switch	DIGITAL DIRECT switch
LINE-1, 2, 3	OFF
DIGITAL-1, 2	ON

5 INPUT SELECTOR (Input selector switch)

This switch selects the program source connected to the LINE and DIGITAL input terminals. LED 7 will light up to indicate the selected position.

- **LINE-1:** Used when playing back a CD player, tuner, or other component connected to these terminals.
The LINE-1 terminals are provided on the side of the rear panel and in the front side door. Either of these sets can be used, but both front and rear sets should not be used at the same time since the signals will mix.
- **LINE-2:** Used when playing back a CD player, tuner, or other component connected to these terminals.
- **LINE-3:** Used when playing back a component equipped with balanced output terminals (CANNON plugs) connected to these terminals.

Set the DIGITAL DIRECT switch to "OFF" (the LED will not be lit) in the case of selecting LINE-1 ~ LINE-3.

- **DIGITAL-1:** Used when playing back the optical output of a digital audio component such as CD player or DAT equipped with optical output terminals which are connected to these terminals.
- **DIGITAL-2:** Used when playing back a coaxial type digital output of a digital audio component such as CD player or DAT equipped with digital output terminals which are connected to these terminals.
- **DIGITAL-3:** Used when playing back a coaxial type digital output of a digital audio component such as CD player or DAT equipped with digital output terminals which are connected to these terminals.

Set the DIGITAL DIRECT switch to "ON" (the LED will light up) when selecting DIGITAL-1 ~ DIGITAL-3.

Digital components have different sampling frequencies depending on the component. This amplifier will automatically switch for appropriate operation, so input can be made without any changes.

⑥ **SAMPLING FREQUENCY (Sampling frequency indication)**

This function detects and displays the sampling frequency of the digital signal input to the digital input terminals DIGITAL-1 ~ DIGITAL-3.

- 32 kHz: DAT 32 kHz mode, etc.
- 44 kHz: CD, DAT (When pre-recorded tapes are played back)
- 48 kHz: DAT 48 kHz mode, etc.

* The indicator closest to the input sampling frequency will light up.

⑦ **INPUT SELECTOR (Input selector indication)**

This indicates the the LINE and the DIGITAL positions selected by the INPUT SELECTOR.

- **LINE:** Green LED indication
- **DIGITAL:** Orange LED indication

Normally one indicator lights up for each of the DIGITAL side and the LINE side.

⑧ **DIGITAL MONITOR (Digital monitor indication)**

The orange LED will light up when the DIGITAL DIRECT switch is "ON" and the DIGITAL MONITOR switch is "ON".

⑨ **MUTING (Muting indication)**

When the power is first switched "ON" or when the INPUT SELECTOR is shifted, the Muting function will operate and a signal will not be sent to the output side.

The muting operation will be performed when the DIGITAL DIRECT switch is set to "ON" (the DIGITAL DIRECT indicator ③ lights up) and a digital input is not input to the DIGITAL INPUT terminals. Muting also operates when, at digital input, synchronization of the sampling frequency cannot be taken.

⑩ **MUTING (Muting switch)**

Pressing this switch will activate the muting condition and a signal will not be sent to the output side.

Muting indication LED ⑨ will flash on and off during the muting operation.

Pressing this switch again will cancel the muting after an interval of about 1 second.

⑪ **VOLUME (Volume control)**

This controls the overall volume.

The sound will get louder when the knob is turned to the right (↻) and smaller when turned to the left (↻).

⑫ **DOOR (Door-open button)**

Press this button to open the door.

This is the only way to open the door. Be sure to push this button.

⑬ ~ ⑳ are the functions provided inside the door.

13 PRE OUT (PRE OUT output side terminals)

These terminals are in parallel with the PRE OUT terminals provided on the side of the rear panel. Connect a power amp, etc. to these terminals.

14 LINE-1 (LINE-1 input side terminals)

Use when playing back a component such as a CD player or tuner connected to these terminals.

These terminals are connected in parallel with LINE-1 on the rear panel.

Inputting a signal from both the front and rear panels at the same time will cause signal mixing, so be sure to use only one of these sets of terminals.

15 PRESET (Preset switch)

This switch is used to select the position of the INPUT SELECTOR switch when the power is switched on.

When an audio timer is used, this switch can select the desired source permitting recording while one is away from home.

16 PRE OUT (PRE OUT off switch)



This switch set the PRE OUT signal "ON" and "OFF". PRE OUT has two built-in systems, the balanced output type (CANNON plugs) and the unbalanced output type (RCA pin plugs). This switch is used to switch these outputs "ON" and "OFF".

17 SOURCE DIRECT (Source direct switch)

The basic circuit structure has a gain of 0 dB since this amp has been designed to carefully maintain the quality of signal transmission.

When, in this condition, the volume from a conventional source such as a tuner seems insufficient, the built-in gain amp can be used to raise the gain.


When playing back a digital component such as a CD player, we recommend that the SOURCE DIRECT switch be used in the "ON" position.

SOURCE DIRECT switch	Gain	Rated input
ON ()	0 dB	1 V
OFF ()	16.5 dB	150 mV

18 DIGITAL MONITOR (Digital monitor switch)

This switch is used when playing back a component connected to the DIGITAL TAPE MONITOR input terminals when the DIGITAL DIRECT switch is "ON".

The signals of DIGITAL INPUTS terminals DIGITAL-1 ~ 3 cannot be played back when this switch is "ON".

The DIGITAL MONITOR  indicator will light up when this switch is "ON".

19 REC OUT SELECTOR (REC OUT selection switch)

Used when recording or copying from components connected to the TAPE-1 and -2 terminals.

- OFF: Since signals will not be present at the TAPE-1 or TAPE-2 REC terminals, recording will not be possible.
- DAC OUT: This is the position for recording D/A converter output signals selected by the DIGITAL INPUTS SELECTOR and the DIGITAL MONITOR. Set the DIGITAL DIRECT switch to "ON" at this time.
- SOURCE: This is the position for recording signals selected by the INPUT SELECTOR at the LINE input terminals.
- TAPE 1 ► 2: Used when copying from the TAPE-1. PB terminals to the TAPE-2. REC terminals.
- TAPE 2 ► 1: Used when copying from the TAPE-2. PB terminals to the TAPE-1. REC terminals.



