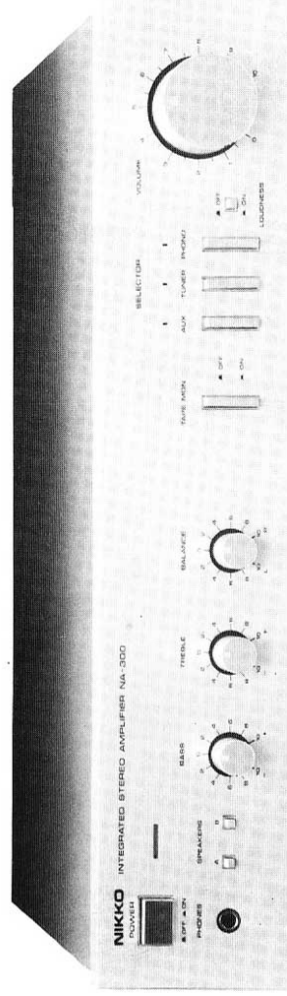


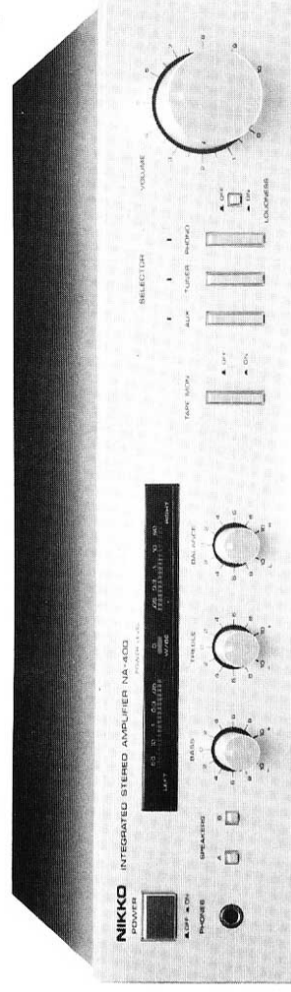
# NA-300 NA-400

INTEGRATED AMPLIFIER

# NIKKO



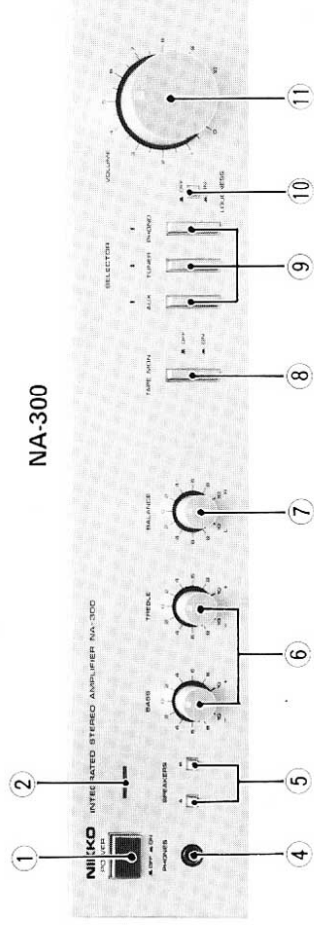
NA-300



NA-400

## INSTRUCTION MANUAL

### NA-300



### NA-400

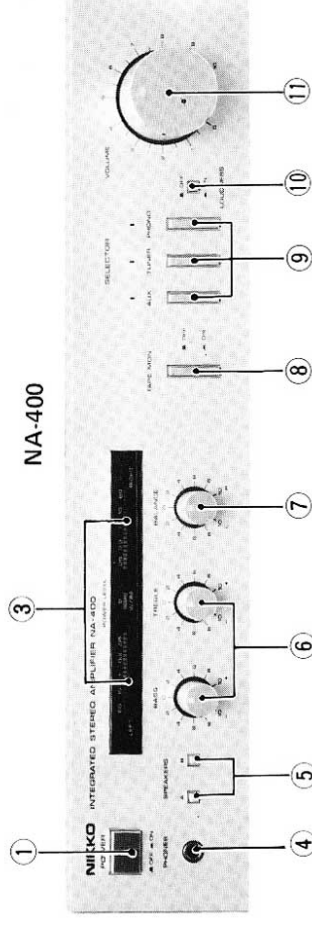


Fig. 1 Abb. 1

- Explanation of function and Operation
- Explication des commandes et fonctions
- Bedienungselemente und ihre Funktion
- Explication de la operation de cada funcion
- Spiegazione delle Funzioni

