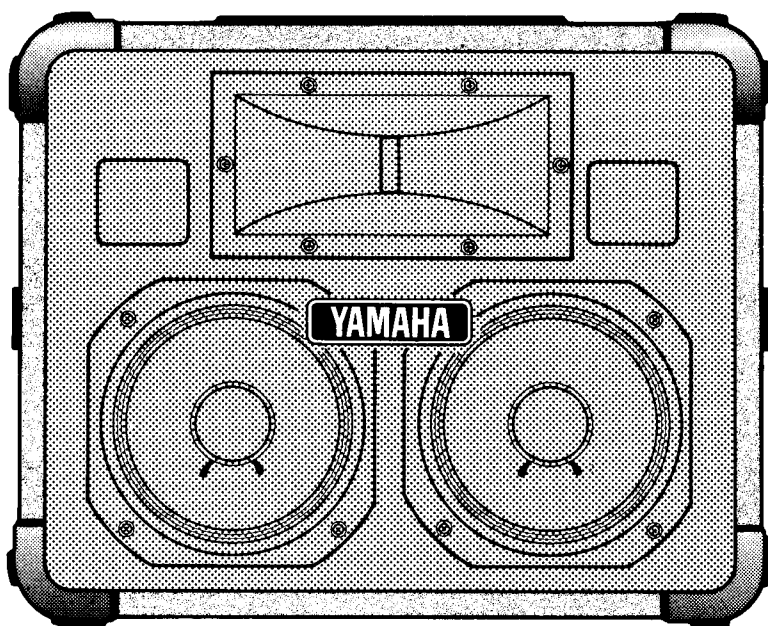

YAMAHA

SPEAKER

SYSTEM

S250X

OPERATING MANUAL



INTRODUCTION

Thank you for purchasing the Yamaha S250X PA Speaker System. The S250X is an extremely high performance, yet compact, lightweight PA speaker system featuring a remarkable 250 watts of continuous power handling capacity and outstanding efficiency with a 97 dB at 1 W/1 m (3.3 ft.) sound pressure level rating. Furthermore, because the S250X is designed to operate without an equalizer of its own, it doesn't require high power amplifica-

tion in order to operate at maximum efficiency as do PA speaker systems with their own equalizers. With just two S250X speakers connected to an EMX powered mixer, for example, you have a complete PA system ideal for small and medium sized PA applications. And because of its outstanding musical response, the S250X is also an excellent speaker system for use as an instrument speaker and as a stage monitor speaker.

DESCRIPTION

The S250X is a 2-way, bass reflex speaker system incorporating a newly developed compression driver and horn tweeter, and 2 carbon-fiber cone woofers mounted in a bass reflex enclosure. These unique Yamaha drivers were chosen to provide the finest possible reproduction accuracy and musical response, and the entire system has been designed and constructed with uncompromised reproduction quality in mind. The enclosure is constructed with douglasfir, and the baffle is formed of high-

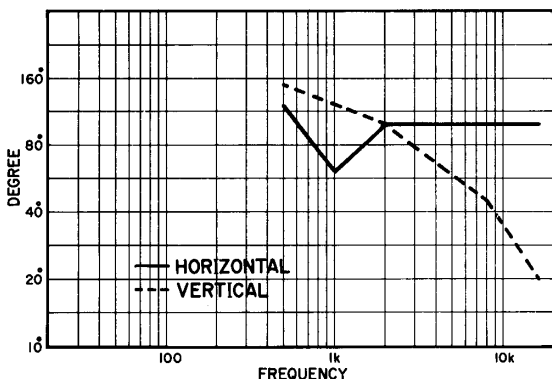
density particle board for durability and exceptionally well-balanced sound. In addition, internal parts and electronics have been carefully selected to ensure the finest possible overall performance. The S250X can be stacked, wall mounted, hung from a ceiling, angled for monitor use, or stand-mounted. Lightweight and compact, it offers easy portability, and the S250X enclosure is water-resistant, making it a perfect speaker system for heavy on-the-road and outdoor use.

