SPEAKERS
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NS-A100

OWNER'S MANUAL

3-way acoustic suspension speaker system

YAMAHA®

CONGRATULATIONS ON YOUR SELECTION OF THE NS-A100

The NS-A100 represents a new level of refinement in the field of speaker design. Yamaha, as the world's largest manufacturer of musical instruments, appreciates the sound of a live performance. This unique musical heritage is embodied in all Yamaha Natural Sound Systems. Regardless of price range, Yamaha equipment is built to uncompromising standards.

The NS-A100 has a handsome walnut vinyl that complements its superior performance. The removable cloth grille is acoustically transparent, having no discernable effect on the sound. Behind the grille, and all around the enclosure, the finish is executed with care. Yamaha pays attention to the smallest of details.

INSTALLATION

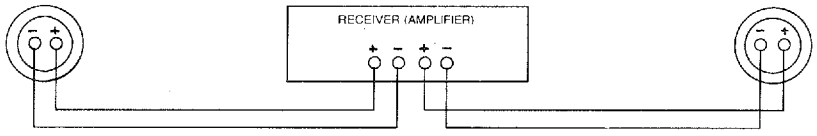
The Amplifier

To assure low distortion on program peaks, the amplifier or receiver should be capable of delivering at least 10 watts (continuous sine-wave power) per channel. The NS-A100 can be used safely with amplifiers rated at up to 100 watts per channel.

Amplifiers rated at higher than 100 watts continuous sine-wave power per channel may be used with care. Program material is not a continuous sine-wave input, and even with a 100 watt amplifier, average levels will remain somewhere between 1/10-watt and 10 watts. If you do use a large amplifier, be careful never to drop a tone arm onto a record, to prevent transients from damaging your speakers.

The Connections

For most installations, standard 2-conductor 18 gauge lamp wire (zip cord) as supplied is fine. Yamaha recommends the use of heavier gauge wire for longer distances: at least 18-ga. up to 25 feet, and 16-ga. up to 100 feet. Longer wire is available from your audio dealer or hardware store. Best results are obtained by connecting the speaker to the terminals of the receiver (or amplifier), making certain that each pair of speakers is "in phase." The easiest way to properly phase the speakers is to connect the black (−) terminal on the rear of the left and right speakers to the amplifier's corresponding ground terminals using the black colored wire. Then connect the red (+) terminals of each speaker to the corresponding terminals of the amplifier using the red colored wire.



SPEAKERS AND AMPLIFIER SHOULD BE CONNECTED "IN PHASE" AS ILLUSTRATED

PLEASE NOTE THE (+) SPEAKER WIRE IS RED AND THE (−) SPEAKER WIRE IS BLACK

Speaker Placement

The NS-A100 is a wide dispersion speaker and it performs well in almost any location. Preferably, the speaker should be placed on a sturdy, vibration-free surface. For stereo listening, the speakers should be placed approximately 6 to 8 feet apart.

Consumer Precautions

1. Damage can occur when a tone arm is accidentally dropped onto a record when the power amplifier volume control is turned up. A very sharp, high power transient sound is created which can damage your speaker system. In order to avoid this, always turn the volume to minimum before "cueing" (raising or lowering the tone arm) a record on your turntable. On some power amplifiers there is a "muting" button which can be used to reduce the maximum available volume instead of rotating the volume control knob. If an Audio Muting control is available, use it while cueing records.
2. Lower the power amplifier volume control (or switch on the Audio Muting) before changing input sources. Never change input sources (for example, FM to Phono) at high listening levels. Always turn the unit off when installing or removing input cables.
3. Anytime you note distortion, reduce the volume control on your power amplifier to a lower setting. Never allow your power amplifier to be driven into "clipping."
4. If you suspect that one channel of your power amplifier has failed, immediately have your equipment checked by a qualified technician. You may end up causing damage to both speaker systems if you wait too long or "switch" the left and right channel speaker systems "to make sure" of the trouble source.

Specifications

Enclosure Type	3-way acoustic suspension constructed of non-resonant walnut vinyl veneered particle board
Dimensions	Height — 33 inches Width — 15 inches Depth — 10 inches
Net Weight	37 pounds
Grille	Acoustically transparent, black grille cloth on a non-resonant frame
Transducers	Woofer — 12 inches, high-compliance foam surround, long-throw type Mid-Range — 4 inch ferro-fluid cone type Tweeter — 3 inch ferro-fluid cone type
Crossover	Type — capacitor Slope 6 dB/octave for woofer and tweeter, 6 dB/octave for mid-range Frequencies — 800 Hz, 5,000 Hz
Frequency Response	50 Hz to 20 kHz (±3.5 dB)
Sensitivity	91 dB/1 watt/1 meter
Suggested Amplifier Power	Minimum, 8 Watts; Maximum, 150 Watts
Impedance	8 ohms, Nominal

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