20 TAPE MONITOR (Tape monitor switch)

Used when playing back the tape deck. Set the DIGITAL DIRECT switch to "OFF" at this time.

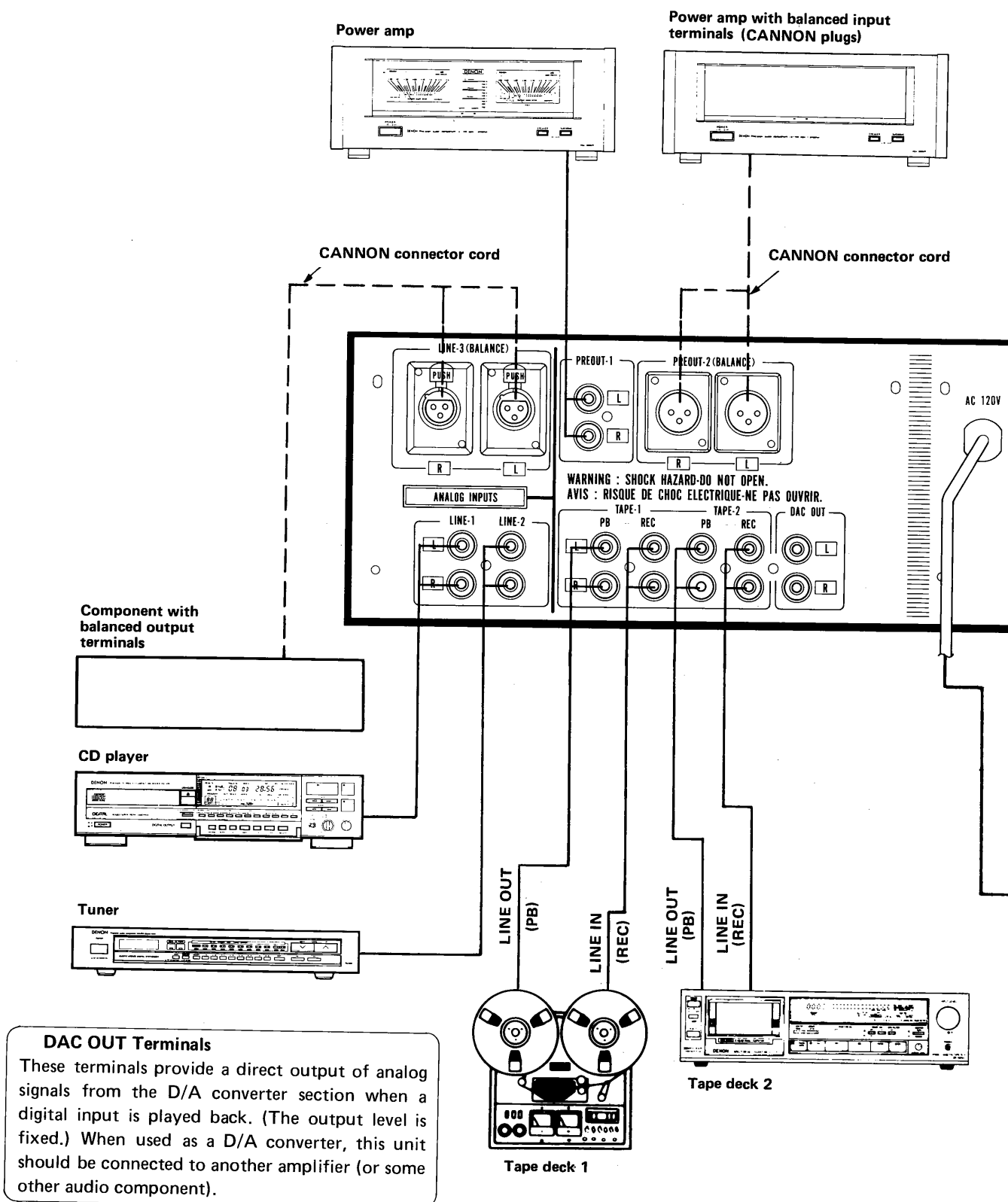
- TAPE-1: Used to play back a tape deck connected to these terminals.
- TAPE-2: Used to play back a tape deck connected to these terminals.
- SOURCE: The sound source selected by the INPUT SELECTOR (LINE 1 ~ 3) will be played back.

21 BALANCE (Balance control)

Used to adjust the left and right volume balance. The amp volume will be the same level from left and right sides when the knob is in the center position.

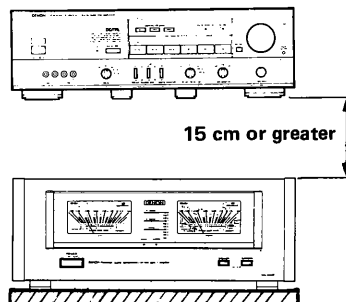
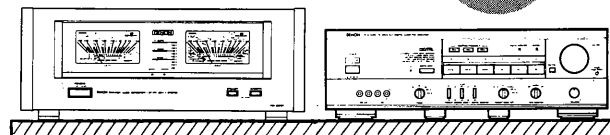
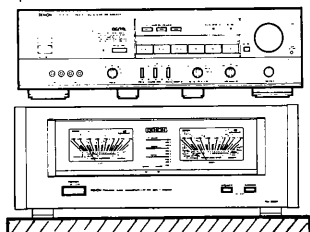
When there seems to be a difference in the output voltage between the left and right channels, turn this knob to the left or right to adjust the sound. Turn the knob to the right () when the volume of the right side is low and turn it to the left () when the volume of the left side is low to provide a balance between left and right sides.

