

POWERED SUBWOOFER

DXS18
DXS15 mkII
DXS12 mkII

Owner’s Manual

- The DXS18 is mainly used for the explanations in this manual.
- The illustrations as shown in this manual are for instructional purposes only.
- The company names and product names used in this manual are the trademarks or registered trademarks of their respective companies.

Introduction

Thank you very much for purchasing the DXS Powered Subwoofer. The DXS is a powered subwoofer used for sound reinforcement and temporary installations. This owner’s manual explains how to set up and use the subwoofer in live venues and temporary PA installations to enhance low-end sound. Be sure to read this manual before using this subwoofer, in order to make sufficient use of the many functions that this product offers. Also, be sure to keep this manual after you are finished reading it.

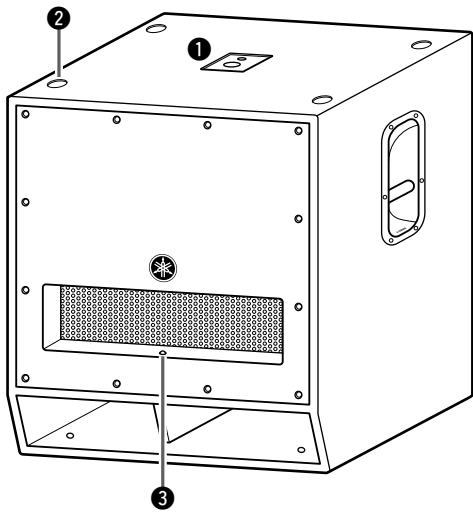
Included accessories

- AC power cord
- Owner’s manual (this leaflet)
- Technical Specifications

Optional accessories

- Speaker cover: SPCVR-18S01 (for DXS18), SPCVR-DXS152 (for DXS15mkII), SPCVR-DXS122 (for DXS12mkII)
- Wheels: SPW-1; 4 pieces

Controls and functions



1 Pole sockets

Adapts to commercially available speaker poles of 35 mm diameter and M20 screws. For details on installing speaker poles, refer to “Installing a Speaker Pole.”

2 Feet cups

When stacking multiple DXS units, align the rubber feet of the upper DXS unit to the feet cups of the lower.



CAUTION
Do not stack more than two DXS units.

3 Front LED

Turns on when the power is on. Lights more brightly when the output limiter is active. Using FRONT LED DISABLE switch (16) allows you to defeat the front LED altogether.

4 Wheel mounting holes

Optional SPW-1 wheels can be installed at these locations. For details on installing the wheels or special precautions you should take, please refer to the relevant manual for the wheels.

5 AC IN inlet (V-Lock)

Connect the AC power cord included with the unit. The AC power cord includes a locking mechanism with a latch. First connect the DXS to the AC power cord, and then connect the power cord to the AC outlet. When removing the cord, push the latch while pulling the cord out.



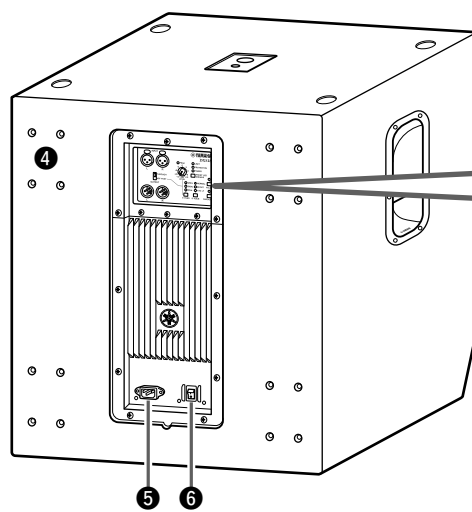
CAUTION
Turn off the power before you connect or disconnect the power cord.

6 Power switch

Turns the power to the unit on (I) or off (O). If you are using multiple units, turn on the power to each unit one by one. If you turn on the power to multiple units simultaneously, a temporary drop in the power voltage may occur, possibly resulting in abnormal operation of the units. Also, rapidly turning the unit on and off in succession can cause it to malfunction. After turning the unit off, wait for about 5 seconds before turning it on again.



CAUTION
A slight electrical current will flow even when the power switch is turned off. Make sure to unplug the power cord from the power outlet when not using the speaker for an extended period of time.



7 INPUT jacks

These are balanced input XLR jacks (line-level), and this device outputs the mixed signals of L and R.

