

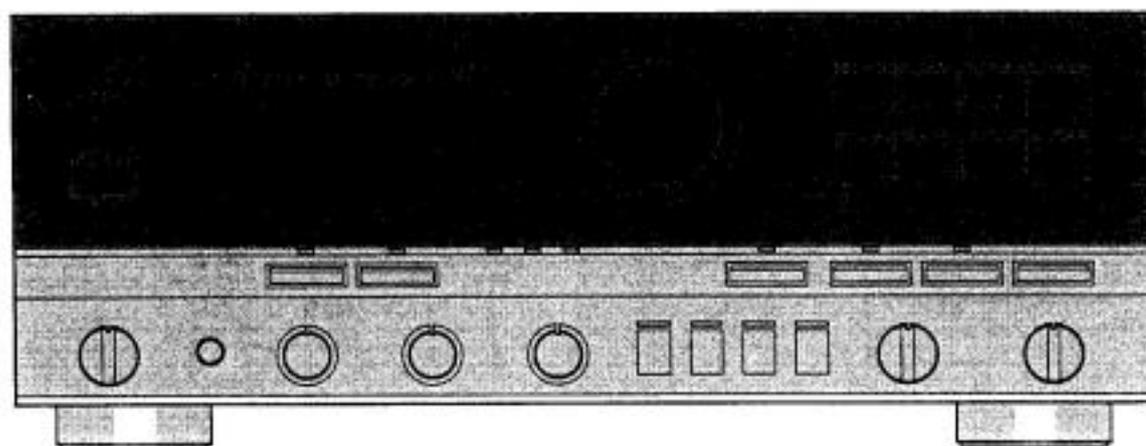
**INTEGRATED DIGITAL AMPLIFIER**

# AU-X911DG

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**OPERATING INSTRUCTIONS  
MODE D'EMPLOI  
MANUAL DE INSTRUCCIONES**

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**SANSUI**



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.



Le symbole à flèche brisée dans un triangle équilatéral a pour but d'attirer l'attention de l'utilisateur sur la présence, à l'intérieur du coffret, d'une "tension dangereuse" non isolée qui est d'une importance suffisante pour constituer un risque de décharge électrique pour les êtres humains.



Le point d'exclamation dans un triangle équilatéral a pour but de signaler à l'utilisateur la présence d'explications importantes, relatives à l'exploitation et à l'entretien, dans le texte accompagnant l'appareil.



La iluminación parpadea con un símbolo de flecha, dentro de un triángulo equilátero, para avisar al usuario de la presencia de "tensión peligrosa" no aislada dentro de la caja del aparato de una magnitud suficiente para constituir peligro de descargas eléctricas para las personas.



El punto de exclamación de dentro del triángulo equilátero es para avisar al usuario de la presencia de instrucciones importantes de operación y mantenimiento (servicio) en los manuales que se sirven con el aparato.

## ENGLISH

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**WARNING: To prevent fire or shock hazard, do not expose this appliance to rain or moisture.**

- The model No. and Serial No. of your unit are shown on its back panel.
- SANSUI attests that this product conforms with EEC directive 82/499/EEC.
- This unit keeps the postal regulations according VDE 0871./0875.

## FRANÇAIS

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**ATTENTION: Pour éviter les dangers d'électrocution ou d'incendie, ne pas exposer cet appareil à la pluie ou à l'humidité.**

- Le numéro du modèle et le numéro de série de l'appareil sont inscrits sur son panneau arrière.
- La société SANSUI déclare que cet appareil est conforme aux prescriptions de la directive 82/499 CCE.
- Cet appareil est conforme aux règlements postaux, d'après VDE 0871./0875.

## ESPAÑOL

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### Indice

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**AVISO: Para evitar incendios y descargas eléctricas, no exponer este aparato a la lluvia ni a la humedad.**

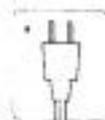
- El N° de modelo y el N° de serie de este aparato están impresos en el panel posterior.
- SANSUI garantiza que este producto está conforme con las directrices de EEC 82/499.
- Este aparato satisface las regulaciones postales de acuerdo con la normal, de VDE 0871./0875.



Thank you for purchasing this fine SANSUI product. Taking the time to read these operating instructions carefully before use will acquaint you fully with all its features and help ensure optimum performance.

- \* In order to simplify the explanation illustrations may sometimes differ from the originals.

## Precautions



### Power plug

When disconnecting the power cord from the power outlet, always take hold of the plug, and not the wire, and pull free. Never connect or disconnect the power plug with wet hands since you may receive an electric shock.

- \* Remember to disconnect the power plug from the power outlet when you do not intend to use the unit for a prolonged period of time.



### Do not remove the case and bottom panel

Any inspections or adjustments inside the unit may lead to malfunctions and electric shocks. Do not touch any of the inside parts.

SANSUI's warranty is not effective if a deterioration in the unit's performance results from remodeling inside.



### Do not block the ventilation holes

Do not block the ventilation holes on the top of the unit by placing records or other objects over them.

This will increase the inside temperature and may lead to a failure or malfunction.



### Installation precautions

Do not install the unit in any of the following locations since this may result in a deterioration in performance or malfunction:

- \* Locations exposed to direct sunlight or near objects radiating heat such as heating appliances.
- \* Locations exposed to moisture or humidity.
- \* Locations with poor ventilation exposed to dust and dirt.
- \* Locations which are unstable and not perfectly flat or which are susceptible to vibration.



### Do not wipe with thinners

Wipe the panels and case from time to time with a soft cloth. Using any kind of thinner, alcohol or volatile liquid will mar the surface, cause blotching on the exterior and erase the markings and should therefore be avoided. Do not use insecticide sprays in the vicinity.

This unit dissipates the heat most effectively when installed on a flat surface. Do not stand it up or install it at an angle.

DAT.....Digital Audio Tape recorder  
BS Tuner.....Broadcast Satellite receiving tuner

## Before connecting the power plug

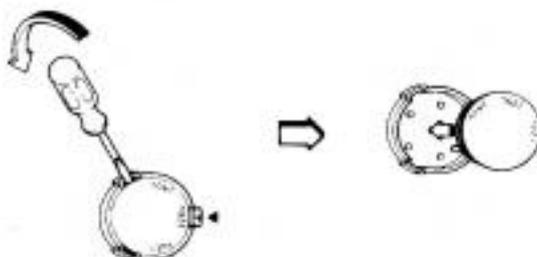
Before connecting the power plug to an electrical outlet, check to be sure that the unit is set to the proper voltage for your area. If the voltage of the unit is improperly set, fire hazard or damage to the unit may result. If you find that the unit is not set to the proper voltage for your area, follow the instructions listed below:

### Units with 120V/220V/240V VOLTAGE SELECTOR at rear panel

These units are set at either 120V, 220V or 240V with the VOLTAGE SELECTOR. To change the voltage use a minus screwdriver to remove the plug, and reinsert it so that the mark (▼) matches the desired voltage.

VOLTAGE SELECTOR

VOLTAGE SELECTOR

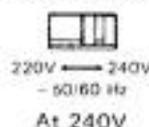


### Units with 220V/240V VOLTAGE SELECTOR switch at rear panel

These units are set at either 220V or 240V with the VOLTAGE SELECTOR switch. To change the voltage, use a minus screwdriver or similar device to slide the switch.

VOLTAGE SELECTOR

VOLTAGE SELECTOR



### Units without voltage selector switch

Units destined for some areas are not fitted with a voltage selector switch due to laws and regulations existing in those areas. In such a case, the power supply voltage is set to the voltage used in the area where the unit is purchased.

If the unit is to be used in an area where the power requirements are different, make sure you consult your nearest authorized SANSUI Service Station.

## Connections

Refer to the page 3 connection diagram as you read the following.

### Connection precautions

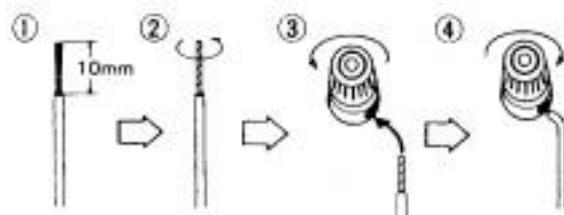
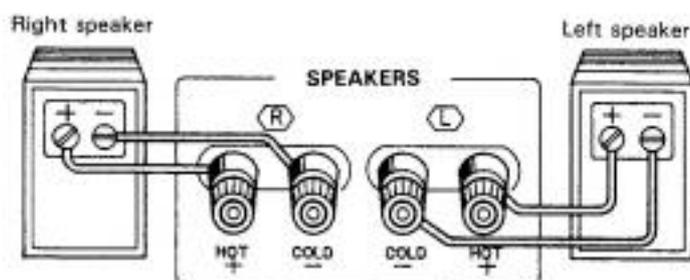
- When connecting, either disconnect the power plug from the power outlet or turn off the unit's power using the POWER switch.
- Check the left and right channels and connect properly (L to L and R to R).
- Insert the plugs securely. Improper connection can lead to the generation of noise.

