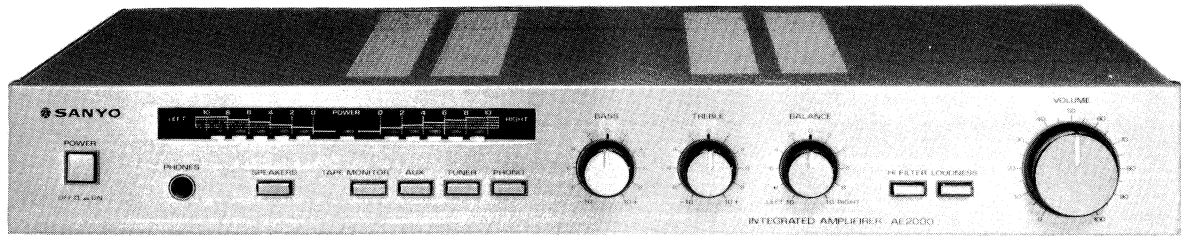




**SANYO**

**AE 2000**

# OPERATING INSTRUCTIONS



# INTEGRATED STEREO AMPLIFIER

## INTRODUCTION

This INTEGRATED STEREO AMPLIFIER was developed and engineered by SANYO to be a source of entertainment and listening pleasure for many years to come.

Before you install and start operating your unit, please read the instructions in this booklet carefully. This will prevent errors in operation and will assure faultless performance of your unit and maximum listening enjoyment.

## SELECTION OF LOCATION

1. Select a well-ventilated place that is not exposed to direct sunlight.
2. Avoid humid or dusty locations.
3. The unit should not be placed near electric appliances that may cause interference, such as motors, strong magnets etc. Location near electric heating systems should also be avoided.

**IMPORTANT:** DO NOT PLACE ANYTHING DIRECTLY ON THE INTEGRATED AMPLIFIER.

After a period of operation at a high power output, the temperature inside the amplifier will rise.

Heat dissipation should not be obstructed, do not place anything directly on the top of the amplifier.

## PREPARATION

1. Unpack the unit.
2. Connect speakers and other components before applying power. Refer to "CONNECTING THE AMPLIFIER" section in this booklet.

3. After completing all connections and installations, make sure that the POWER switch on the control panel of the unit is out (OFF). Then plug the AC power cord into an AC outlet.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.  
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