PERFORMANCE CHARACTERISTICS

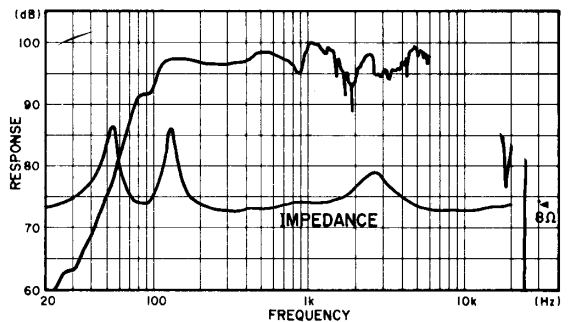
The compression driver and horn combination features outstanding mid and high-range definition. The horn element in particular has been especially developed to meet the needs of any sound reinforcement applications, and covers an impressively wide area without the need for additional horn elements. The S250X tweeter unit provides not only fine axial response, but excellent horizontal directionality and wide dispersion as well. The superb midrange clarity and clean projection char-

acteristics of the S250X make it particularly appropriate for vocals. The unique carbon-fiber cone woofers provide clean, full, low-range response, and delivers surprisingly crisp sound with percussion instruments in particular. The high-energy response of the S250X can't easily be found in other speaker systems this size and price. The carbon-fiber cone material itself is also water-resistant, for added protection against exposure to moisture during outdoor use.

Beam Width vs Frequency



Frequency Response/Impedance Characteristics



CONNECTING THE SPEAKERS

On the rear panel of the S250X are two standard 1/4" phone jacks connected in parallel. This is to facilitate patching pairs of speakers together with the cable of your choice. Do not use microphone or electric instrument cable for connecting speakers; only non-sealed 18-gauge wire or heavier

should be used. For long runs (over 25 ft. or 7.6 m), 16-gauge or larger diameter wire should be used, and make sure that the total impedance of the wire used is less than 1/2 ohm for 1 speaker (less than 1/4 ohms for two speakers). The table below provides a handy guideline.

RECOMMENDED WIRE LENGTHS

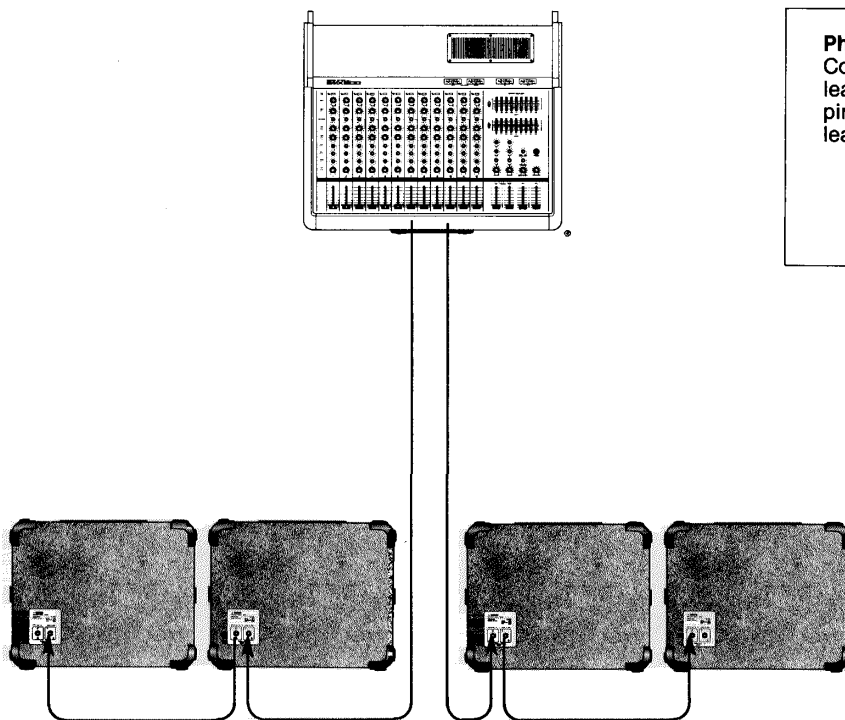
Wire Gauge	1 Speaker	2 Speakers
18	40 ft. (12 m)	20 ft. (6 m)
16	60 ft. (18 m)	30 ft. (9 m)
14	100 ft. (30.5 m)	50 ft. (15.3 m)
12	160 ft. (48.8 m)	80 ft. (24.4 m)

Make sure that all speaker cables are wired alike to ensure correct phasing of your speaker system. The positive terminal of the amplifier should be

connected to the center contact of the phone jack, and the negative terminal should be connected to the phone jack sleeve. Be sure to use only high-quality phone plugs, and check the cables for possible short circuits before each use.