### Speaker systems

Connect the speaker systems to the SPEAKERS terminals on the rear panel of the unit with the speaker cords. Two sets of speaker systems can be connected, one to SYSTEM-A and one to SYSTEM-B of the SPEAKERS terminals.

When viewed from the front (the listening position), the speaker mounted on the left should be connected to the L terminals, and the speaker mounted on the right should be connected to the R terminals. Be sure to connect the polarities of the speaker systems and the SPEAKER terminals correctly (+ to +, - to -). If the polarity of one of the speaker systems is connected improperly, sound in the central area between the speakers will appear to be missing, and the position of instruments will not be clear, resulting in a loss of stereo directionality; so take care when connecting.

• When connecting, do not allow the conductor of the speaker cords to be exposed from the terminals and come into contact with other terminals.



The speaker terminals are a part of the balance circuit and any error made in connecting them may lead to trouble or malfunctioning.

In particular, it should be borne in mind that the COLD (-) terminal also doubles as the ground (GND) terminal and that other speaker cord leads or terminals should not be brought into contact with this terminal.

### About speaker system impedance

When the two speaker systems connected to the SYSTEM-A and SYSTEM-B terminals are to be used separately, their rated impedance may range from 4 - 16 ohms, but when two systems are to be used together (A and B), the rated impedance of both systems should be 8 ohms or more.

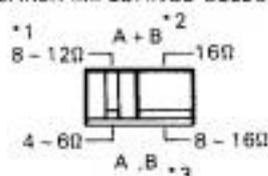
If even one of the speaker systems has a rated impedance of less than 8 ohms, the protection circuit may operate during play, or malfunction may result.

### SPEAKER IMPEDANCE SELECTOR switch (European models only)

Located on the rear panel, this switch should be set to the rated impedance of the speaker systems connected to the unit.

- The rated impedance is shown on the units themselves, or in the operating instructions, of your speakers. If this switch is not set properly, full output may not be achieved, or abnormal heat may be produced.

SPEAKER IMPEDANCE SELECTOR



- \*1: Rated impedance of speaker system.
- \*2: When using both sets of speaker systems connected to SPEAKERS SYSTEM-A and SYSTEM-B terminals.
- \*3: When using only one set of the speaker systems connected to either SPEAKERS SYSTEM-A or SYSTEM-B terminals.

### AC outlets

This unit is provided with auxiliary AC outlets which are handy for connecting a tuner, tape deck or turntable to supply power to these units.

**SWITCHED (100W capacity):** The power of the connected components is switched on and off when the unit's POWER switch is operated.

**UNSWITCHED (250W total capacity):** The power is supplied to the connected components regardless of the position of the unit's POWER switch.

(Models sold on the European market require a single UNSWITCHED-type AC outlet.)

It is extremely dangerous to connect an electrical appliance having a power consumption exceeding the specified capacity. Before connecting the appliance or components, check its power consumption rating.

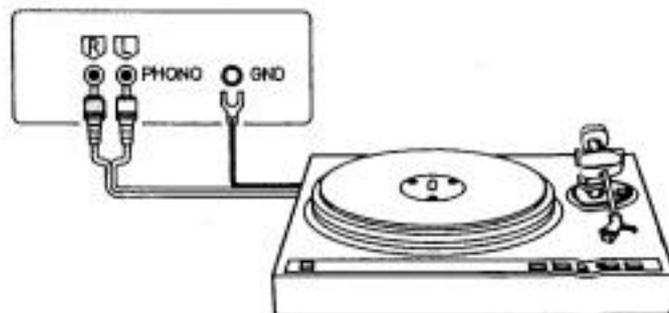
- A high voltage flows to the AC outlets and so hairpins or other metal objects must not be inserted since this will result in an electric shock.

**NOTE:** The configuration of the AC outlet may differ from the illustrations depending on the sales area.

### Turntable

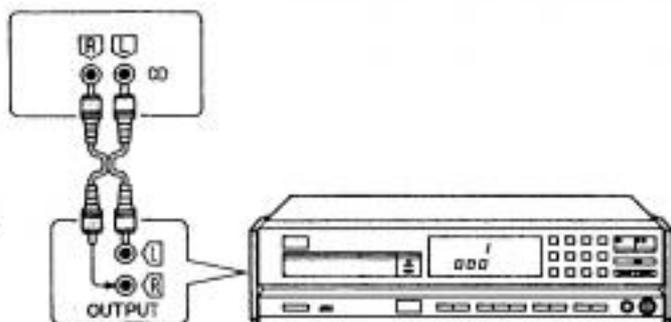
Connect the turntable's output cord L (white) plug to the L PHONO terminal and the R (red) plug to the R terminal.

If your turntable is equipped with a grounding cable, connect it to the unit's GND terminal. But disconnect it if you notice increased hum.



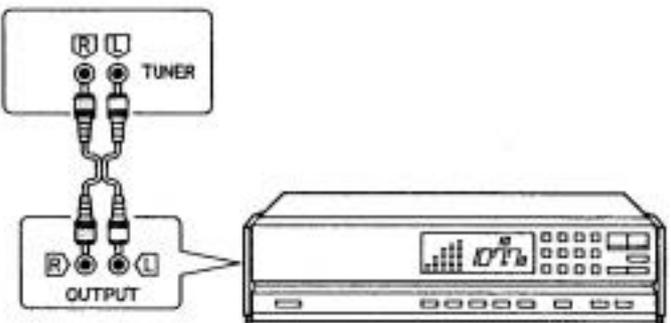
### Compact disc player

Connect the CD terminals to the OUTPUT terminals on the compact disc player using the pin-plug cord.



### Tuner

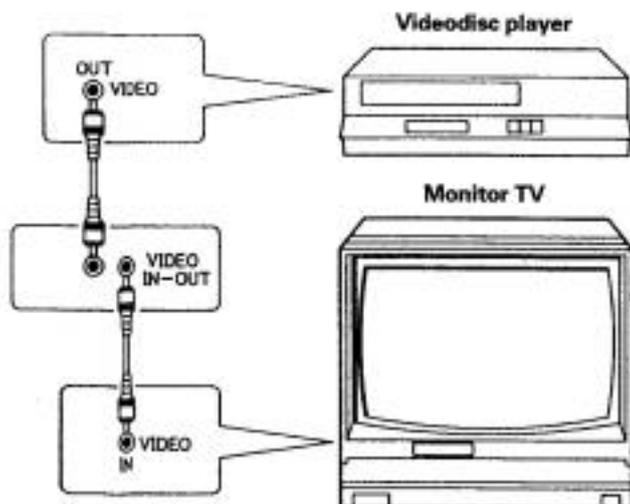
Connect the TUNER terminals to the OUTPUT terminals on the tuner using the pin-plug cord.



### Connection of VIDEO (IN-OUT) jacks

To view the video playback of a videodisc player or videocassette player on a monitor TV screen, connect the video output (VIDEO OUT) jack of the video playing component to the VIDEO IN jack of this unit by means of a video connection cord equipped with pin plugs.

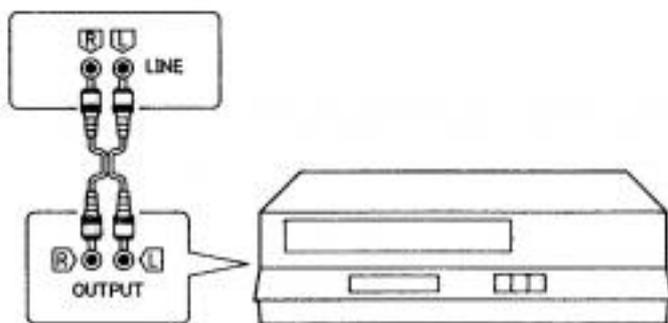
\* These jacks are looped through the inside of the unit (for relaying the video signal).



### LINE terminals

The LINE terminals have an electrical performance which is equivalent to that of the CD terminals and TUNER terminals, which means that they can be used as the audio output terminals for a video disc player or TV tuner.

Connect the LINE terminals to the OUTPUT terminals on the component using the pin-plug cord.