8 OUTPUT jacks

These are balanced output XLR jacks for connecting full-range speakers or additional DXS units. The output signal can be switched via the THROUGH/HPF POST switch (9). L/R output from the OUTPUT jacks correspond to L/R input to the INPUT jacks. The mixed signal of L/R is not output.

9 THROUGH/HPF POST switch

Switches the signals output from the OUTPUT jacks (8).



CAUTION
Make sure to lower the input level when switching.

- **THROUGH:** Outputs unaffected signals from INPUT jacks (7). Select when using HPF of the connected speaker or connecting additional DXS units.
- **HPF POST:** Outputs signal input from INPUT jacks (7) after passing through a HPF. The cutoff frequency of the high pass filter is the frequency specified with the X-OVER switch (12). Because the output level from the OUTPUT jacks is linked to the LEVEL control (11), the levels of this unit and the full-range speaker change simultaneously.

10 PEAK indicator

Lights red when the input level reaches 3 dB below clipping. If the indicator lights frequently, adjust the volume of the input source or lower the LEVEL control (11) so that the indicator flashes only briefly at the highest input levels.

11 LEVEL control

Adjusts the output level.

12 X-OVER switch

Specifies the crossover frequency at 120 Hz, 100 Hz, or 80 Hz. The output from the unit is processed through a low pass filter to cut the range of the selected frequency or higher. When setting THROUGH/HPF POST switch (9) to [HPF POST], the output signals from the OUTPUT jacks are processed through a high pass filter to cut the range of the selected frequency or lower, and the crossover frequency is linked to that of the connected speaker.

Features

• High power, high sound pressure, superior low-end playback capabilities

Adopting a bandpass type enclosure for high sound pressure. The DXS features a high-resistance input, low distortion woofer and a 1,020 W power amplifier to achieve superior low-end playback capability and high sound pressure.

• Flexible features

- **D-XSUB:** D-XSUB is a DSP technology that gives users additional dynamic control of the frequency range to meet the demands of a variety of applications or musical styles.
- **Selectable X-OVER (80/100/120 Hz):** Selecting the cut-off frequency and LPF/HPF settings offers users more flexibility to adapt to various applications.
- **Cardioid mode:** The Cardioid mode setting adds additional control of low frequencies for sub-woofer arrays of two or more DXS speakers, effectively reducing the SPL of bass directed towards the stage while increasing the bass levels directed towards the audience.

• Reliability

A high-performance DSP control protects the speaker and amplifier. The DXS can be used worry-free, even under harsh operating conditions.

• Durability

The DXS’s sturdy plywood cabinet is covered with an extremely durable polyurea finish that provides added protection from outside elements.

• Fast and easy setup

M20 and Ø35 mm dual pole sockets allow for more flexible set up, while optional casters are also available for improved portability.

Basic Setup

Input the output signal from a source, such as a mixer, to the INPUT jack of the DXS, and input the output signal from the OUTPUT jack of the DXS to the input jack of a full-range speaker.

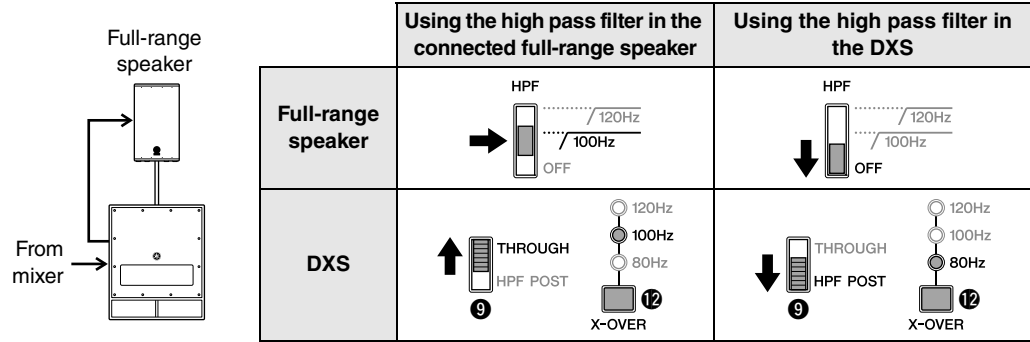
• X-OVER switch (12)

It is recommended that you match the crossover frequency (the cutoff frequency of the low pass filter) of the DXS and the cutoff frequency of the high pass filter of the full-range speaker. The same frequency range output from the DXS and the full-range speaker may cause interference with each other and degrade the frequency characteristics.