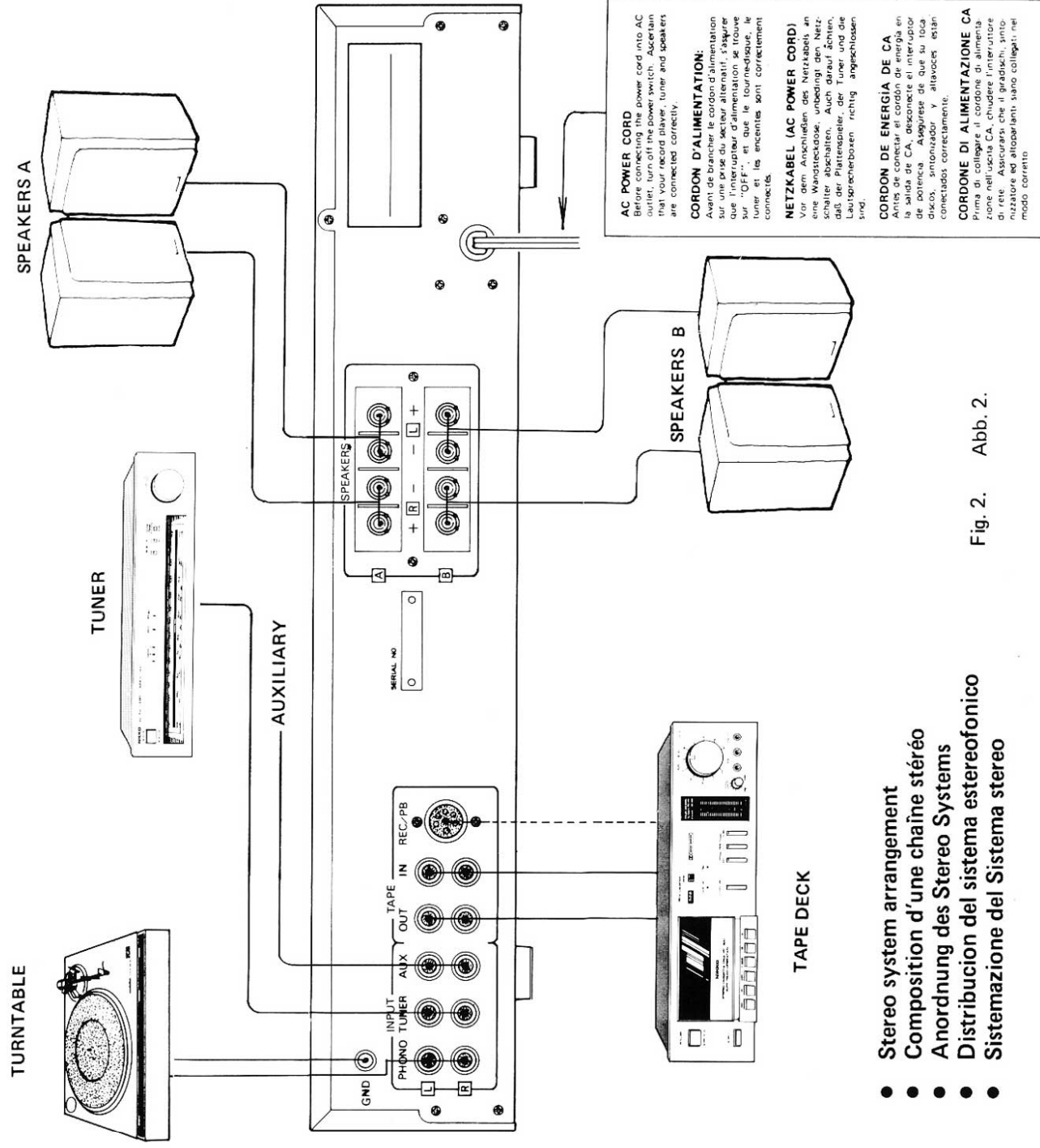


Fig. 2. Abb. 2.