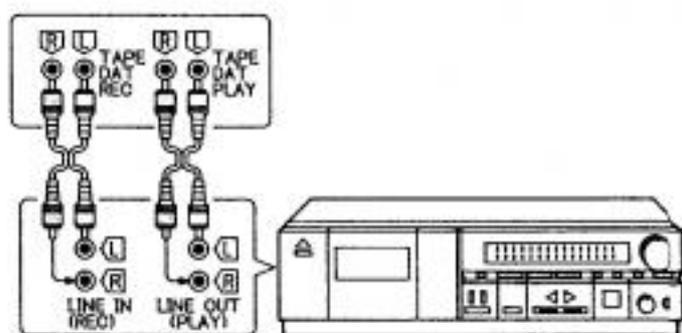


### Tape deck

There are three sets of TAPE/DAT terminals for connecting a tape deck. This permits up to three tape decks to be connected to perform simultaneous recording or tape dubbing. (1 ▶ 2+3, 2 ▶ 1+3)

**Recording connections:** Connect the TAPE REC terminals to the input (LINE IN) terminals on the tape deck using the pin-plug cord.

**Playback connections:** Connect the TAPE PLAY terminals to the output (LINE OUT) terminals on the tape deck using the pin-plug cord.

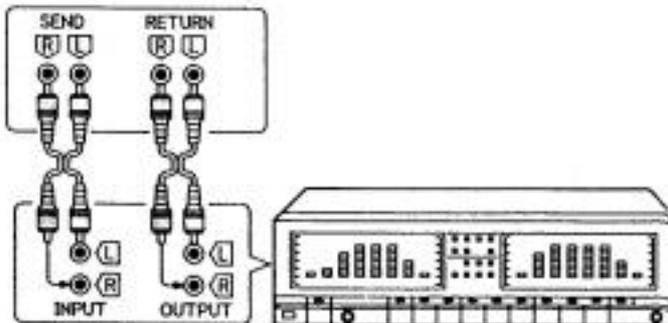


- \* When connecting a DAT deck to this unit, connect to the TAPE/DAT-1 jacks.
- \* When connecting the AUDIO input/output jacks of a hi-fi video cassette recorder, connect them in the same manner as for an audio tape deck.

### PROCESSOR terminals

These terminals are used to connect a graphic equalizer or sound processor. They also come in handy for connecting an AV (audio/video) selector unit.

Use pin-plug cords to connect the SEND terminals to the INPUT terminals on the selected component and also to connect the RETURN terminals to its OUTPUT terminals.



## Connection of a digital source

### Precautions

- Use a 75-ohm digital connection cable when connecting to the COAXIAL jack of this unit, and use an optical fiber cable when connecting to the OPTICAL jack.
- When using an optical fiber cable, take care not to sharply bend the cable.
- Before making connections, carefully read the instruction manuals of all the audio components connected to this amplifier.

### Precautions concerning connection of DAT decks

If both the analog and digital signals of a DAT deck are to be connected to this unit, be sure to connect them to the TAPE/DAT-1 and DIGITAL INPUT-3 jacks, respectively.

Connecting the digital input to a jack other than the DIGITAL INPUT-3 jack (i.e. DIGITAL INPUT-1, -2, OPTICAL-4) will cause problems with the oscillator.

**Analog signal:** TAPE/DAT-1 (REC/PLAY) jacks

**Digital source:** DIGITAL INPUT-3 jack

### DIGITAL INPUT jacks

This unit is equipped with a total of four DIGITAL INPUT circuits: three COAXIAL input jacks and one OPTICAL input jack. These four digital inputs can be selected with the input selector switches on the front panel. The sampling frequency is adjusted automatically and displayed on the sampling frequency indicator.

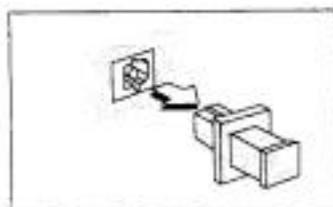
### DIGITAL OUTPUT jack

This unit is equipped with a DIGITAL OUTPUT circuit which uses a COAXIAL jack. Connect the DIGITAL OUTPUT jack of this unit to the INPUT jack of your DAT deck using a 75-ohm digital connection coaxial cable.

- No signal is output at the DIGITAL OUTPUT jack if the input selector (digital source selector) of this unit is set to **DIGITAL-3**.

### DIGITAL INPUT (OPTICAL) jack

The OPTICAL digital input jack is capped for protection against dust. Remove the cap before connecting an optical fiber cable to the jack.



- The unit automatically detects the sampling frequency of the optically-transmitted signal and reproduces the signal using the detected sampling frequency.
- Some digital products from other manufacturers cannot be connected to this unit due to differences in the optical jack.

### Connecting a CD player

Connect the DIGITAL OUTPUT jack (COAXIAL) of the CD player to one of the DIGITAL INPUT jacks (1, 2, or 3) of this unit using a 75-ohm digital connection coaxial cable. If the CD player is equipped with an OPTICAL output jack, it can be connected to the DIGITAL INPUT-4 jack (OPTICAL) of this unit using an optical fiber cable.

### Connecting a BS tuner

Connect the DIGITAL OUTPUT jack (COAXIAL) of the BS tuner to one of the DIGITAL INPUT jacks (1, 2, or 3) of this unit using a 75-ohm digital connection coaxial cable. If the BS tuner is equipped with an OPTICAL output jack, it can be connected to the DIGITAL INPUT-4 jack (OPTICAL) of this unit using an optical fiber cable.

### Connecting a DAT deck

Connect the DIGITAL OUTPUT jack (COAXIAL) of the DAT deck to one of the DIGITAL INPUT jacks (1, 2, or 3) of this unit using a 75-ohm digital connection coaxial cable.

Connect the DIGITAL INPUT jack of the DAT deck to the DIGITAL OUTPUT jack of this unit using a 75-ohm digital connection coaxial cable.

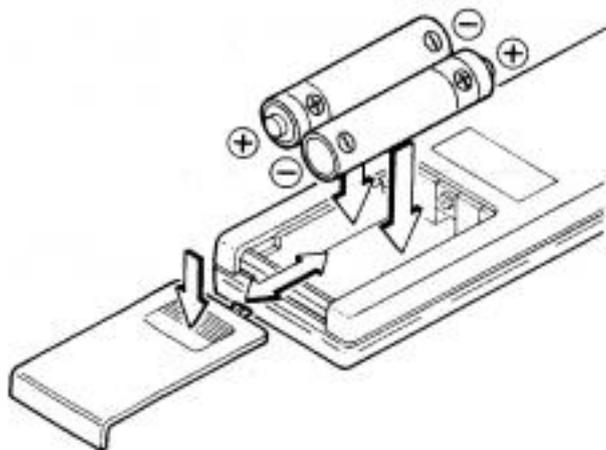
If the DAT deck is equipped with an OPTICAL output jack, it can be connected to the DIGITAL INPUT-4 jack (OPTICAL) of this unit using an optical fiber cable.

### Caution concerning use of DAT decks

A DAT deck cannot record a digital signal if the digital signal transmitted from the component connected to the deck's digital input contains a copy inhibit code, or if the sampling frequency of the digital input signal is 44.1 kHz.

## Remote controller

### Inserting the dry batteries



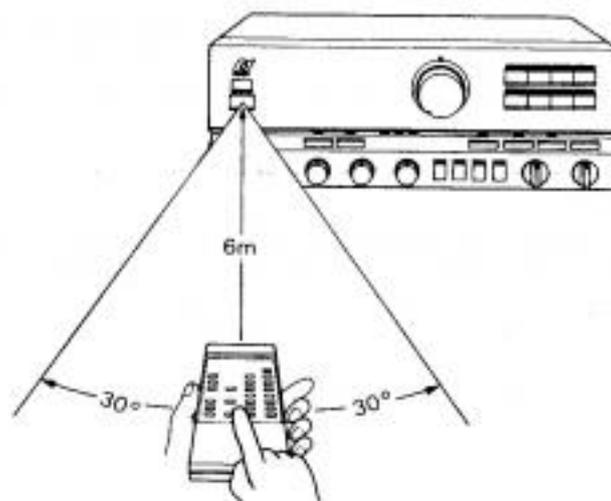
1. Remove the cover of the battery compartment.
2. Insert the two accessory IEC R6 (type "AA") batteries. Align the polarities of the batteries with the (+) and (-) markings inside the compartment and insert properly.
3. Replace the compartment cover.

### Replacing the dry batteries

The operating range of the remote control unit will be reduced when the batteries become weak. When this happens, replace both of the batteries with fresh ones.

- Use two 1.5V IEC R6 (type "AA") batteries with this remote controller.
- Do not mix new batteries with already used batteries.
- Use batteries designed to prevent leakage of the internal electrolyte.