CONNECTIONS

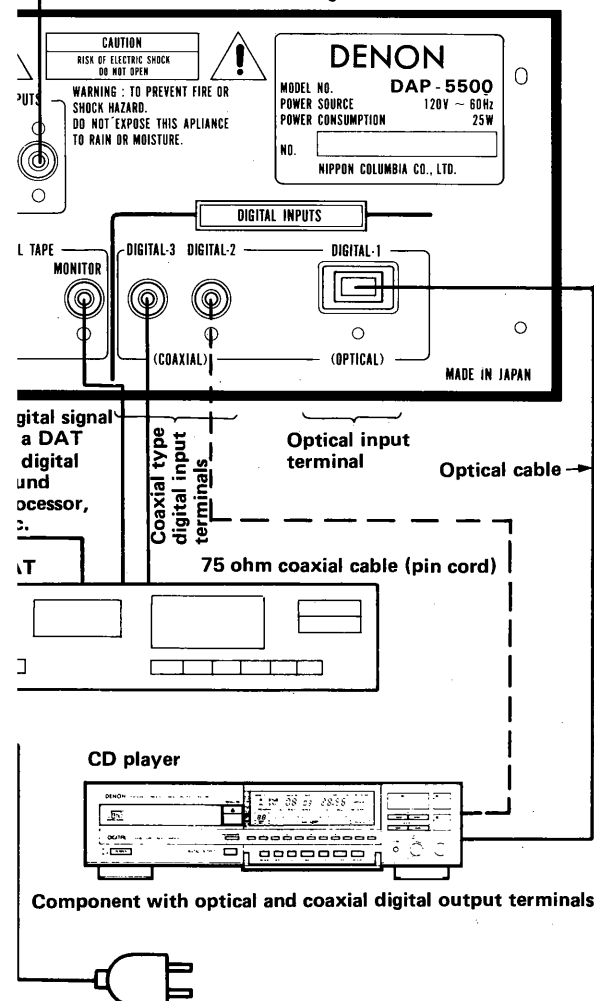


• Precautions for Preamp Installation

Taking into consideration the heat given off by a power amp, install this unit according to the guidelines shown in the diagram.



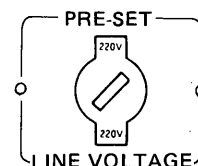
This terminal is remote control, DC power outlet used to drive the power switch to the power amplifier system. It is a dual channel outlet with a left and right channel.



This figure shows the back panel for models with U.S. and Canada specifications. Labels on the panel differ slightly depending on the destination country.

• LINE VOLTAGE (Voltage select switch) ... For Multiple voltage model only.

- * The desired voltage may be set with the VOLTAGE SELECTOR KNOB on the back panel using a screw driver.
- * Do not twist the VOLTAGE SELECTOR KNOB with excessive force. It may be damaged.
- * If the voltage select switch does not turn smoothly, see a qualified serviceman.



Precautions for Connections

- Do not plug in the power cord until all connections have been completed.
- Connect L to L and R to R after checking the left and right channels.
- Insert the power plug firmly. An incomplete connection will lead to the generation of noise.
- Do not bind the pin plug cord and the power cord together or set the pin plug cords near a power transformer since this arrangement will cause hum or noise.
- Be sure to insert the optical connector protection caps when not using optical cable.
- LINE-1 input terminals are provided on the front and back panels. Connect only one of these sets of terminals — either the back or the front.

■ DIGITAL INPUTS Terminal Connections

Only make connections to the DIGITAL INPUTS terminals from the DIGITAL OUT terminals of components equipped with digital outputs.

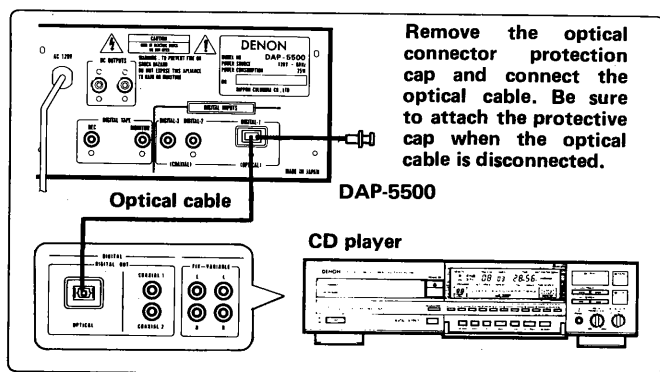
Making other types of connections will cause damage.

This unit may be connected with components that have a digital output in accordance with the digital audio interface format.

1) DIGITAL-1 Terminal Connections

The DIGITAL-1 terminal is an optical input terminal. Connections are made by optical cable from the optical output terminal of a CD player, etc.

NOTE: Make absolutely sure that the optical cable is never disconnected during DIGITAL-1 playback. Set the MUTING switch to "ON" or the power to "OFF".



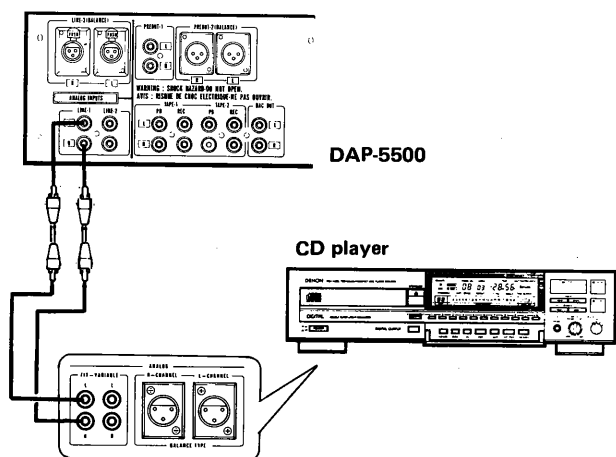
■ ANALOG INPUTS Terminal Connections

1) Connections to Unbalanced Input/Output Terminals

NOTE: This unit does not have input terminals for an analog record player. In the case of using an analog record player, use the phono equalizer of your amp and make a connection from the TAPE REC OUT terminals to the LINE input terminals.