# CONNECTING THE AMPLIFIER

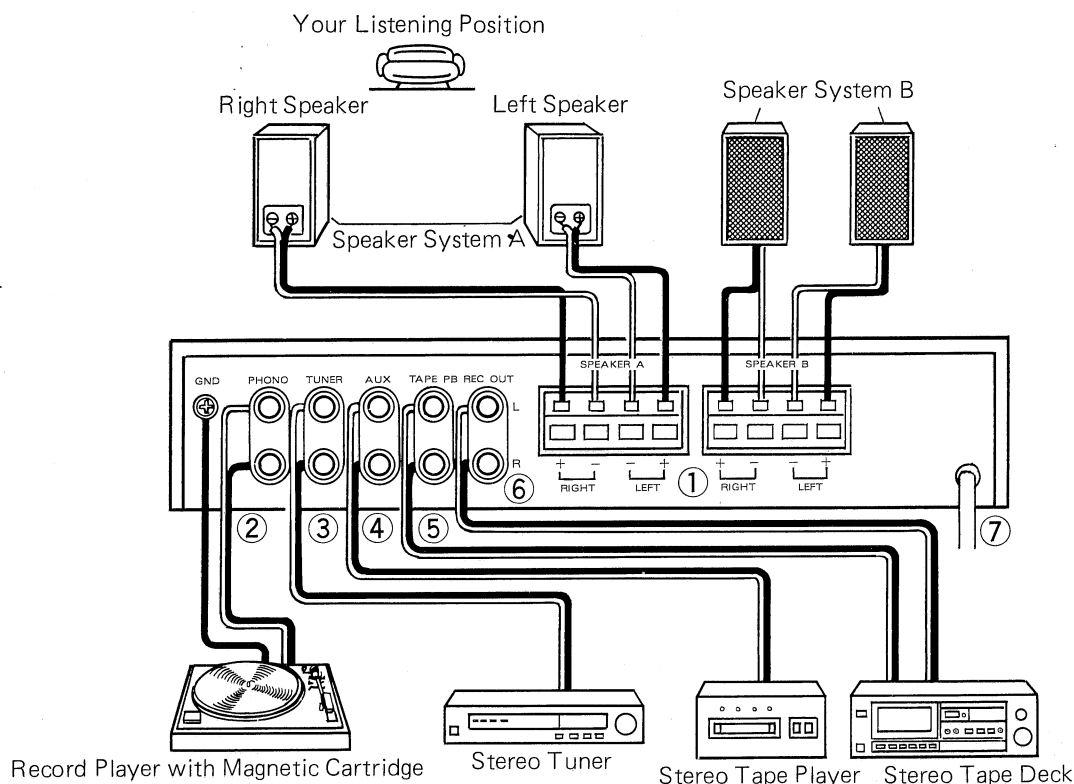


Fig. 1

## ① SPEAKER connections

Two pairs of speakers can be connected to this amplifier. Usually use "SPEAKERS A" terminals for the main speaker system, and "SPEAKER B" terminals for the secondary speaker system.

Connect cables from the left speaker to the speaker terminals marked LEFT, and cables from the right speaker to the terminals marked RIGHT.

Be careful to observe the correct polarity of the speaker connection. The plus terminal of your speaker should be connected to the "+" terminal of the amplifier, as minus to "-".

NOTE:

- Be careful not to cause a short circuit between the speaker terminals.
- The impedance rating of each speaker to be used with this amplifier should be 8 ohms minimum.

## ② Connections for record playback

If you have a record player with magnetic cartridge system, connect signal output cables of a record player to the PHONO jacks of the amplifier. The upper PHONO jack of the amplifier is for the "L" (left) channel and the lower jack is for the "R" (right) channel. Be sure to make correct connections.

The ground wire from a record player should be connected to the GND terminal of the amplifier.

NOTE:

- In some rare cases involving certain types of turntables and cartridges, the use of a ground wire causes a noise problem. Should this be the case, do not make this ground connection.
- There are various types of cartridges for record players. Use only magnetic cartridge system.

## ③ Tuner connections

Connect signal output cables from your tuner to the TUNER input jacks of the amplifier. Be sure to make correct connections, taking note of the "L" (left channel) and "R" (right channel) marks.

## ④ Connections for auxiliary program source

The AUX jacks are spare input terminals for use when connecting an 8-track player, second system tuner, or any other similar device.

## ⑤ Connections for tape playback

For tape playback, connect signal output cables (marked PLAYBACK, P.B., LINE OUT, or the like) from your tape deck to the TAPE PB jacks of the amplifier. Be sure to make correct connections, taking note of the "L" (left channel) and "R" (right channel) marks.

## ⑥ Connections for tape recording

For tape recordings, connect signal input cables (marked RECORD INPUT, REC IN, LINE IN, or the like) from your tape deck to the REC OUT jacks of the amplifier. Be sure to make correct connections, taking note of the "L" (left channel) and "R" (right channel) marks.

## ⑦ AC power connection

After completing all the connections, make sure that the POWER switch on the control panel of the amplifier is in the out (OFF) position. Then plug the AC power cord into an AC outlet.