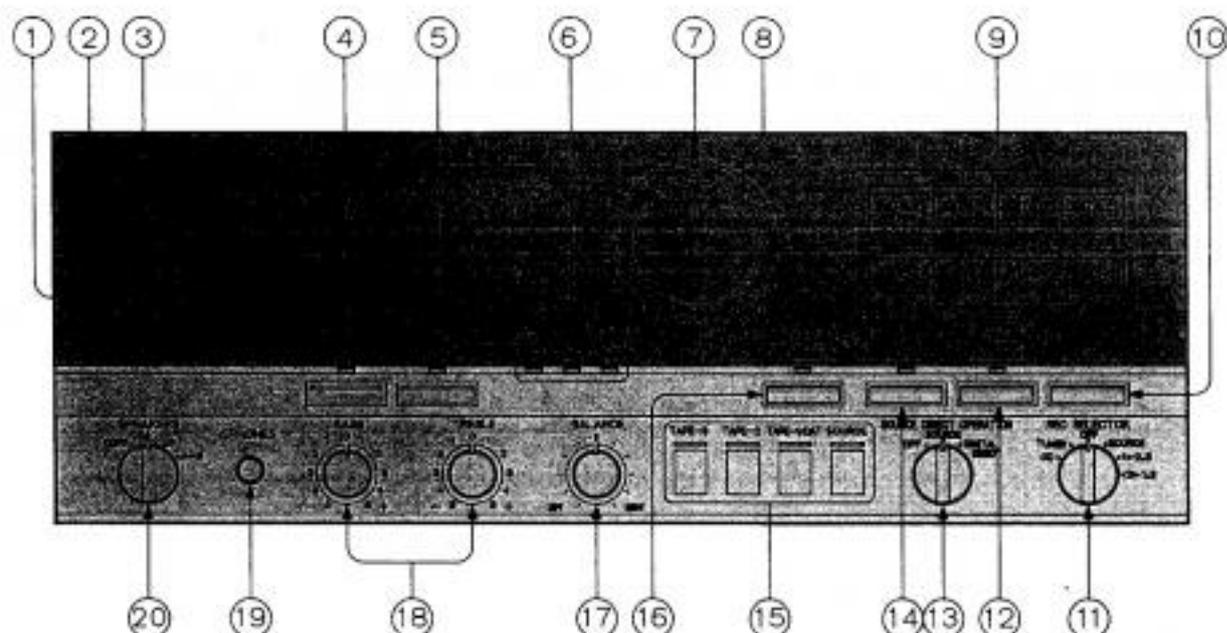
### Operating the remote controller



Bear in mind the following points when using the remote controller.

- Point the transmitter of the remote controller properly at the sensor on the unit and operate.
- The remote controller will work within a distance of about 6 meters from the front of the unit and within a range of about 30 degrees at either side, left or right, provided that there are no obstacles between the remote controller and the unit. If the remote controller is brought closer to the unit, this operating angle is increased.
- Exposure to direct sunlight or strong lights such as a spotlight will reduce the operating distance or even make the remote controller inoperable.
- Press each of the control keys properly one at a time.
- Handle the remote controller properly—do not drop it or splash it with water.
- Do not leave the remote controller in a location where it will be exposed to direct sunlight or to high temperatures or humidity levels.

## Panel information



### 1 POWER Switch

Press this switch to switch on and off the unit's power.

### 2 Protection Indicator

When the power is switched ON, this indicator blinks for a few seconds, after which it stops blinking and lights steadily to indicate that the amplifier is in normal operation mode. If the protection circuitry is activated during operation, the indicator stops lighting steadily and starts blinking, indicating that the amplifier operation is abnormal. If this occurs, immediately switch the power OFF and eliminate the cause of trouble (e.g., a short-circuit in the speaker cords).

\* Sound is not produced from the speakers while this indicator is blinking.

### 3 Infra-red Ray Sensor Window

This window senses the infra-red rays which are transmitted from the remote controller.

### 4 TONE Switch

When this switch is pressed when the tone controls are rotated to adjust the sound quality, the indicator lights to indicate that the sound can be adjusted.

When the switch is pressed again, the indicator goes off and the tone circuits are isolated from the signal path and the frequency response is made flat.

### 5 LOUDNESS Switch

As sound volume is decreased, the human ear tends to show reduced sensitivity to high- and low-frequency sounds. At low volume listening levels, these sounds may appear weak and insufficient. When listening at low volume levels, this switch can be depressed to help compensate for such conditions. The indicator will light, and low and high frequency sounds will be boosted to an appropriate level to help maintain the balance of sound.

When the switch is pressed again, the indicator will go out, the loudness circuit will be turned off, and frequency response will return to its normal (flat) levels.

### 6 Sampling Frequency Indicator

When a digital source is selected by the input selector switches and a digital signal is input, this indicator displays the sampling frequency of that signal.

\* This unit detects sampling frequencies (32 kHz, 44.1 kHz, or 48 kHz) automatically and conducts operation accordingly.

### 7 Digital Direct Indicator

This indicator lights when the SOURCE DIRECT OPERATION switch is set to DIGITAL DIRECT.

### 8 Volume Control

Use this knob to adjust the volume level of the sound produced by the speakers and headphones. Turning the knob clockwise increases the volume, and turning counterclockwise decreases the volume. The unit has two volume level scales (one on the front panel and the other around the control knob). The scale to be read depends on the position of the SOURCE DIRECT OPERATION switch as follows.

**OFF or SOURCE:** Read the level from the front panel surface scale indicated by the marking on the VOLUME control knob (e).

**DIGITAL DIRECT:** Read the level from the scale around the control knob indicated by the Digital Direct indicator (d).

### 9 Input Selector Switches

Press one of these switches to select the program source to be listened to. The indicator above the switch lights when the switch is pressed.

#### Digital source selector switches

**DIGITAL-1:** Press this switch when playing the component connected to the DIGITAL INPUT 1 jack.

**DIGITAL-2:** Press this switch when playing the component connected to the DIGITAL INPUT 2 jack.

**DIGITAL-3:** Press this switch when playing the component connected to the DIGITAL INPUT 3 jack.

**DIGITAL-4 (OPTICAL):** Press this switch when playing the component connected to the DIGITAL INPUT 4 (OPTICAL) jack.

#### Analog source selector switches

**PHONO:** Press this switch when playing a record using the analog record player connected to the PHONO jacks.

**TUNER:** Press this switch when listening to a radio broadcast using the tuner connected to the TUNER jacks.

**LINE:** Press this switch when playing the component connected to the LINE jacks.

**CD:** Press this switch when playing a compact disc using the CD player connected to the CD jacks.

#### 10 MM/MC Switch

Set this switch to "MM" or "MC", depending on the output voltage of the cartridge used by the turntable. If the turntable uses a moving magnet (MM) type or other high-output cartridge, set the switch to "MM"; if it uses a moving coil (MC) type or other low-output cartridge, set it to "MC" (or "MC TRANS"\*).

\* Units destined for the European market employ a step-up transformer in their phono-MC circuits. This is why the markings below the MM/MC switch read "MM" and "MC TRANS".

#### 11 REC SELECTOR Switch

Set this to the position which corresponds to the program source to be recorded when making a recording on tape with a component connected to the TAPE/DAT terminals.

**CD:** Press to record the program source from the component connected to the CD jacks.

**TUNER:** When recording a broadcast.

**OFF:** When no recording is to be made.

At this position, the recording circuit is cut off and no electrical effects from the tape deck are felt.

**SOURCE:** When recording the program source selected by an input selector switch.

1 ► 2-3: When recording onto the tape deck or other such component connected to the TAPE/DAT-2 and 3 terminals from the component connected to the TAPE/DAT-1 terminals.

2 ► 1-3: When recording onto the tape deck or other such component connected to the TAPE/DAT-1 and 3 terminals from the component connected to the TAPE/DAT-2 terminals.

\* At any position except "SOURCE" the program source selected by the input selector switch can be heard during the actual recording.

#### 12 PROCESSOR Switch

Press this switch when using a graphic equalizer or sound processor which has been connected to the PROCESSOR terminals. The indicator lights to indicate that the component can now be operated.

\* No sound will be heard unless the indicator is off when the component connected to the PROCESSOR terminals is not being used or if no component has been connected to these terminals.

#### 13 SOURCE DIRECT OPERATION Switch

Use this switch to simplify the internal transmission circuit of this unit for higher-quality reproduction.

**OFF:** The circuit configuration is the same as an ordinary integrated amplifier.

**SOURCE:** The signal path inside the control amplifier is more simplified (i.e., more direct).

\* **DIGITAL DIRECT:** Digital signals from the components connected to the DIGITAL INPUT jacks are converted into analog signals and transmitted to the power amplifier in this unit.