2) CD Player Connections

Connect the CD player output terminals to the LINE-1 or LINE-2 terminals with pin plug cords.

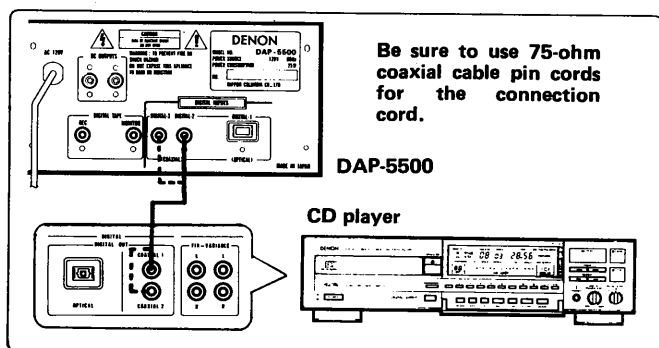


2) DIGITAL-2 and -3 Terminal Connections

DIGITAL-2 and -3 terminals are coaxial type digital input terminals.

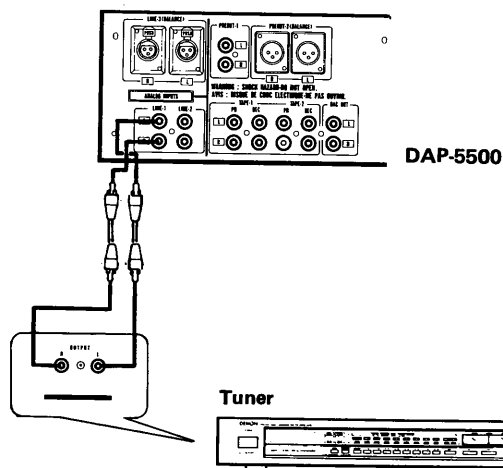
Connections are made with the DIGITAL output signal from a digital audio component such as a CD player or DAT.

NOTE: Make absolutely sure that the signal cable is never disconnected during DIGITAL-2 or -3 playback. Set the MUTING switch to "ON" or the power to "OFF".



3) Tuner Connections

Connect the tuner output terminals to the LINE-1 or LINE-2 terminals with pin plug cords.

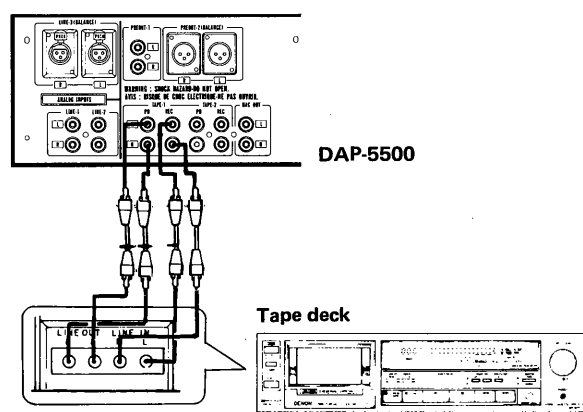


4) Tape Deck Connections

There are two systems of TAPE terminals permitting two tape decks to be connected as well as simultaneous recording or tape copying.

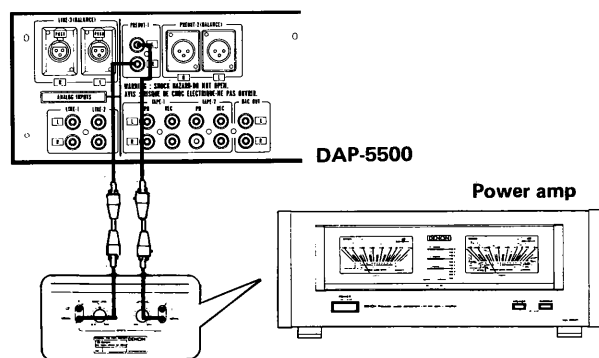
Recording connections: Connect the recording input terminals (LINE IN or REC) of the tape deck with the tape recording terminals (REC) using pin plug cords.

Playback connections: Connect the playback output terminals (LINE OUT or PB) of the tape deck with the tape playback terminals (PB) using pin plug cords.



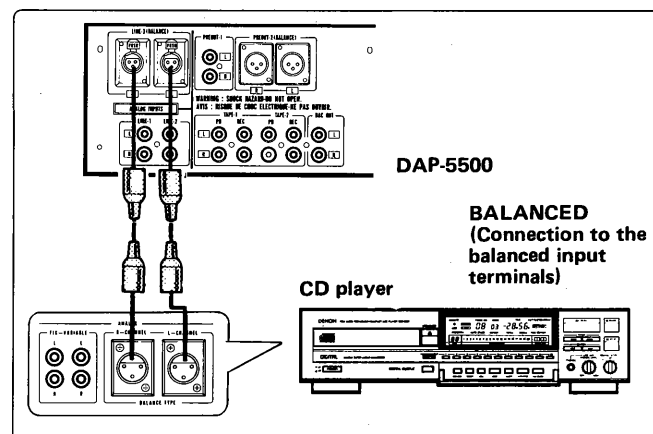
5) Power Amp Connections

Connect the power amp input terminals (NORMAL) and the PRE OUT terminals with pin plug cords.

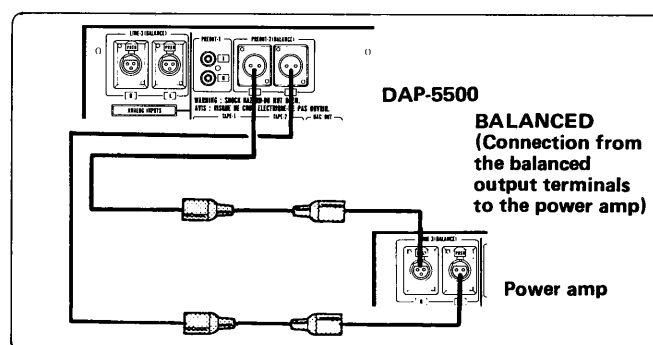


6) Balanced Input/Output Terminal Connections

- LINE-3 uses balanced input terminals (CANNON plugs). Make connections with a component such as a CD player equipped with a balanced output using balanced type CANNON connector cords. LINE-3 provides only balanced input terminals.