# CONTROLS ON THE FRONT PANEL

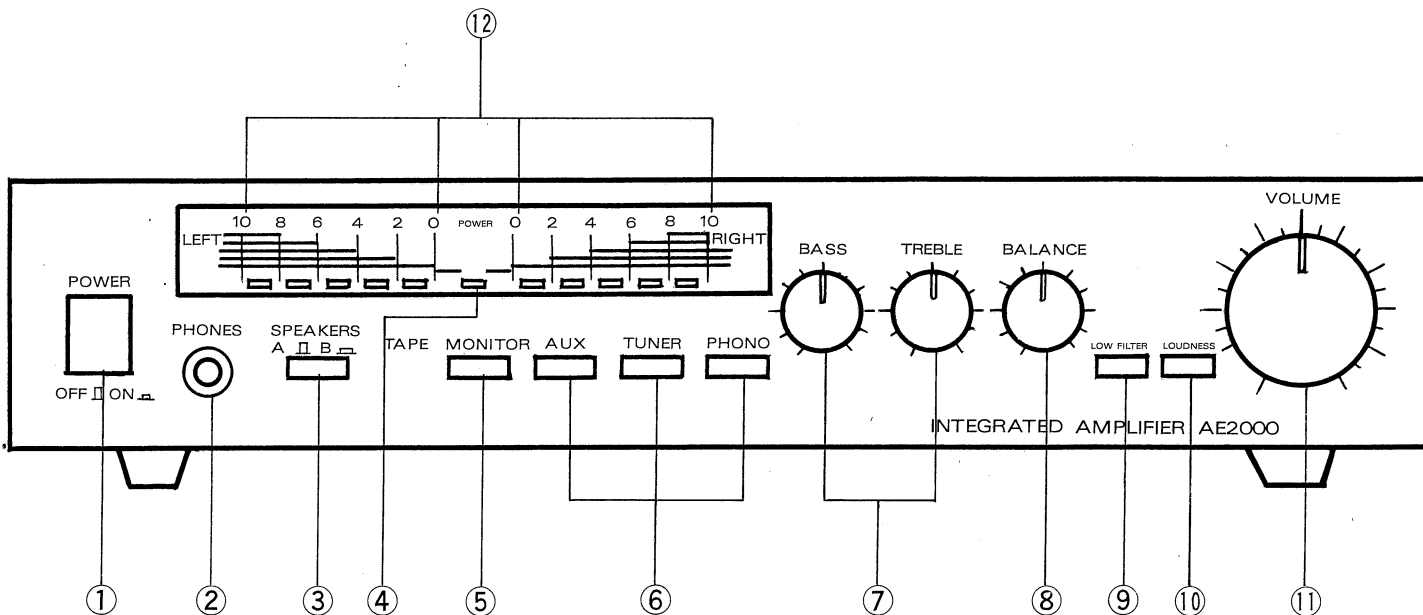


Fig. 2

- ① **POWER switch**  
Set the VOLUME control (11) to "0" before turning on the power.  
Push the switch in to turn the set on. Push in again and release to turn the set off.
- ② **PHONES jack**  
For private listening, insert a pair of stereo headphones.
- ③ **SPEAKER select switch**  
Provided for the selection of speaker systems connected to the SPEAKERS terminals on the rear panel of the amplifier.  
Normally, the switch should be in the out (A) position to produce sound through the main speakers connected to the SPEAKERS A terminals. Push in only to produce sound through the secondary speakers connected to the SPEAKERS B terminals.
- ④ **POWER light**  
Lights when the set is turned on the power.
- ⑤ **TAPE MONITOR switch**  
Push the switch in only when you wish to play back or monitor tapes with the tape deck connected to the TAPE PB and REC OUT jacks.  
Keep this switch in its out position at all other times because it will silence other program sources.
- ⑥ **Function select switches (AUX, TUNER, PHONO)**  
Choose one of the following program sources with these switches.  
AUX . . . . For listening to additional programs from your auxiliary device connected to the AUX jacks on the rear panel.

TUNER . . . For listening to radio programs from your tuner connected to the TUNER jacks on the rear panel.

PHONO . . . For playing records with your record player connected to the PHONO jacks on the rear panel.

- ⑦ **BASS & TREBLE controls**  
Adjust to provide the sound you prefer.
- ⑧ **BALANCE control**  
Keep this control at its mid "0" position unless the volume levels in the left and right channels sound unequal at your listening position. In that case, turn the BALANCE control to left or right to restore balance.
- ⑨ **LOW FILTER switch**  
If feedback or rumble occurs when playing a record, push in the switch to attenuate this noise.  
Normally, this switch should be in the out (released) position.
- ⑩ **LOUDNESS switch**  
Set this switch to the in (depressed) or out (released) position as desired. Setting the switch in will restore tonal body and brilliance at low volume levels.
- ⑪ **VOLUME control**  
Before turning on the power, set this control to the "0" position. At first, adjust it for low listening level.  
After choosing the program source you want, adjust it to the volume level you want.
- ⑫ **Output level display**  
The number of light lit in the display shows relative sound levels.

# **OPERATION**

## **BASIC ADJUSTMENT OF THE AMPLIFIER**

### **POWER:**

Before you turn on the power, always follow these steps to protect your speakers, and prevent possible problems.

1. Set the VOLUME control to the "0" position.
2. Set the TAPE MONITOR switch to the out (release) position.
3. Set the SPEAKERS switch to the "A" position.

Turn on the power after completing the above steps.

### **TONE CONTROLS:**

After choosing the program source you want, adjust the VOLUME, BALANCE, BASS and TREBLE controls for the most pleasant listening level and tonal balance.

You may push in the LOUDNESS switch for greater tonal body and brilliance at low volume level, and LOW FILTER to attenuate rumble noise when playing a record.