#### 14 MUTING Switch

This switch cuts the volume by 20 dB. Press it when you want to temporarily reduce the volume; the indicator lights and the sound is muted.

When the switch is pressed again, the indicator goes off and the sound regains its former strength. Bear in mind that the volume is increased rather suddenly.

#### 15 Tape Selector Switches

Use these switches when playing a tape deck or DAT deck connected to the TAPE/DAT jacks, or when playing a component selected by the input selector switches. The indicator on top of each switch lights when the switch is pressed.

**SOURCE:** Press this switch to switch the playback signal from the tape deck or DAT deck connected to the TAPE/DAT jacks to the program source component selected by the input selector switches.

**TAPE-1/DAT:** Press this switch when playing the component connected to the TAPE/DAT-1 jacks.

**TAPE-2:** Press this switch when playing the component connected to the TAPE/DAT-2 jacks.

**TAPE-3:** Press this switch when playing the component connected to the TAPE/DAT-3 jack.

\* When the indicator on top of the SOURCE switch is lit, the signal from the component selected by the input selector switches is reproduced. When the indicator is OFF, the signal from the component selected by the TAPE-1/DAT, TAPE-2, or TAPE-3 tape selector switch is reproduced.

#### 16 SUBSONIC Switch

When this switch is pressed, the indicator lights, and low frequencies (16 Hz) outside the audible range are attenuated 12 dB/oct by the subsonic filter. When warped records are played, extra-low-frequency noise is produced, resulting in distortion and poor tonal qualities. This filter helps reduce such distortion.

When the switch is pressed again, the indicator goes off, and the filter function is turned off.

#### 17 BALANCE Control

The volume of the left and right speakers can be adjusted by the BALANCE control. As the control is turned counterclockwise from the center position, the sound from the left speaker becomes louder than that from the right speaker, and vice versa.

Adjust so that the sounds from the left and right speakers are heard with equal volume at your listening position.

#### 18 Tone Controls (BASS, TREBLE)

When the TONE indicator lights, the sound quality can be adjusted using these knobs.

The bass sound is emphasized when the BASS knob is rotated clockwise from its "0" position while it is attenuated when the knob is rotated counterclockwise.

The treble sound is emphasized when the TREBLE knob is rotated clockwise from its "0" position while it is attenuated when the knob is rotated counterclockwise.

\* When the TONE indicator goes off, it means that the frequency response is flat and that the tone controls are not working.

#### 19 PHONES Jack

This is the jack for the headphones. Connect the plug on the stereo headphones for private listening.

Adjust the volume so that it does not hurt your ears when using the headphones.

\* If you do not intend to use your headphones, always ensure that you unplug them.

## 20 SPEAKERS Selector Switch

Use this switch to select the speakers to be used.

**OFF:** Set to this position when the headphones are used and/or when the speakers are not used to reproduce sound.

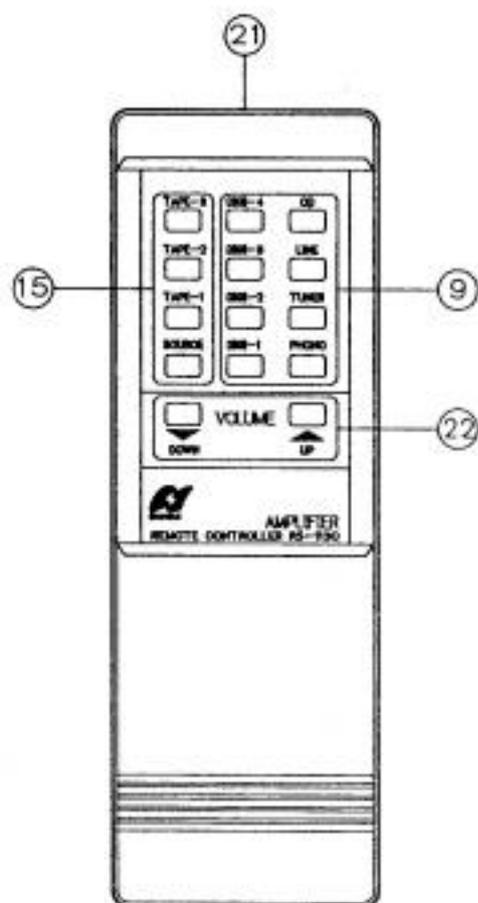
**A:** Set to this position for reproducing sound from the speakers connected to the "A" speaker terminals.

**B:** Set to this position for reproducing sound from the speakers connected to the "B" speaker terminals.

**A+B:** Set to this position for reproducing sound from two sets of speakers connected to the "A" and "B" speaker terminals.

\* When using two sets of speakers simultaneously, the impedance of the speakers should be 8 ohms or more. If speakers with an impedance of less than 8 ohms are used simultaneously, be careful not to set the volume level too high, since this can cause the unit to malfunction.

## Remote Controller: RS-1130



## 21 Infra-red Ray Transmitter

When any of the control keys on the remote controller are pressed, infra-red rays corresponding to the various commands are transmitted from this end of the remote controller.

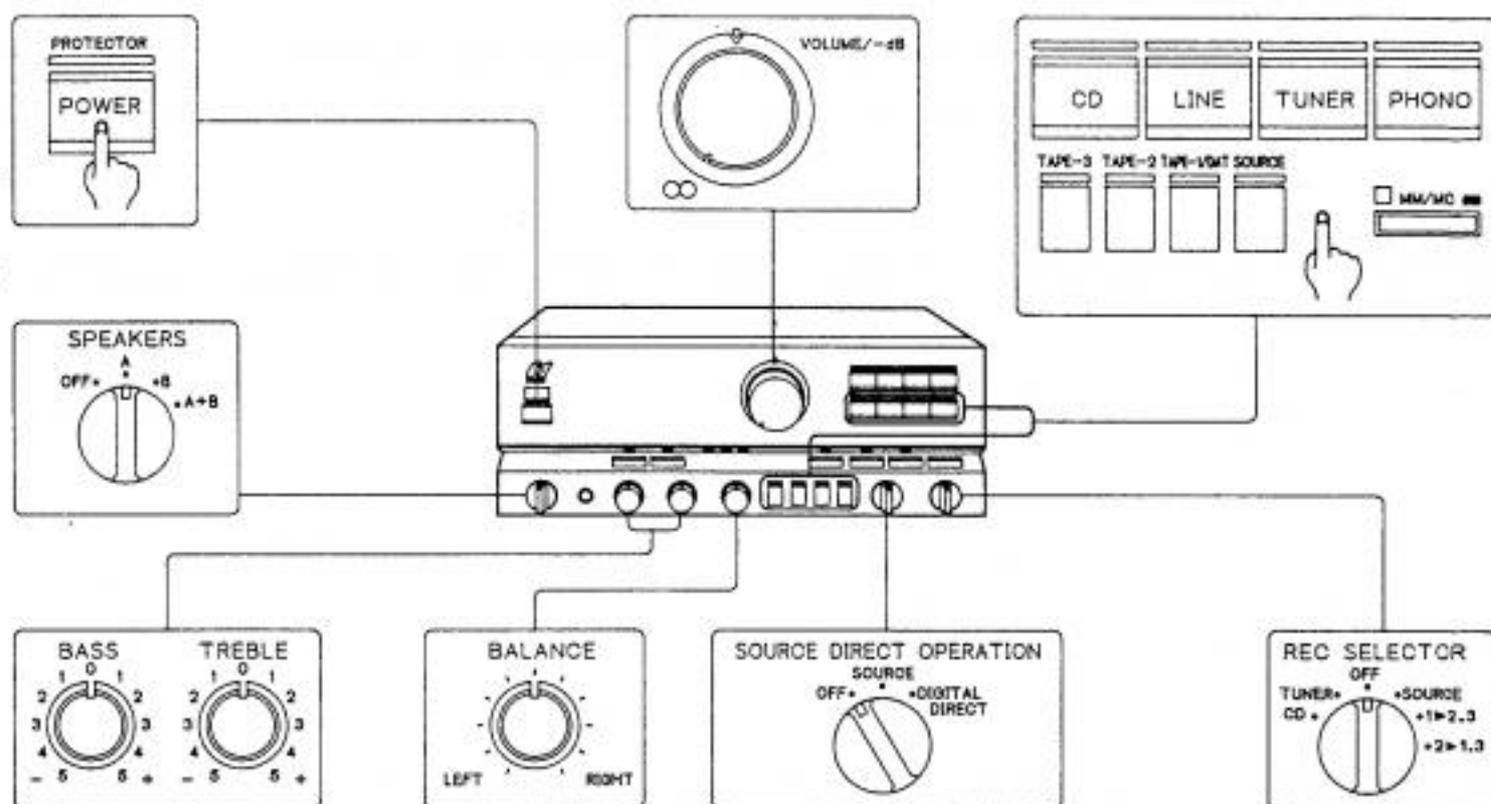
## 22 Volume control

When the ▲UP or ▼DOWN key is pressed, the volume control on the main unit turns and the volume level is varied.