• THROUGH/HPF POST switch (9)

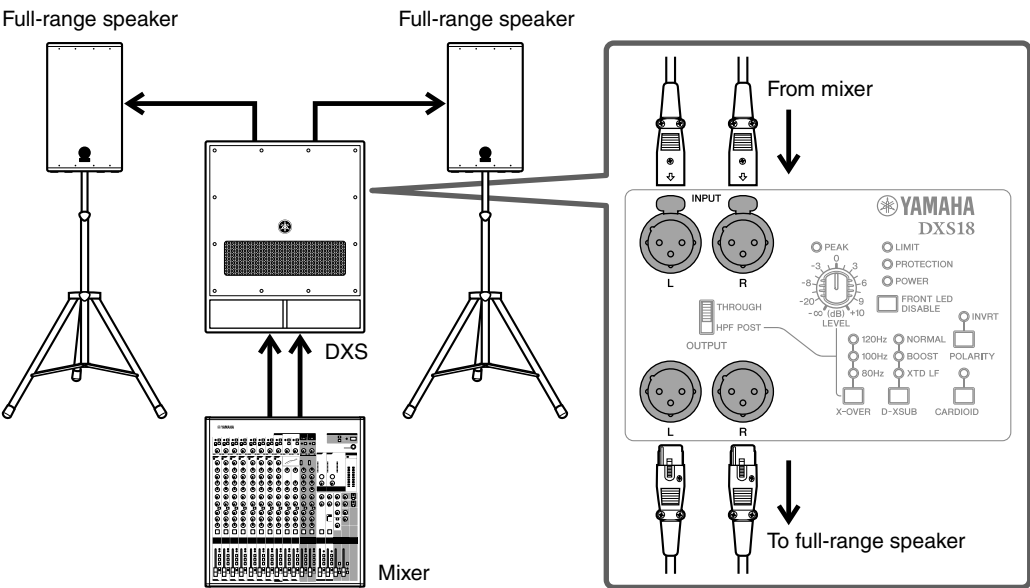
If the full-range speaker is properly equipped with a high pass filter, you should set this to [THROUGH]. The [THROUGH] setting enables you to control the level independently and minimize signal delay. If the full-range speaker is not equipped with a high pass filter or the high pass filter in the full-range speaker cannot be set to the same cutoff frequency as that of the low pass filter of the DXS, set this to [HPF POST] to use the high pass filter in the DXS.

• Combination and setting examples



CAUTION
If multiple powered speakers are connected in daisy-chain fashion, turn each device on in sequence starting from the one nearest to the sound source, and turn them off starting from the one farthest from the sound source.

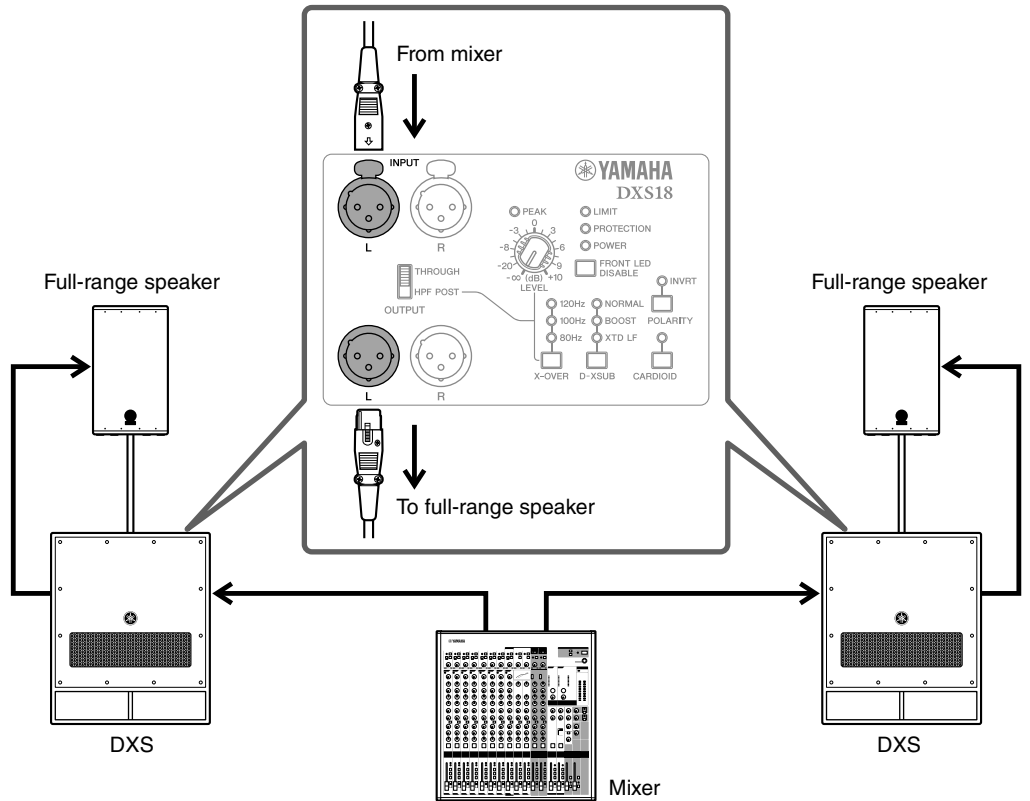
Combination of monaural DXS and stereo full-range speakers