- Stereo system arrangement
- Composition d'une chaîne stéréo
- Anordnung des Stereo Systems
- Distribucion del sistema estereofonico
- Sistemazione del Sistema stereo

## EXPLANATION OF FUNCTIONS AND OPERATIONS (REFER TO PAGE 2)

Name and purpose of controls on the front panel.

### 1. Power Switch

This knob turns the power on and off.

### 2. Power Indicator (NA-300 only)

When the power switch is pressed to the on position, the red lamp is lit up to indicate that the unit is operational.

### 3. Power Level Indicator (NA-400 only)

These LEDs indicate the output power of the right and left channels in watts.

The wattage indicated is equal to the value when 8 ohm speakers are connected to this unit.

### 4. Headphones Jack (see p. 6 )

For connection of stereo headphones.

### 5. Speakers Selector

These speaker switches are used to select operation of the two sets of speakers. That is, the speaker set A, B, or A+B may be operated, or all speakers may be disconnected from the unit so that the headphones are used.

### 6. Tone Controls (see p. 6 )

BASS: Controls the level of the low frequencies

TREBLE: Controls the level of the high frequencies

### 7. Balance Control (see p. 6 )

The balance control can be used to change the relative volume levels between left and right channels.

### 8. Tape Monitor Switch (see p. 5 )

Press the monitor button only when tape playback is desired.

### 9. Input Selector

This switch allows you to select between the signal sources connected to the rear panel input jacks.

PHONO: When you want to listen to a record.

TUNER: When you want to listen to the connected tuner.

AUX: When you want to use the unit connected to these jacks.

### 10. Loudness Switch (see p. 6 )

When you listen at very low level, use this switch to restore the natural tonal balance.

### 11. Volume Control

This knob controls the volume level. Turn it clockwise to increase the volume and counterclockwise to decrease the volume. Be sure to turn the knob all the way to the left before switching on the power. Then raise the volume level gradually to the desired loudness.

## CONNECTIONS AND OPERATION

Do not plug the power cord into an outlet until all connections are completed. Be sure to keep the power switch turned off.

### Speaker Connection And Use

#### ● Connection

To connect a speaker, turn the knob counterclockwise until a clearance is obtained under the knob, and then tighten the knob securely by turning clockwise after wrapping the core wire of the speaker cord onto the screw. It is recommended to twist the core wire of the cord before wrapping.

There are speaker terminals for two systems (A and B) in this unit. Two sets of speakers can be connected simultaneously.

The speaker switches on the front panel allows the selection of system A, system B or both systems A and B.

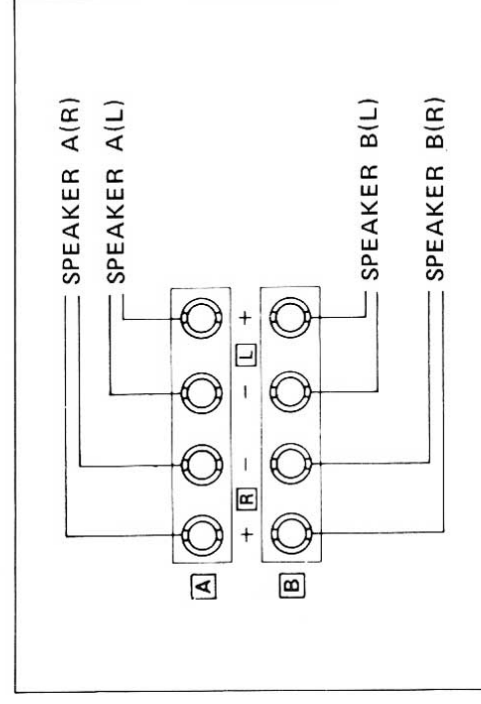


Fig. 3.