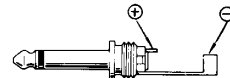
It is also possible to provide the S250X with XLR-type connectors for speaker connection. Please consult your Yamaha dealer for details concerning such information.

Two pairs of S250X speakers connected in parallel and to an EMX300 mixer.

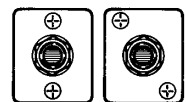


Phone Plug Cable

Connect the positive terminal lead to the phone jack center pin, and the negative terminal lead to the phone jack sleeve.



Connect to either Input 1 or 2 on the input panel.



1 PARALLEL 2

INPUT



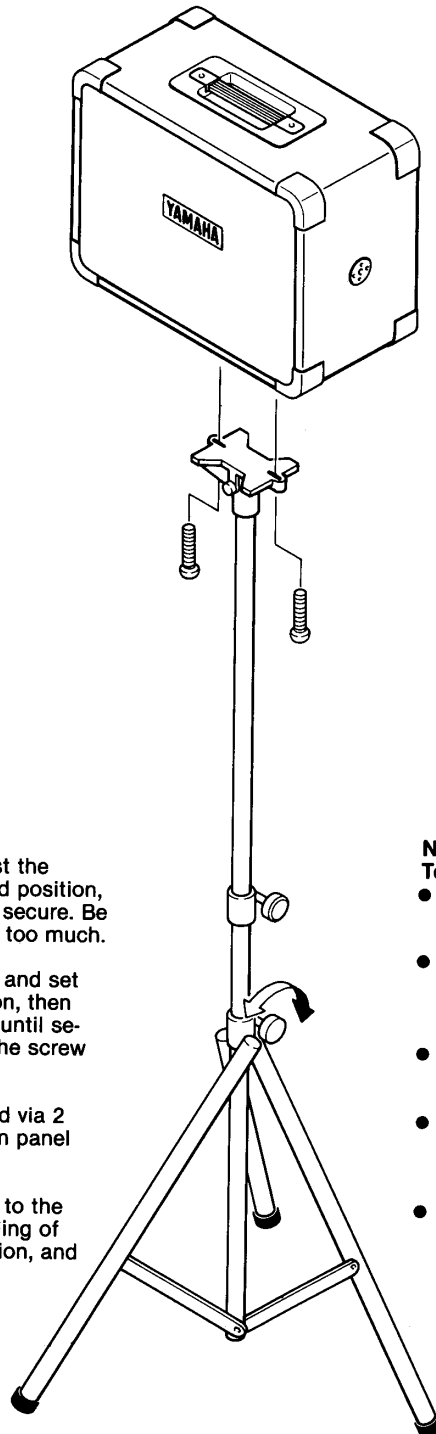
Note: Standard power amps are designed for stable operation with either a 4 ohm or 8 ohm impedance. Unless you are using a power amp designed for stable operation with less than a 4 ohm impedance load, do not connect more than two S250X speakers in parallel.

CONNECTING A SPEAKER STAND

A standard speaker stand can be used with the S250X, and connections are made as shown in the following diagram. On the underside of the speaker enclosure are two screw sockets which receive the connecting screws provided with the speaker stand.

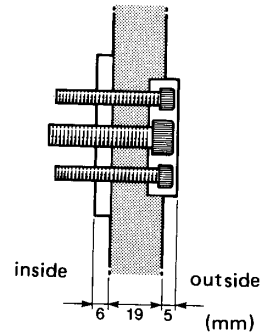
MOUNTING THE SPEAKERS ON A WALL

The S250X can be wall mounted or hung from a ceiling if desired. For these purposes, there is a receptacle provided on either side of the enclosure to receive mounting adaptors for wall or ceiling mounting.