- PRE OUT is equipped with two systems of output terminals: balanced output terminals and unbalanced output terminals. CANNON connector cords are connected to the balanced terminals and a power amp that can be input with a balanced input is connected.



CAUTION: Be sure not to short the HOT or COLD to the COMMON.

Suitable Connectors

- LINE-3 XL -3-12C
- PRE OUT-2 XL -3-11C

OPERATION

• Preparations Prior to Use

1. Check the Connections

- Check that the power cord are firmly plugged in to an AC outlet.
- Referring to the connections diagram, check that there are no wiring errors.
- Check that the left (L) and right (R) cord connections are correct.

2. Check the Position of Each of the Knobs

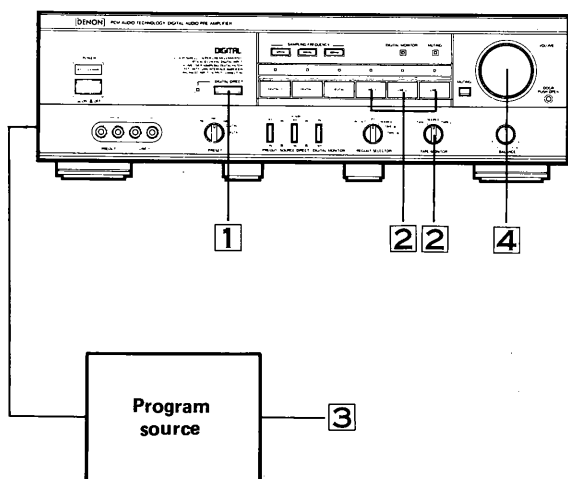
- Turn VOLUME ⑪ all the way to the left.
- Set TAPE MONITOR ⑳ to the "SOURCE" position (straight up).
- Decide which input selector is to be selected when the power is switched on by setting the position of PRESET ⑮.
- Set PRE OUT ⑯ to the "ON" position.
- Set DIGITAL MONITOR ⑱ to the "OFF" position.
- Set Balance ㉑ to the center position.
- SOURCE DIRECT ⑰ is normally set to "ON", but when using a source from which the volume seems to be insufficient, set SOURCE DIRECT to "OFF" and increase the gain.

3. After making the checks, press the POWER ① switch to supply power to the amp.

The power indicator will light up, the muting indicator will flash on and off for several seconds after which it will go out, and then the amp will enter the operating condition.

NOTE: While a DIGITAL signal is not being input and the DIGITAL DIRECT switch is set to the "ON" position (when LED ③ lights up), the muting condition will continue. To cancel this condition, input a DIGITAL signal or set the DIGITAL DIRECT switch to the "OFF" position (LED ③ will not be lit).

• Playing an Analog Program Source

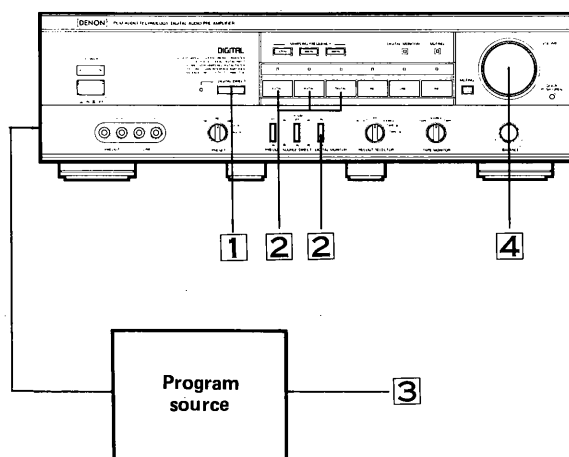


PROGRAM SOURCE	INPUT SELECTOR	TAPE MONITOR
CD, tuner, etc.	LINE-1 ~ 2	SOURCE
Audio component equipped with balanced output terminals	LINE-3	SOURCE
When connected to the LINE-1 front panel terminal	LINE-1	SOURCE
When listening to a tape on a tape deck connected to the TAPE-1 terminals	—	TAPE-1
When listening to a tape on a tape deck connected to the TAPE-2 terminals	—	TAPE-2

1. Set the DIGITAL DIRECT (digital direct switching) switch to the "OFF" position. Indicator ③ will not be lit.
2. Select the desired program source with INPUT SELECTOR (analog input switching) and TAPE MONITOR (tape input switching).

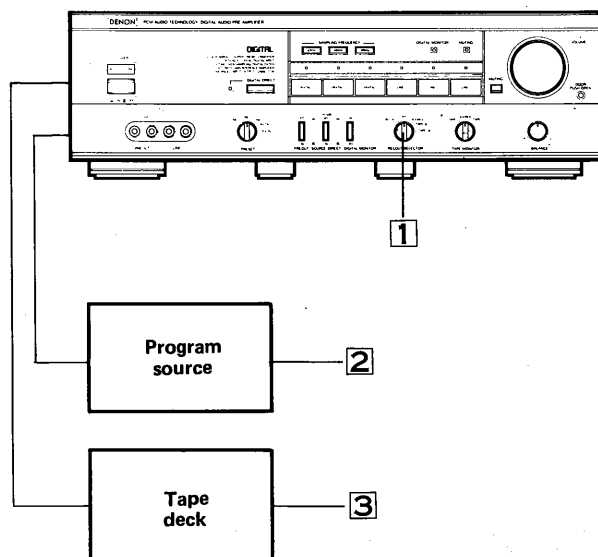
3. Begin playing the program source.
For information on the operating method, refer to the operating instructions for the various components.
4. Adjust the volume.