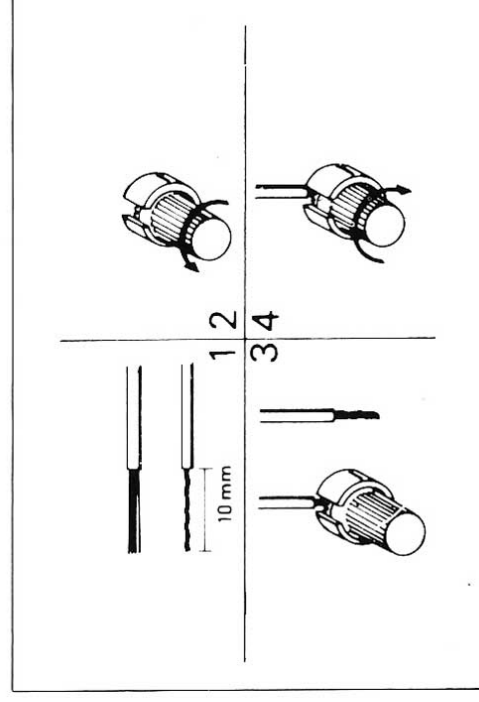


Fig. 4.

#### ● Speaker Cables

To maintain proper damping factor, use the thickest speaker cables available.

(i.e. AC power cord—19AWG preferred)

#### ● Speaker Impedance

You can connect any type of speaker as long as the voice coil impedance is between 4 and 16 ohms.

- **Connection Method**

Complete the connection to the speaker terminals in accordance with Fig. 3 and Fig. 4. (Left and Right channels (L, R) and polarity (+, -) )

- **Precautions During Speaker Connection**

1. Be sure you do not short circuit the (+) and (-) terminals of each speaker.
2. Be sure that all speaker polarity connections are correct.

- **Speaker Location**

In general, it is recommended to install a speaker with its back against a hard wall. This is because hard walls does not absorb low-frequencies which gives bass its characteristics. If the opposite wall is of a hard surface, it may reflect, rather than absorb, these same bass characteristics. Therefore, if the opposite wall from the speaker is hard surface (i.e. Glass Door), it is recommended to provide a thick curtain of buffer of some kind to improve the acoustics in the listening area.

### Tuner Connection And Operation

- **Connection**

Connect the tuner output jacks to the TUNER jacks on the rear panel of this unit.

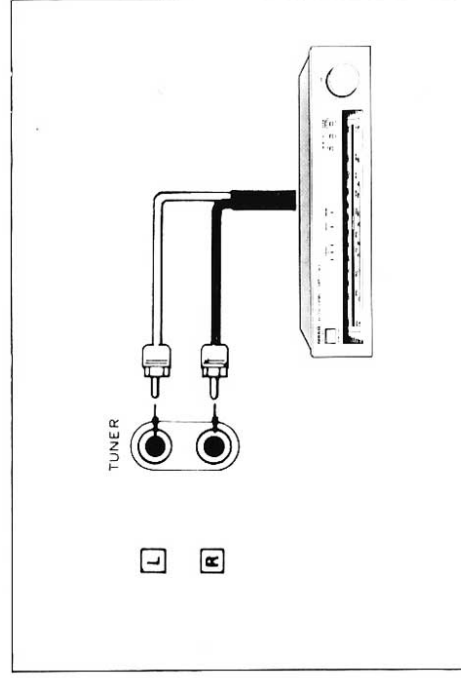


Fig. 5

- **Tuner Listening**

1. Push the Selector switch to Tuner and the Tape Monitor switch to OFF.
2. Switch on the tuner, select the desired station and make all other necessary tuner adjustments, then turn up the amp volume to the desired level.
3. If the tuner has an output level control, adjust it so that the volume level is the same as that for the turntable at the same amplifier Volume control setting.

### Turntable Connection And Record Play

- **Connection and Operation**

Connect your turntable to PHONO terminal of the unit, using pin-plug cords. If your turntable has a ground lead, connect it to the ground (GND) terminal of the unit.