Operation keys 9 and 15 on the remote controller have the same functions as selector switches 9 and 15 on the main unit front panel.

## Operating procedures

### Playing an analog source



#### Note on input selector switches

The input selector switches of this unit use a rotary switch to switch between the inputs\*. Therefore, it sometimes may take a few seconds after a program source has been selected until the sound is actually heard.

\* This operation is carried out by a micro motor which rotates a rotary switch to switch to the selected program source.

#### Before starting operation

Check that the controls have been set to the following positions before commencing operation

- Rotate the VOLUME control counterclockwise as far as it will go and set it at the "∞" minimum volume position.
- Set the BALANCE control to its center position.
- Set the BASS and TREBLE tone controls to the "0" (center) position.
- Set the REC SELECTOR to its "OFF" position.
- Set the PROCESSOR, LOUDNESS, MUTING, SUBSONIC and TONE switches so that their indicators are off.
- Set the SOURCE DIRECT OPERATION switch to OFF.
- Set the SPEAKERS selector switch to A or B according to the terminals where the speakers to be used are connected.

After these checks, press the POWER switch to turn on the power.

The PROTECTOR indicator winks and after several seconds have elapsed it will change to the lighted state and the amplifier will be operational.

#### Playing a program source

1. Press the desired input selector switch or TAPE/DAT switch to select the program source which you wish to listen to.
    - To listen to a record:** Press the PHONO switch, and set the MM/MC switch in accordance with the cartridge of your turntable.
    - To listen to a radio broadcast:** Press the TUNER switch.
    - To listen to a compact disc:** Press the CD switch.
    - To listen to a component connected to LINE terminals:** Press the LINE switch.
    - To listen to a tape:** Press the TAPE-1/DAT, TAPE-2, or TAPE-3 switch according to the jacks where the component to be used is connected.
  2. Operate the program source unit.
  3. Gradually turn the VOLUME control clockwise until the desired volume level is obtained.
  4. Attain a balance between the sound of the left and right channels using the BALANCE control.
  5. To adjust the tone quality, press the TONE switch, and then adjust the BASS and TREBLE controls after the TONE indicator has lighted.
    - When listening under low-volume conditions, press the LOUDNESS switch, the indicator lights and sounds in the low and high ranges will be boosted, thus preserving the balance of sound as it is heard.
    - When badly warped records are played, ultra-low-frequency noise is generated, undesirable vibrations are applied to the low-frequency speakers (woofers) and the sound quality is adversely affected. If the SUBSONIC switch is pressed, the indicator lights and the ultra-low-frequency noise can be suppressed.
- To listen to the playback signal of the component selected by the input selector switches after tape playback is completed, press the SOURCE switch so that the indicator on top of the switch lights up.
  - If you wish to use headphones, insert the plug of the headphones into the PHONES jack, and set the SPEAKERS switch to the OFF position.

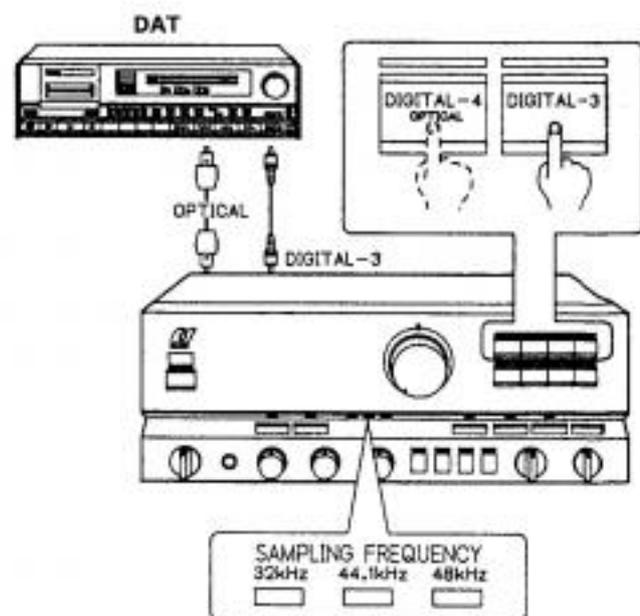
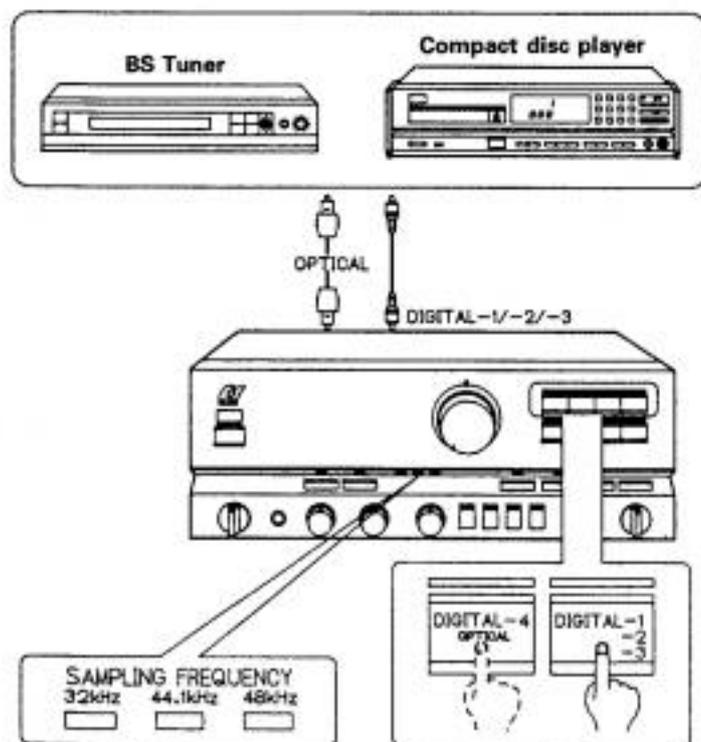
## Playing digital sources

### Caution

If the power to this unit is switched OFF after having played a digital source selected by the input selector switches (DIGITAL-1, -2, -3, -4), the input to this unit will automatically be set to DIGITAL-1 the next time the power is switched ON. Therefore, when playing a digital source using an audio timer, be sure to connect the component to be played to the DIGITAL-1 jack.

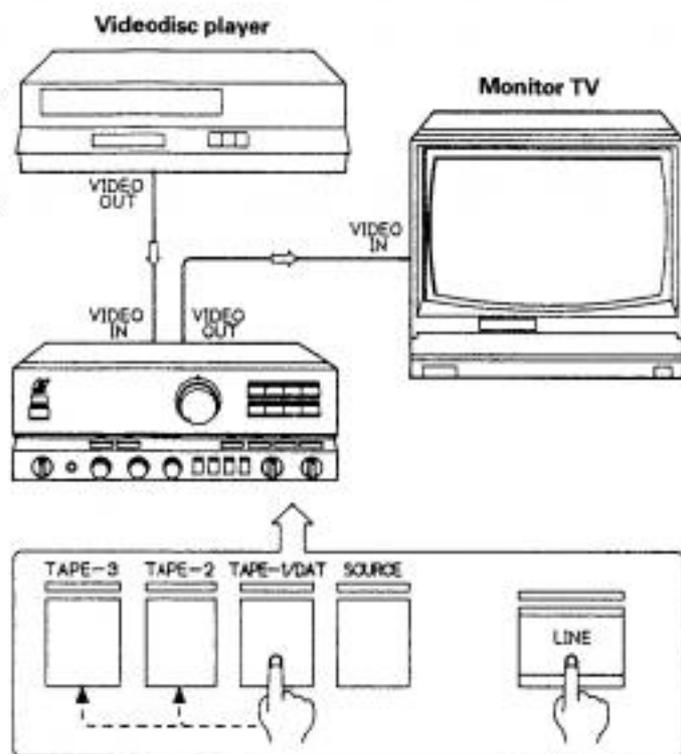
**When a CD player, DAT deck, BS tuner, etc. equipped with a DIGITAL OUTPUT jack is connected to one of the DIGITAL INPUT jacks of this unit:**

1. Press the digital input selector switch (DIGITAL-1, -2, -3) corresponding to the input jack where the desired digital source component is connected.
  - \* If the component is connected via an optical fiber cable, press the DIGITAL-4 (OPTICAL) input selector switch.
2. Play the CD or DAT, or receive the satellite broadcast.
- \* When a digital source is input, the SAMPLING FREQUENCY indicator lights up to display the sampling frequency.
3. Adjust the volume and tone as desired.