• Playing a Digital Program Source



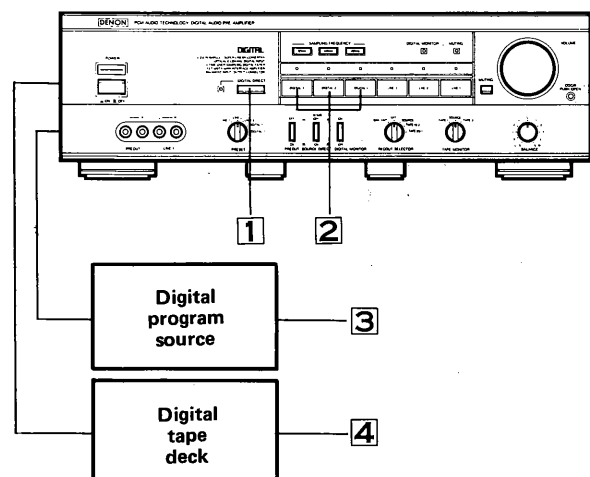
1. Set the DIGITAL DIRECT switch to the "ON" position. Indicator ③ will be lit.

• Analog Recording to the Tape Deck and Tape Copying



1. Select the program source that you wish to record with the REC OUT SELECTOR (recording output switching).

• Digital Copying to the Digital Tape Deck



2. Select the desired program source with the INPUT SELECTOR (digital input switching) and the DIGITAL MONITOR.

PROGRAM SOURCE	INPUT SELECTOR	DIGITAL MONITOR
Digital source with optical output	DIGITAL-1	OFF
Digital source with a coaxial type digital output	DIGITAL-2 DIGITAL-3	OFF
Coaxial type digital source from DAT	—	ON

The sampling frequency indicator will light up in correspondence with the sampling frequency of the digital signal that has been input.

3. Begin playing the program source.
For information on the operating method, refer to the operating instructions for the various components.
4. Adjust the volume.

PROGRAM SOURCE	REC OUT SELECTOR
When recording program sources connected to LINE-1 ~ LINE-3	SOURCE
When recording from the component connected to the TAPE-1 terminals to TAPE-2	TAPE 1 ▶ 2
When recording from the component connected to the TAPE-2 terminals to TAPE-1	TAPE 2 ▶ 1
When recording a program source connected to DIGITAL-1 ~ DIGITAL-3, DIGITAL MONITOR (Set the DIGITAL DIRECT switch to "ON" at this time)	DAC OUT

2. Begin playing the program source.
3. Begin recording with the tape deck.
For information on the operating method, refer to the operating instructions for the various components.

For digital tape decks equipped with digital recording input terminals, copying of the unchanged digital signal from the DIGITAL TAPE OUT terminals is possible.

1. Set the DIGITAL DIRECT switch to "ON".
2. Select the program source that you wish to record with the DIGITAL INPUT SELECTOR (DIGITAL-1 ~ DIGITAL-3).
3. Begin playing the digital program source.
4. Begin recording with the digital tape deck.
For information on the operating method, refer to the operating instructions for the various components.

NOTE: In some cases digital copying is not possible due to differences in sampling frequency, etc.

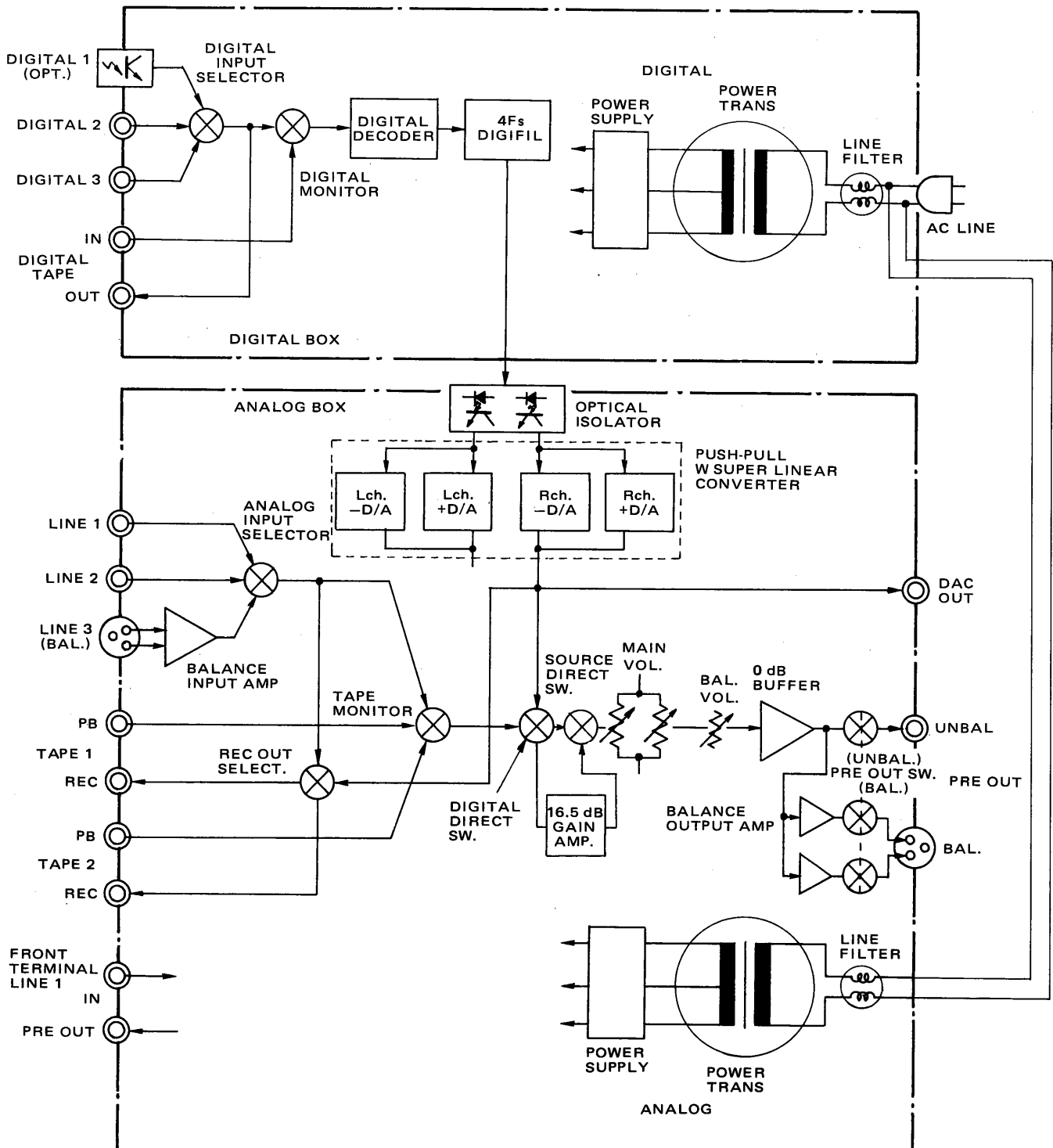
Tape Monitoring (Monitoring of recording)