## **LISTENING TO RADIO PROGRAMS**

First, make sure that your tuner's signal output cables are connected to the TUNER input jacks on the rear panel of the amplifier.

1. Push in the TUNER function select button.
2. Tune in the desired station with your tuner.  
For use of your tuner, see the instructions supplied with your tuner.

## **LISTENING TO RECORDS**

First, make sure that your record player's signal output cables (with magnetic cartridge system) are connected to the PHONO jacks on the rear panel. If the record player has a ground wire, connect it to the GND terminal.

1. Push in the PHONO function select button.
2. Play a record with your record player.  
For use of your record player, see the instructions supplied with your record player.

## **REPRODUCING SOUND FROM AUXILIARY DEVICE**

First make sure that signal output cables of your auxiliary device are connected to the AUX jacks on the rear panel of the amplifier.

1. Push in the AUX function select button.
2. Operate your auxiliary device.  
For operations, see the instructions supplied with your auxiliary device.

## **TAPE PLAYBACK**

First, make sure that your tape deck's signal output cables (marked PLAYBACK, TAPE PB, LINE OUT or the like) are connected to the TAPE PB jacks on the rear panel of the amplifier.

1. Push in the TAPE MONITOR switch.
2. Set your tape deck to playback mode.  
For use of the tape deck, see the instructions supplied with your tape deck.

### **NOTE:**

Be sure to release the TAPE MONITOR switch after tape playback is completed.

## **TAPE RECORDING**

First, make sure that your tape deck's signal input cables (marked RECORD INPUT, REC IN, LINE IN or the like) are connected to the REC OUT jacks on the rear panel of the amplifier.

1. Select the desired sound source with the TUNER, PHONO, or AUX function select switch. The TAPE MONITOR switch should be in the out (released) position.
2. Tune in a radio station, play a record, or operate auxiliary device.
3. Set your tape deck to the recording mode. See instructions supplied with your tape deck.

### **NOTE:**

Signals to be recorded are kept at a constant level irrespective of VOLUME, BALANCE, BASS, TREBLE, and LOUDNESS control settings. The level of sound being recorded is regulated by the recording level controls of your tape deck.

## **MONITORING SOUND DURING TAPE RECORDING**

When using tape deck with separate record and playback heads (3 heads), monitoring tape during recording is possible.

1. Set the tape deck in monitoring mode.
2. Push in the TAPE MONITOR switch to hear the sound that is being recorded. Release the switch to hear original program source.  
Be sure to release the TAPE MONITOR switch after the recording is over.

## **HEADPHONES**

For private listening to all program sources, you may plug a pair of stereo headphones into the PHONES jack on the control panel.

When a headphone set is plugged in, the speakers are automatically disconnected.

Readjust the VOLUME control for comfortable headphone listening level.

### **NOTE:**

The VOLUME control should be set to the "0" position before plugging or unplugging the headphones. This is necessary to protect your ears and the headphones.

# SPECIFICATIONS

## Output Power

Minimum continuous RMS power per channel from  
30 Hz — 20 kHz with no more than 0.1% total  
harmonic distortion into an 8 ohms load . . . . . 25 Watts  
At 1 kHz with 0.8% T.H.D. . . . . —30 Watts

## Frequency Response

Tuner, Tape, Aux (—1 dB) . . . . . 20 — 40000 Hz  
Phono (deviation from RIAA curve, 30 — 15000 Hz) . . . . . ±0.5 dB

## Input Sensitivity/Impedance

Tuner, Tape, Aux . . . . . 150 mV/47 kohms  
Phono . . . . . 2.5 mV/47 kohms

Overload Level at Phono . . . . . 120 mV

Tape Rec. Output Level . . . . . 150 mV

Bass Control Range at 100 Hz . . . . . ±10 dB

Treble Control Range at 10 kHz . . . . . ±10 dB

## Loudness Contour

at 100 Hz . . . . . +8 dB

at 10 kHz . . . . . +3 dB

Low Filter Response (—6 dB/Oct.) . . . . . 40 Hz

## Signal-to-Noise Ratio (IHF-A Weighted)

Tuner, Tape, Aux . . . . . 90 dB

Phono . . . . . 70 dB

Power Source . . . . . AC 240 V, 50 Hz

Dimensions (approx.) . . . . . Width 440 x Height 64.5 x Depth 250 mm

\* Specifications are subject to change without prior notice.



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