## Playback of video sources

A video signal output from a videodisc player or videocassette player connected to the VIDEO IN jack of this unit can be monitored on a monitor TV connected to the VIDEO OUT jack.



The audio signal output from the videodisc player or videocassette player can be reproduced through the speakers by pressing the TAPE-1/DAT, TAPE-2, or TAPE-3 switch or one of the input selector switches (LINE) depending on the jacks to which the video component is connected.

## Tone control

The tone control circuitry is activated when the SOURCE DIRECT OPERATION switch is set to OFF or SOURCE. Sound is sometimes deformed due to the characteristics of the speaker system and/or turntable cartridge, or to the sound absorption/reflection characteristics of the listening room. The tone control allows such changes to be compensated for, and also allows the listener to alter the tone to match his or her individual taste. To adjust the tone, press the TONE switch so that the indicator on top of the switch lights up, and then adjust the BASS and TREBLE controls. Low frequencies can be enhanced by turning the BASS control in the clockwise direction from the center position, and can be attenuated by turning the control in the counterclockwise direction from the center position. High frequencies can be enhanced by turning the TREBLE control in the clockwise direction from the center position, and can be attenuated by turning the control in the counterclockwise direction from the center position.

## Stereo balance

The balance control circuitry is activated when the SOURCE DIRECT OPERATION switch is set to OFF. Stereo balance is affected by factors such as the respective locations of the left and right speakers, differences in speaker efficiency, and the arrangement of furniture in the listening room. If the left and right speakers seem to produce different sound volume levels, or if the sound position seems to be off-center, adjust the stereo balance with the BALANCE control. To adjust the stereo balance, play a monaural program source (e.g., a monaural AM broadcast or a monaural record) at a normal volume level, and adjust the BALANCE control so that the sound is heard from the center between the left and right speakers.

## Tape Recording and Tape Copying (Dubbing)

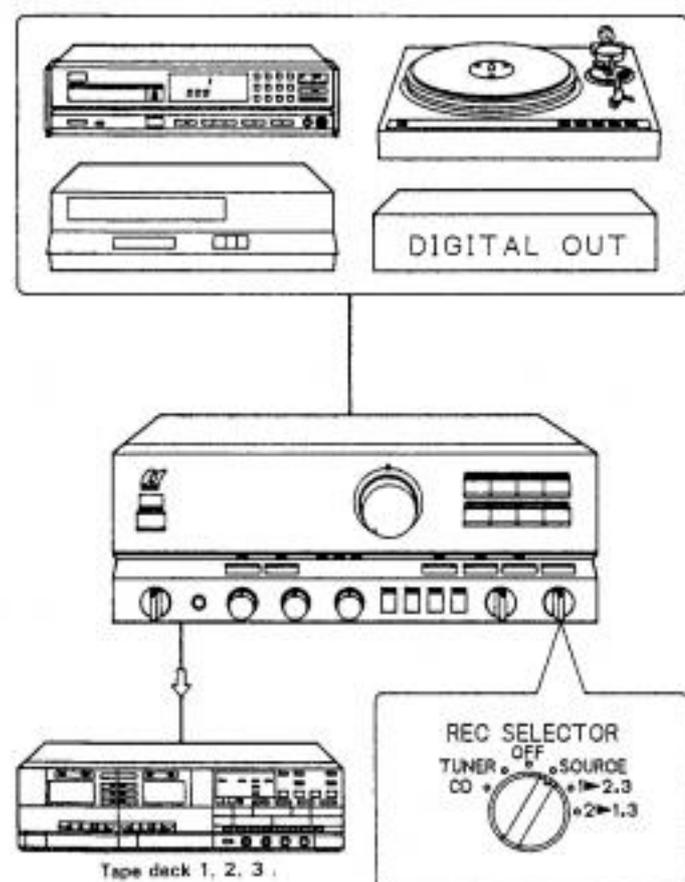
### Recording on a tape

A program source from a component connected to the PHONO, CD, TUNER, or DIGITAL INPUT jacks can be recorded on a cassette tape by a tape deck connected to the REC jacks of the TAPE/DAT jacks.

- When the DIGITAL-3 input selector switch is selected, the REC jacks of the TAPE-1/DAT jacks do not output a signal.

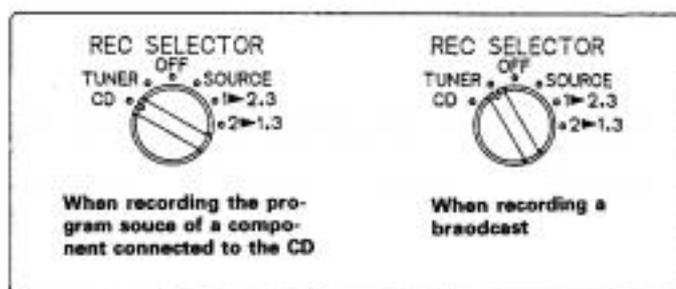
### Recording a program source from a component connected to the PHONO, CD, TUNER, or DIGITAL INPUT jacks

1. Set the REC SELECTOR to the "SOURCE" position.
2. Select the input selector switch which corresponds to the program source (record, CD or LINE) which is to be recorded.
3. Start playing the program source.
4. Operate the tape deck, adjust the recording level and start recording.



### Recording a program source from a component connected to the TUNER or CD jacks

1. Set the REC SELECTOR to the "TUNER" or "CD" position in accordance with the program source to be recorded.
  2. Start playing the program source.
  3. Operate the tape deck, adjust the recording level and start recording.
- A broadcast can also be recorded by setting the REC SELECTOR to the "SOURCE" position and pressing the TUNER input selector.
  - The VOLUME, BLANCE, TONE and other controls have no effect on the recording level or sound quality of the signals being recorded even if they are operated.
  - It is not possible to record signals supplied from the PROCESSOR (RETURN) terminals.

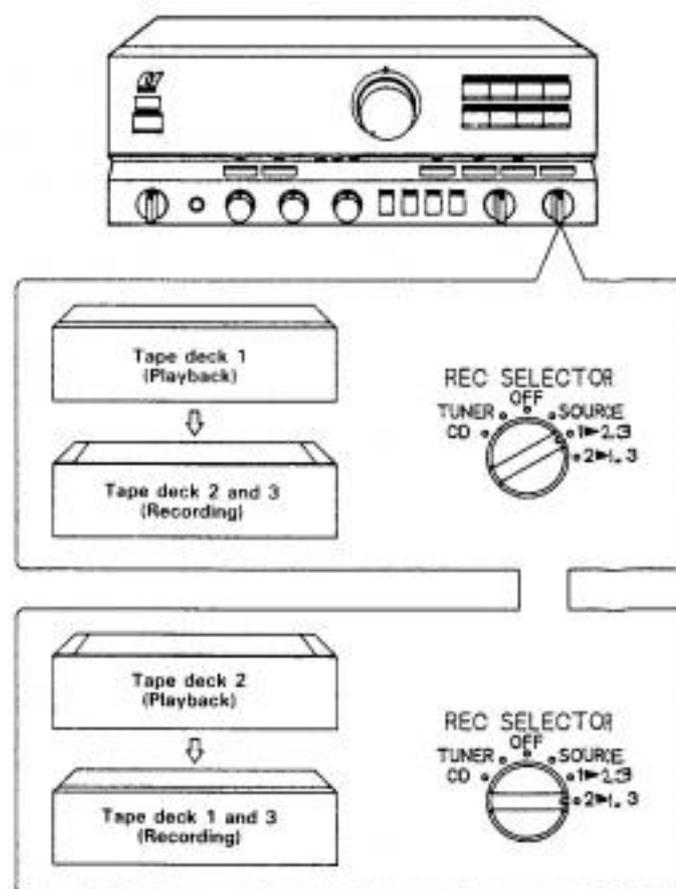


### Dubbing from tape to tape

Two tape decks can be used to dub the contents of a pre-recorded tape onto another tape.

1. Set the REC SELECTOR switch to the "1 ▶ 2-3" or "2 ▶ 1-3" position. Set to "1 ▶ 2-3" when dubbing from tape deck 1 to tape deck 2 and tape deck 3; set to "2 ▶ 1-3" when dubbing from tape deck 2 to tape deck 1 and tape deck 3.
2. Operate the playback and recording tape decks and start recording.
  - This unit's functions do not allow it to copy tapes from tape deck 3 to tape deck 1 and 2.
  - When copying tapes, a program source other than the tape being copied can be selected to be reproduced from the speakers. To do this, select the desired program source with the input selector switches or with the SOURCE DIRECT OPERATION switch.
  - The program source being copied from one tape to another can be reproduced from the speakers by pressing the TAPE-1/DAT, TAPE-2, or TAPE-3 tape selector switch which corresponds to the tape deck in the play mode.