Monitoring of recording may be done when a 3-head type of tape deck is used. Such decks have independent recording and playback heads.

Monitoring of recording is not possible with tape decks equipped with a common record and playback head.

- Recording can be monitored by setting the TAPE MONITOR to "TAPE-1" or "TAPE-2" for the deck in the process of recording.

BLOCK DIAGRAM



BEFORE ASSUMING A BREAKDOWN CHECK THE FOLLOWING:

	Problem	Cause	Measure	See page
When the problem is common to the digital and the analog inputs	The LEDs do not light up and there is no sound when the power switch is switched ON.	<ul style="list-style-type: none"> Power cord is not plugged in completely. Power fuse has blown. 	<ul style="list-style-type: none"> Firmly plug in the power cords. Contact a DENON service center or sales outlet. 	8 ~ 9
	The LEDs light up but there is no sound.	<ul style="list-style-type: none"> Incomplete connection to the power amp. PRE OUT switch is in the "OFF" position. Inappropriate positions of the INPUT SELECTOR, TAPE MONITOR, DIGITAL DIRECT, and DIGITAL MONITOR switches. VOLUME control is set to minimum. MUTING switch is "ON". 	<ul style="list-style-type: none"> Make firm and correct connections. Set the PRE OUT switch to "ON". 	11
			<ul style="list-style-type: none"> Set the switches such as the INPUT SELECTOR switch to the correct positions for the desired playback. 	7
			<ul style="list-style-type: none"> Set to an appropriate position. 	12, 13
			<ul style="list-style-type: none"> Set the MUTING switch to "OFF". 	6
	Sound comes out from only one side.	<ul style="list-style-type: none"> The input/output cords are incompletely connected. The BALANCE control is set to one side. 	<ul style="list-style-type: none"> Make firm and correct connections. 	9
			<ul style="list-style-type: none"> Set the BALANCE control correctly. 	7
	The volume is still too low even when the VOLUME control is turned up.	<ul style="list-style-type: none"> The output level control of the input component is set too low. The SOURCE DIRECT switch is set to "ON". The input level of the power amp is set too low. Component is connected to both the front and rear sets of terminals when LINE-1 is being used. When using LINE-1 ~ 3, the parallel output of the same component is connected to two LINE inputs. 	<ul style="list-style-type: none"> Raise it to an appropriate setting. 	—
			<ul style="list-style-type: none"> Set the SOURCE DIRECT switch to "OFF". 	7
			<ul style="list-style-type: none"> Raise it to an appropriate setting. Make connections to only set one of connectors — on the rear panel or on the front panel. Make connections to one LINE input. (Parallel connections are fine on some component types) 	—
At the time of digital input	The MUTING indicator flashed on and off and there is no sound.	<ul style="list-style-type: none"> Incomplete connection of the optical cable or the coaxial cable. Nothing is connected to the DIGITAL input terminals. The DIGITAL output switch of the input component is in the "OFF" position. Synchronization of the sampling frequency cannot be made. 	<ul style="list-style-type: none"> Make firm and correct connections. 	6 ~ 7
			<ul style="list-style-type: none"> The muting operation will result when an unconnected DIGITAL input is selected. 	—
			<ul style="list-style-type: none"> Set the DIGITAL output switch to "ON". 	—
			<ul style="list-style-type: none"> For information on the operating method, refer to the operating instructions for the various components. Contact a DENON service center or sales outlet. 	6

SPECIFICATIONS

ANALOG SECTION

Input terminals

Input sensitivity/Input impedance: LINE-1·2, : 1 V/10 kohm SOURCE DIRECT-ON
 TAPE-1·2 150 mV/10 kohm SOURCE DIRECT-OFF
 LINE-3 : 1V/10 kohm (Balanced input) SOURCE DIRECT-ON
 150 mV/10 kohm (Balanced input) SOURCE DIRECT-OFF
 Suitable input terminals XL type CANNON plugs

Output terminals

Rated output/Impedance: PRE-OUT-1 : 1 V/10 ohm
 PRE-OUT-2 (Balanced output) : 2 V/600 ohm

Maximum output: PRE-OUT-1 15 Vrms

Frequency response: 1 Hz ~ 300 kHz $\begin{smallmatrix} +0 \\ -3 \end{smallmatrix}$ dB

Harmonic distortion: 0.002% 20 Hz ~ 20 kHz 5 V OUT

S/N ratio: 116 dB

DAC OUT terminals: Analog output terminals following the D/A converter

Output impedance: 470 ohm

Output voltage: 2 V (at 10 kohm load, CD max recording level)

NOTE: Terminals other than those marked (Balanced input/output) are of the regular RCA type unbalanced input/output terminal specifications.