1. Push the Selector switch to PHONO and the Tape Monitor switch to OFF.

2. Operate your turntable and then turn up the amp volume to the desired listening level.

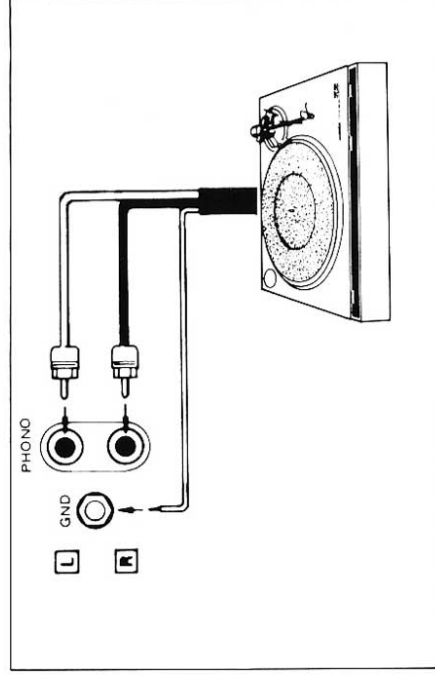


Fig. 6

- **Cartridge**

Magnetic cartridge can be used with this unit using the PHONO input. Ceramic cartridge can be used by using the AUX input. The PHONO input sensitivity is 2.2 mV with an allowable maximum input voltage of 100 mV.

### Tape Deck Connection, Recording And Playback

- **Connections**

Connect the tape deck output (Line Out) jacks to the amp TAPE IN jacks, and the tape deck input (Line IN) jacks to the amp TAPE OUT jacks. Be sure you do not confuse the left and right leads.

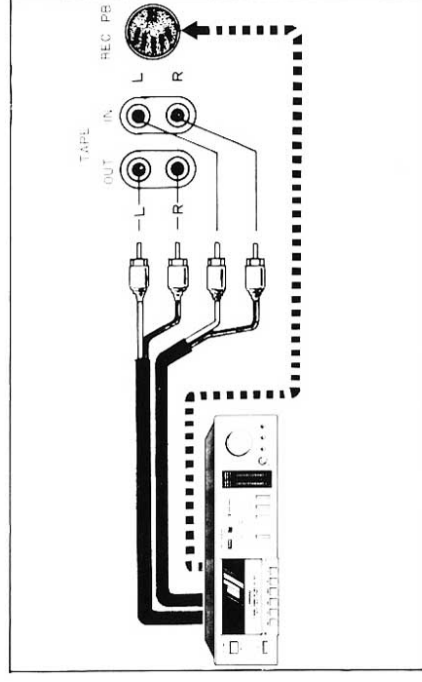


Fig. 7

If your tape deck has a DIN connection feature, it may be connected to the DIN socket instead of connecting to TAPE terminal. This single DIN cord connection enables both recording and playback.

- **Tape Playback**

1. Set the TAPE MON. switch to ON position.  
(The Selector switch setting has no effect in this case.)
2. Operate the tape deck and turn up the amp volume to the desired level.

- **Tape Recording**

When the TAPE MON. switch is OFF, the signal selected by the SELECTOR switch is issued at a constant level as a recording signal from the TAPE OUT terminal.

In this case, recording is not affected even if the VOLUME, TONE CONTROL, LOUDNESS and other controls are operated.

1. Depress the button of the SELECTOR switch to be used for recording, and operate the source and change the tape deck into the recording mode. The program can then be recorded into the tape.

### Connection And Use of Aux Input Jacks

#### For playback only

If a tuner, tape deck or cassette deck is to be used, connect its output jacks to the AUX jacks. These jacks have an input sensitivity of 150 mV and an input impedance of 39 kohms, equal to the TAPE jacks.

Push the selector switch to AUX, the TAPE switch to OFF and adjust the volume.

### Headphones Connection and Use

- **Connection**

Insert the headphones connection plug into the phone jack on the front panel.

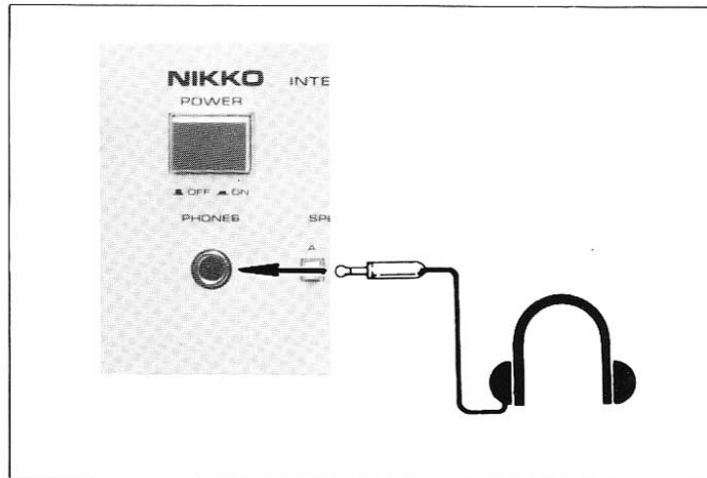


Fig. 8

- **Use**

The signal always comes through the Phone jack regardless of whether the speaker switch is set to the ON or OFF position. When listening through the headphones, turn the speaker switches to the OFF position.