Mounting Bracket Receptacle

The mounting bracket receptacle on both sides of the speaker cabinet is designed to fully support the S250X (weight 19.2 kg). The metal bracket receptacles are made of sturdy metal, and accept a mounting bracket via 5 fixed bolts.



Use the supplied Allen wrenches for making screw adjustments. Two wrenches are supplied, one for each screw size.

Connecting the TS-30 Stand

- 1 Loosen the leg screw and adjust the spread of the legs to the desired position, then tighten the leg screw until secure. Be careful not to tighten the screw too much.
- 2 Loosen the height adjust screw and set the height to the desired position, then tighten the height adjust screw until secure. Be careful not to tighten the screw too much.
- 3 The speaker is fixed to the stand via 2 screw receptacles on the bottom panel of the speaker.
- 4 Loosen the 2 screws connected to the bottom of the panel, adjust angling of the speaker to the desired position, and tighten the screws until secure.

Notes on Use of Speaker Stand

To prevent the speakers from falling:

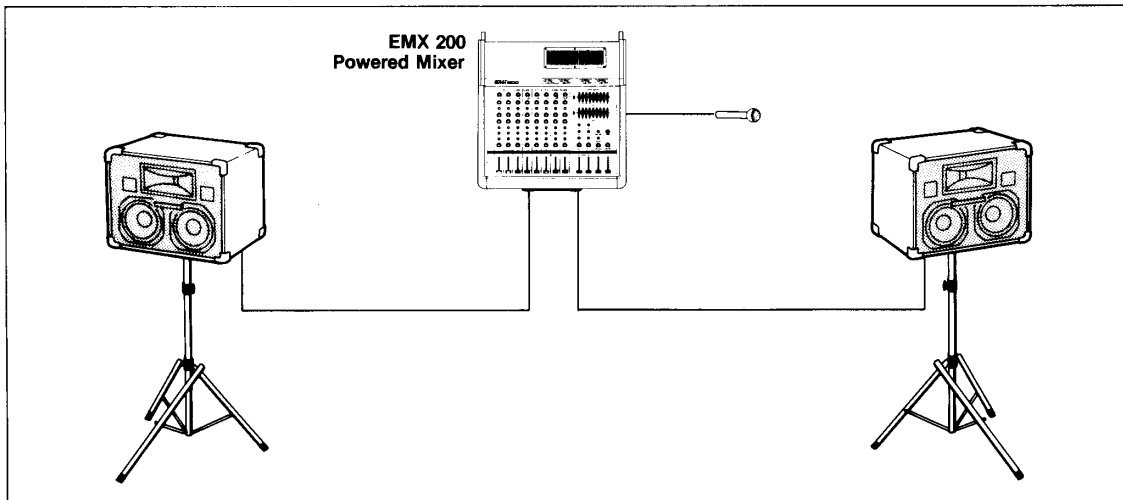
- Be sure the screws holding the speaker are fastened securely.
- When you move the speaker or adjust the height of the stand, disconnect the speaker from the stand first.
- Avoiding placing the speaker stand in places where it is unstable or easy to trip over.
- This speaker stand is made to support only one speaker. Do not stack two speakers together on one stand.
- Be sure installation is properly made to prevent the speaker from falling.

SPEAKER PLACEMENT

Stand mounting facilitates setup in many applications. The extra height makes it possible to achieve maximum coverage, and raises the speaker above

the floor for maximum reproduction quality. This type of setup is ideal for applications.

