# NS-2000

## Natural Sound 3-Way Speaker System

OWNER'S MANUAL

## PRECAUTIONS

- To prevent speaker discoloration or warpage, be careful not to place the speaker in a location where it will be subject to direct sunlight, hot and cold temperature extremes, high humidity, or excessive dust. Select a location with a temperature range of −5 to 40°C (23 to 104° F) and humidity below 90%.
- Because this speaker system employs powerful magnets, be careful not to place a TV, magnetic tape, clock, or other sensitive electronic device nearby.
- Select a location that provides a firm base and protects the speaker from falling or being knocked over. A good foundation will also enhance the speaker's sound.
- Because different amplifiers have different speaker wire connection terminal configurations, be sure to study your amplifier owner's manual before attaching the NS-2000's wires to avoid improper connection.
- When the speaker is driven by an amp with higher output power than the speaker's rated input power, be careful not to exceed the speaker's input power capacity to prevent damage.
- To preserve the beauty of the NS-2000's natural wood cabinetry, do not place plastic mats or containers of liquids directly on the cabinet, and do not bring it into contact with chemicals such as alcohol, benzyne, thinners, or insecticides as spotting and discoloration may occur. To clean, wipe gently with a soft dry cloth.
- When handling or moving the speaker, be careful not to press in on the removable grille material, the edges and diaphragm of the woofer, or the guard screens of the mid-range and tweeter.
- Do not touch or jar the diaphragm and center cap of the woofer or the beryllium domes of the midrange and tweeter. Deformation of the speaker domes will result in sound distortion.

## CONNECTING TO YOUR AMPLIFIER

- **Preparation**

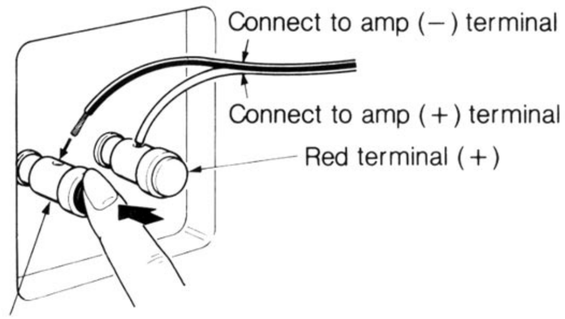
Before connecting the speakers to your amplifier, be sure to turn off the amplifier power switch to prevent damage to the amp or speakers.
The impedance of the NS-2000 is 6 ohms. With solid-state amplifiers, no special attention to impedance is required. When connecting to vacuum tube amplifiers, connect to the 6 ohm terminal. (If there is no 6 ohm terminal, connect to the 4 ohm or 8 ohm terminal).

- **Connection Procedure**

Two push-lock type terminals are located on the back of the speaker. Connect the left speaker to the L terminals on the amplifier and the right speaker to the R terminals, making sure that the + and − speaker terminals are connected to the corresponding terminals on the amplifier (+ = RED and − = BLACK). If the + and − terminals are not properly connected on either channel, proper stereo imaging will be lost and unnatural response will result.
Because speaker wires are not included with the NS-2000, choose speaker wires of the proper length for your layout having at least 30 strands per wire. Use of too small a wire will increase the resistance between the speaker and amplifier causing an undesirable reduction in damping factor, so only high quality, low-impedance speaker wire should be used.
As shown in the diagram, push the terminal button in and insert the bare speaker wire. Release finger and the wire is automatically locked in place.

- **Speaker Grille Attachment**

The speaker grille is attached to the cabinet at four points by plug-type latches for easy attachment and removal.
To remove, grasp both sides of the grille at the bottom and pull out gently. When the bottom is detached, repeat the procedure at the top.
To attach, line the plugs on the grille up with the holes in the cabinet and push in gently.




Black terminal (−)

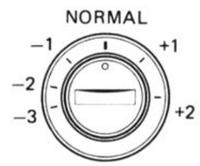
Push terminal in with finger, insert bare wire, release terminal.

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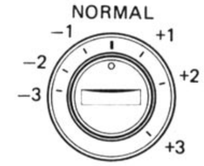
Caution: Do not push on the cloth portion of the grille.

## LEVEL CONTROLS

It is possible to independently adjust the output levels of the mid and high frequency ranges to match the characteristics of your listening room and the program source.
Remove the speaker grille; the level controls are located on the upper left hand side of the cabinet with the high frequency control above the midrange control. When the controls are in the NORMAL position, the frequency response is flat; turn them in the + direction and output level is progressively increased; turn them in the − direction and the output level is decreased. (See Diagram)
To adjust, place all the amp's tone controls and filters in the flat response position and turn the volume control to your usual listening level. Adjust the midrange level first, then the high frequency level.
- When the speaker is operated for long periods at its rated input level, the control knobs may become warm. This is normal and will not affect speaker performance or damage the system in any way.
- The NORMAL position of the level controls provides the flattest overall response as determined tests in anechoic chambers and listening rooms. However, adjustments may be desirable because of your room's acoustic characteristics or personal listening preferences.




High Frequency Level Control Knob




Midrange Level Control Knob

- Level controls are graduated in dB as shown.
- Use a coin for easy adjustment.

## SPECIFICATIONS

- Type..... Fully enclosed bookshelf type
- Speakers.....
  Woofer Carbon diaphragm 33-cm (13 in.) cone (JA3301)
  Midrange Beryllium diaphragm 8.8-cm (3-1/2 in.) dome (JA0802A)
  Tweeter Beryllium diaphragm 3-cm (1-3/16 in.) dome (JA0526A)
- Nominal input power..... 125 W
- Music input power.....250 W
- Impedance.....6 ohms
- Sound pressure level.....90 dB/W/m
- Crossover frequencies.....
  Low—mid 500 Hz (12 dB/oct)
  Mid—high 6 kHz (12 dB/oct)
- Level controls.....
  Mid +3 dB (Continuously variable)
  High +2 dB (Continuously variable)
- Enclosure.....
  Fully enclosed type; Volume = 80 ℓ
- Exterior.....
  American walnut Urethane open pore finish
- Dimensions (W × H × D).....
  440 × 752 × 404 mm
  (17-5/8 × 29-5/8 × 15-7/8 in.)
  (Grille attached)
- Weight..... 47 kg (103 lbs. 6 oz.)

*Specifications subject to change without notice for improvements.
*Care should be taken to avoid exceeding the music input power levels listed above.

SINCE 1887 YAMAHA

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