## USE OF ACCESSORY FUNCTIONS

- **Tone Controls**

The tone controls are provided for boosting or cutting the volume at low, and high frequencies. This is especially useful since speakers can be compensated to reproduce all frequencies equally. Also, since listening area varies for each uses, the tone controls can compensate various acoustic environment. The Bass knob controls the level of the low frequencies and the Treble knob controls the level of the high frequencies.

When all the tone controls are in the 12 o'clock position, the tone control is left out of the signal path so it has no effect on the music. When each knob is turned clockwise from the center position, the level in its respective frequency range is increased, when turned counterclockwise from the center, the level is decreased.

- **Balance Control**

The balance between left and right volume levels can be affected by difference in the left and right speakers and arrangement of the furniture in the listening area. Also, some program sources have poor balance between left and right channels. In such a case, the BALANCE knob can be used to provide proper compensation for equal volume levels between left and right channels.

When it is turned counterclockwise, the right channel volume decreases and vice versa. This unit has been factory adjusted so that proper balance can be obtained when the balance knob is set in the 12 o'clock position.

- **Loudness Switch**

Because the sensitivity of the human ear varies with various levels, a loudness switch is provided to compensate for these changes at any volume. When this switch is set to "ON" position, low and high frequencies are emphasized at low volume. However, when the volume is increased to higher listening levels, the effect of the loudness is decreased.

## SPECIFICATIONS

### Power Amplifier Section

Continuous Power Output . . . . . 30 W + 30 W  
Min. RMS power per channel into (T.H.D. 0.1%)  
8 ohms from 20 to 20 kHz at rated  
T.H.D. both channels driven  
  
Both Channels Driven, at 1000 Hz,  
1% Distortion, 4 ohms . . . . . 35 W + 35 W  
  
Intermodulation Distortion . . . . . no more than 0.1%  
  
Total Harmonic Distortion  
At rated power into 8 ohms. . . . . 0.1%  
  
Power Bandwidth, IHF . . . . . 15 Hz to 35 kHz  
  
Damping Factor, at 8 ohms . . . . . 30

### Preamplifier Section

Input Sensitivity/Impedance  
PHONO . . . . . 2.2 mV/47 kohms  
AUX . . . . . 150 mV/39 kohms  
TUNER . . . . . 150 mV/39 kohms  
TAPE . . . . . 150 mV/39 kohms  
  
PHONO Overload Level . . . . . 100 mV

Output Level/Impedance . . . . . 100 mV/2.2 kohms

### Frequency Response

PHONO (RIAA) . . . . .  $\pm 0.5$  dB  
(30 Hz to 15 kHz)  
AUX, TAPE . . . . .  $\pm 1.0$  dB  
(20 Hz to 20 kHz)

### Tone Control

BASS . . . . .  $\pm 10$  dB (70 Hz)  
TREBLE . . . . .  $\pm 10$  dB (10 kHz)

Loudness Control, at  $-30$  dB . . . . .  $\pm 10$  dB (70 Hz)  
+ 5 dB (10 kHz)

### Signal to Noise Ratio, IHF A network

PHONO . . . . . 80 dB  
AUX . . . . . 95 dB  
TUNER . . . . . 95 dB  
TAPE . . . . . 95 dB

### General

Power Requirement . . . . . AC 220/240 V,  
50/60 Hz  
  
Power Consumption . . . . . 100 W  
  
Dimensions  
Width . . . . . 440 mm  
Height . . . . . 96 mm  
Depth . . . . . 285 mm  
  
Weight, without package . . . . . 5.8 kg (12.7 lbs)

\* Specifications and design are subject to change without notice.