DIGITAL SECTION

Digital input/output system: Digital audio interface format

Input terminals

Optical input terminal: DIGITAL-1 (1 system)

COAXIAL input: DIGITAL-2 and -3 (2 systems) 0.5 Vp-p—75 ohm

DIGITAL TAPE terminals: DIGITAL TAPE MONITOR 0.5 Vp-p—75 ohm

DIGITAL TAPE REC 0.5 Vp-p—75 ohm

D-A conversion method: 4DA push pull, super linear converter

Filters: 4-times oversampling digital filter, LC-OFC linear phase, 7-pole analog filter

Frequency response: 2 Hz ~ 20 kHz ± 0.2 dB

S/N ratio: 110 dB

Dynamic range: More than 97 dB

Total harmonic distortion: Less than 0.002% (1 kHz)

Channel separation: More than 100 dB (1 kHz)

OTHER FUNCTIONS

Automatic switching of sampling

frequency: 32 kHz, 44.1 kHz, 48 kHz

PRE OUT switch: ON, OFF

GENERAL

Power supply/Power consumption: 120 VAC 60 Hz/25 W (for USA, Canada)
 220 VAC 50 Hz/25 W (for Europe)
 240 VAC 50 Hz/25 W (for UK and Australia)
 110/120/220/240 VAC 50/60 Hz/20 W (for Asia multiple)

DC Output: DC 12 V 1 mA

Dimensions: 434 mm (17-3/32") W x 133 mm (5-15/64") H x 380 mm (14-61/64") D

Weight: 13.7 kg (30 lbs 3 oz)

Specifications and contents are subject to change without notice for purposes of improvement.

DENON SERVICE NETWORK

- Please contact one of our overseas service centers, listed below, for follow-up service consultation.
- Wenden Sie sich für anfallende Wartungs- bzw. Reparaturarbeiten bitte an eine der folgend aufgeführten Kundendienststellen.
- Adressez-vous à nos centres de service d'outre-mer indiqués ci-dessous, pour le service après-vente.
- Ta kontakt med nedan angivna servicecentraler för rådfrågning om servicearbeten efter försäljningen.
- Per il servizio dopo vendita rivolgetevi al nostro centro di servizio estero appropriato della lista seguente.
- Para consultas de servicio porfavor dirigirse a cualquiera de nuestros centros de servicio en el extranjero, enlistados abajo.

Australia	Amalgamated Wireless (Australasia) Ltd. Ashfield Division, 554 Parramatta Road, Ashfield N.S.W. 2131, Australia Tel: 797-5757
Belgium	Transtel-Sabima P.V.B.A. Harmoniestraat 38 B-2000 Antwerpen, Belgie Tel: 031-37-3607
Canada	Denon Canada Inc. 17 Denison Street, Markham Ontario, Canada L3R 1B5 Tel: 416-475-4085
Denmark	Audionord Denmark Aps Europaplads 4, 8000 Århus C. Tel: 06-128811
Finland	Oy Nepcon AB Patotie 4, 01600 Vantaa 60 Tel: 90-5664844
France	Audio Digital Electronics S.A. 9 Rue du Debarcadere, 75017 Paris Tel: 574-4444
Greece	Kinotechniki Ass. 47 Stournara Str., Athens Tel: 3606 998
Hong Kong	Tai Lin Radio Service Ltd. 310 Nathan Road, Kowloon, Hong Kong Tel: K-855005-8
Iceland	B. Skaptason & Co. Hafnarstrati 5, P.O. Box 852, 121 Reykjavik Tel: 19630
Italy	Denico s.r.l. Via Privata Santa Maria 77, 20093 San Maurizio Al Lambro, Milano Tel: 02-254-9989
Malaysia	Pertama Audio Sdn. Bhd. G34/35, Ground Floor, Pertama Shopping Complex Jalan Tuanku Abdul Rahman, Kuala Lumpur/Malaysia Tel: 927307 City Audio Sdn. Bhd. B II, 2-04 1st Floor Komplek Tun Abdul Razak, Penang Road, Penang/Malaysia Tel: 610852 & 615926
Netherlands	Penhold B.V. Isarweg 6, 1043 AK Amsterdam Tel: 020-11-4957
New Zealand	Avalon Audio Corpn. Limited 119 Wellesley Street, Auckland 1, New Zealand Tel: 09-779-351, 09-775-370
Norway	Trondheim Hi-Fi Import P.O. Box 8245, Hammersborg, 0129 Oslo 1 Tel: 02-565841
Singapore	Pertama Audio Pte. Ltd. 68, Orchard Road, 03-33-37, Plaza Singapura, Singapore 0923, Republic of Singapore Tel: 3377771
Spain	Gaplaza S.A. Conde de Torroja, 24, 28022 Madrid Tel: 747-7777
Sweden	Nad Svenska Ab Box 5116, 402 23 Göteborg, Tel: 031-200040
Switzerland	Diethelm & Co., AG. Eggbühlstrasse 28, 8052 Zürich Tel: 01-3013030
Thailand	Mahajak Development Co., Ltd. 410/3-4 Siam Square Soi 6, Pathumwan, Bangkok, Thailand Tel: 223-2865
United Kingdom & Eire	Hayden Laboratories Ltd. Hayden House, Chiltern Hill, Chalfont St. Peter Gerrards Cross, Bucks. SL9 9UG Tel: 0753-888447
U.S.A.	Denon America Inc. 222 New Road Parsippany, NJ 07054, U.S.A., Tel: 201-575-5440
W. Germany	Denon Electronic GmbH Halskestraße 32, 4030 Ratingen 1 Tel: 02102-4985-0

- * If there is no service center in your local area, consult the outlet where the equipment was purchased.
- * Falls sich in Ihrer Nähe keine Kundendienststelle befindet, wenden Sie sich an das Geschäft, wo das Gerät gekauft wurde.
- * S'il n'y a aucun centre de service dans votre région, consultez votre revendeur.
- * Saknas servicecentral i närheten där du bor, bör kontakt tas med återförsäljaren för apparaten.
- * Se nella Vostra zona non c'è il centro di servizio, rivolgetevi al negozio dove avete acquistato l'apparecchio.
- * Si no hay centros de servicio en su área local, consulte en donde haya comprado su equipo.

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