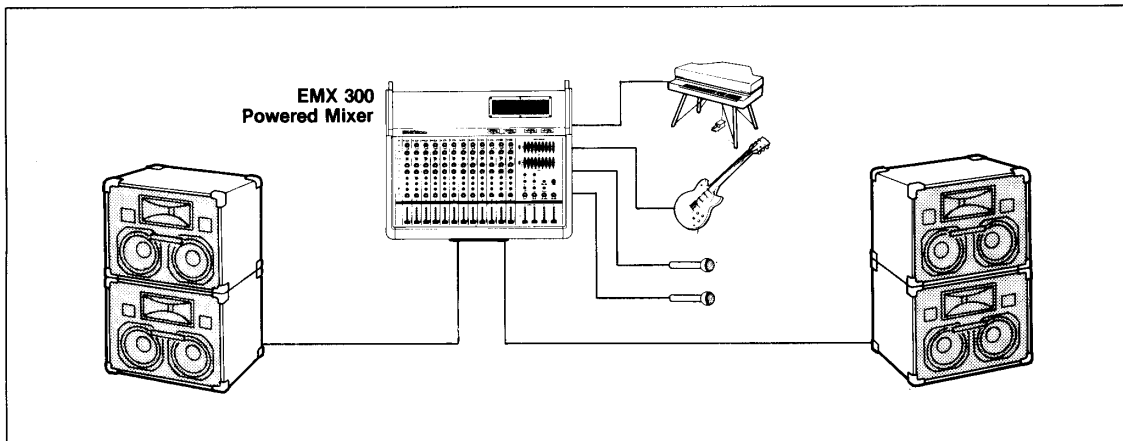
S250X speaker systems when stand mounted provide optimum stage coverage for many PA applications.



Two S250X speaker systems can be stacked together to provide extra sound pressure and added projection for PA applications. We recommend that you stack no more than two speakers together

in a column. Corner protectors are attached to each of the eight outer corners of the S250X to prevent slipping when speakers are stacked, and to prevent damage to the surface of the enclosure.

Two S250X speaker systems can be stacked together for added projection.



The S250X speaker system makes an excellent stage monitor speaker as well. Its wide, even dispersion and broad frequency response provide more than adequate stage coverage, with good feedback resistance. The speaker can be angled for either a short-throw or long-throw monitor with the use of angle-setting adaptors that connect to the adaptor receptacles on both sides of the cabinet.

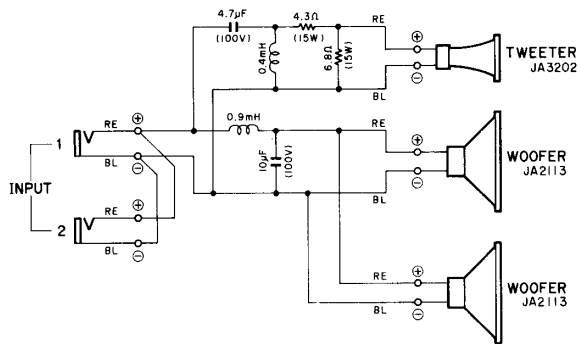
The S250X speaker system also serves as an ideal instrument speaker or vocal monitor speaker. For such applications, a pair of S250X speakers may be placed directly on the floor near the musician.

SPECIFICATIONS

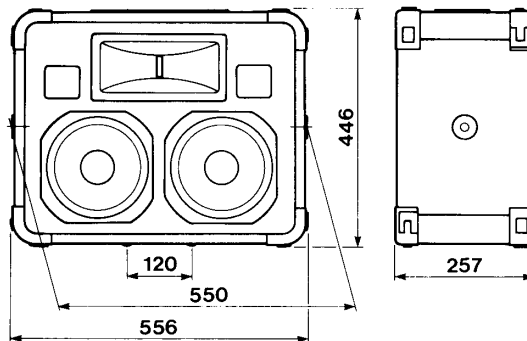
Speaker Units	
Woofers:	20 cm (8") carbon-fiber Cone Woofer JA2113 (16 Ω) × 2
Tweeter:	Compression driver + horn JA3202 (8 Ω)
Enclosure:	34 ℓ Bass Reflex Type
System Impedance:	8 ohms nominal
Rated Input:	Program 250 W Max. 500 W
Frequency Response:	65 Hz to 17 kHz
Sound Pressure Level:	97 dB 1 W, 1 m (3.3 ft.)
Crossover Frequency:	2.5 kHz
Inputs:	1/4" phone jack × 2
Dimensions (W × H × D):	556 × 446 × 257 mm (21-7/8" × 17-1/2" × 10")
Weight:	19.2 kg (42.3 lbs)

Specifications subject to change without notice.

DIAGRAM



DIMENSIONS



SERVICE

The S250X is supported by Yamaha's worldwide network of factory trained and qualified dealer service personnel. In the event of a problem, contact your nearest Yamaha dealer.