If the recording tape deck has a monitoring function (a 3-head deck in which the recording and playback heads are independent), the sound of the recording can be monitored by pressing the switch corresponding to the recording deck.



## SOURCE DIRECT OPERATION Switch

The signal transmission circuitry inside this unit is divided into three blocks: the accessory circuits (balance control, subsonic filter, muting switch), the control amplifier, and the power amplifier. This switch allows these blocks to be connected or separated, making it possible to simplify the signal path to obtain higher-quality reproduction.

1. Set the SOURCE DIRECT OPERATION switch to OFF, SOURCE, or DIGITAL DIRECT according to the type of component played.

**OFF:** The circuit configuration is the same as an ordinary integrated amplifier.

**SOURCE:** The accessory circuits are removed to simplify the signal path inside the control amplifier.

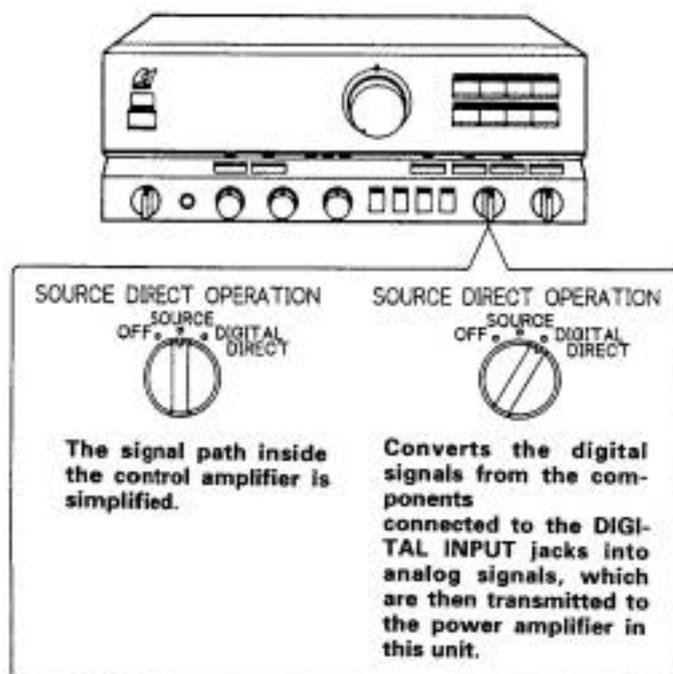
**DIGITAL DIRECT:** The digital signals from the components connected to the DIGITAL INPUT jacks are converted into analog signals and transmitted to the power amplifier in this unit.

2. Start playing the source component.

3. Adjust the volume.

**OFF or SOURCE:** The volume level is indicated by the scale on the front panel surface indicated by the mark on the VOLUME control knob (a).

**DIGITAL DIRECT:** The volume is indicated by the scale around the control knob indicated by the Digital Direct indicator (b).



- Before switching the SOURCE DIRECT OPERATION switch, set the VOLUME control to the fully counterclockwise position marked '∞'.
- When the switch is set to SOURCE, the BALANCE control, SUBSONIC switch, and MUTING switch do not function. When the switch is set to DIGITAL DIRECT, the BALANCE control, SUBSONIC switch, and MUTING switch do not function. When the switch is set to DIGITAL DIRECT, the BALANCE control, TONE control, LOUDNESS switch, MUTING switch, SUBSONIC switch, and PROCESSOR switch do not function.

When the SOURCE DIRECT OPERATION switch position is changed from DIGITAL DIRECT to SOURCE or OFF, the volume level also changes even though the position of the VOLUME control is not changed. This is due to the level difference of different circuit configurations.

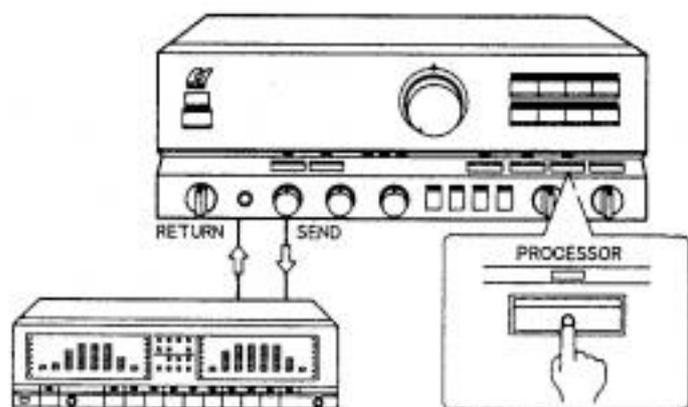
## Protector circuit

In the event the DC component of an electrical signal leaks from a component connected to a DIGITAL INPUT (COAXIAL) jack, the protector circuit is activated (the PROTECTOR indicator blinks) to protect the speakers, and sound is not reproduced. If this occurs, stop using that component.

## PROCESSOR switch

Proceed as follows when using the component (such as a graphic equalizer or sound processor) which has been connected to the PROCESSOR terminals.

1. Set the SOURCE DIRECT OPERATION switch to OFF or SOURCE.
  2. Press the PROCESSOR switch and set the indicator to the lighted state.
  3. Play the program source with this unit and operate the component connected to the PROCESSOR terminals.
- Make sure that the indicator is off when no component has been connected to the PROCESSOR terminals or when the connected component is not being used.



## Caution when switching power OFF

When switching the power of the system components OFF after playback is completed, set the VOLUME control of this unit to the minimum position or switch OFF the power to this unit before switching OFF the power of the other components. If a component connected to this unit is switched OFF first, noise may be generated depending on the component (components equipped with digital outputs).

# Specifications

## Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.005% total harmonic distortion.  
100 watts per channel into 8 ohms.

## DIN

120 watts per channel into 4 ohms.

**Load impedance**..... 4 to 16 ohms

**Intermodulation distortion** (80 Hz: 7 kHz = 4:1 SMPTE method)  
..... less than 0.005% at rated power output

## Frequency response (at 1 watt)

Overall (from CD)..... DC to 200,000 Hz, +0 dB, -3 dB  
RIAA curve deviation (PHONO-MM, 20 Hz to 20 kHz)  
..... +0.2 dB, -0.2 dB

## Input sensitivity and impedance (at 1 kHz)

PHONO (MC)..... 300  $\mu$ V/100 ohms

## European models only

PHONO (MC TRANS)..... 160  $\mu$ V/16 ohms

PHONO (MM)..... 2.5 mV/47 kohms

(Max. input capability: 210 mV at 1 kHz, less than 0.01% total harmonic distortion)

CD, TUNER, LINE..... 150 mV/47 kohms

TAPE/DAT PLAY-1, 2, 3..... 150 mV/47 kohms

PROCESSOR RETURN..... 150 mV/47 kohms

## Output level (1,000 Hz)

TAPE/DAT REC-1, 2, 3..... 150 mV into 47 kohms

PROCESSOR SEND..... 150 mV into 47 kohms

## Signal to noise ratio (short-circuit, A-network)

PHONO (MM)..... 86 dB

CD, TUNER, LINE..... 110 dB

TAPE/DAT PLAY-1, 2, 3..... 110 dB

## Controls and Filter

BASS.....  $\pm$ 6 dB at 50 Hz

TREBLE.....  $\pm$ 6dB at 15 kHz

SUBSONIC..... -3 dB at 16 Hz (12 dB/oct)

MUTING..... -20 dB

LOUDNESS..... +6 dB at 50 Hz

(VOLUME: -30 dB position) +3dB at 10 kHz

## Digital Audio

**Frequency response**..... 4 Hz to 20 kHz,  $\pm$ 0.5 dB

**S/N**..... 100 dB

**Dynamic range**..... 98dB

**Harmonic distortion (1kHz)**..... 0.003%

**Digital input level/impedance**... 0.5Vp-p/75 ohms

**Digital output level/impedance**

..... 0.5Vp-p/75 ohms

**Optical input/output**..... 660 nm (emitted light wave length)

**Power requirements**..... AC 120V/220V/240V,  
50/60 Hz

For U.S.A. & Canada..... AC 120V, 60 Hz

**Power consumption**..... 560 watts 680 VA Rated  
720 watts Maximum

**Dimensions**..... 430 mm (16-15/16") W

163mm (6-7/16") H

450 mm (17-3/4") D

**Weight**..... 18.2 kg (40.1 lbs) net

20.0kg (44.1 lbs) packed

## Accessories

Remote Controller (RS-1130)..... 1

Batteries (SUM-3/AA-size)..... 2

- Design and specifications subject to changes without notice for improvements.
- Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.