Combination of stereo DXS and stereo full-range speakers

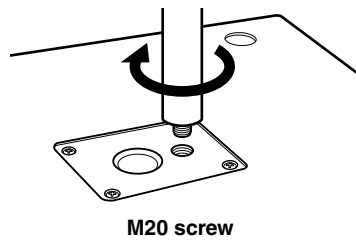
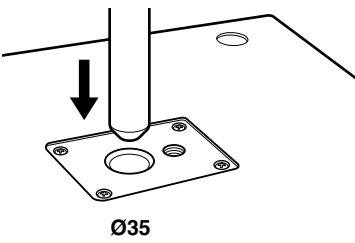
NOTE

The L and R jacks are interchangeable; there is no difference in behavior between them.



Installing a Speaker Pole

This is a pole socket used to mount a full-range speaker atop the DXS. The pole socket is compatible with 35 mm or M20 speaker poles, available commercially. When using the pole socket, be sure that the following conditions are met.



Subwoofer	Top-mounted speaker	Pole length
DXS18	Weight 28.0 kg or less, height 76 cm or less (DSR115)	120 cm or less
DXS15mkII	Weight 19.3 kg or less, height 61 cm or less (DXR12)	100 cm or less
DXS12mkII	Weight 14.6 kg or less, height 51 cm or less (DXR10)	82 cm or less
	Weight 13.5 kg or less, height 46 cm or less (DXR8)	90 cm or less

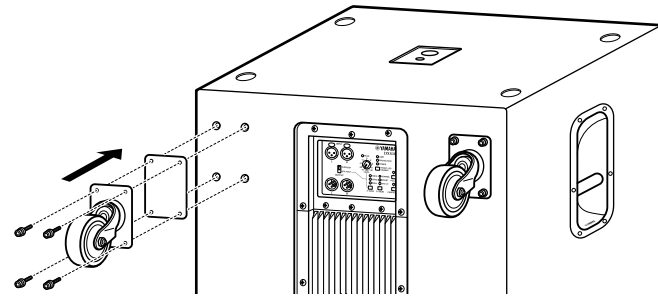
Installing Wheels

Installing optional wheels SPW-1 at the back of the DXS enables you to transport the unit easily. To install the wheels, use the screws already installed in the DXS unit.

Please do not use the speaker once the screws are removed. This causes air leaks to occur in enclosure, resulting in undesirable performance.



CAUTION
• For details on installing the wheels or special precautions you should take, please refer to the relevant manual for the wheels.
• Do not install wheels other than the SPW-1.



Troubleshooting

Symptom	Possible causes	Possible solution
Power does not turn on.	The power cord is not connected properly.	Connect the power cord properly.
Power suddenly turned off.	The protection system has been activated, shutting down the power supply.	Turn off the power, wait until the amplifier cools down, and then turn on again.
No sound.	The cable is not connected properly.	Connect the cable to the INPUT jack properly.
Sound is interrupted suddenly.	The protection circuit has been activated, muting the output.	Wait until the amplifier cools down. If the unit doesn't automatically reset itself, turn off the power, and then on again.
Sound howls (feedback).	A microphone is directed toward the speaker.	Keep the speaker away from the area where the microphone picks up the sound.
The sound from each speaker differs (if multiple speakers are used.)	The settings for each speaker differ.	Set each switch of each speaker to the same position.
Sound is distorted.	Input volume is excessive.	Lower the volume of the input device so that the PEAK indicator lights only occasionally.
	Output volume is excessive.	Lower the output level with the LEVEL control so that the LIMIT indicator lights only occasionally.

* If any specific problem should persist, please contact your Yamaha dealer.

General Specifications

General Specifications		DXS18	DXS15mkII	DXS12mkII
System Type		Powered subwoofer, band-pass type		
Frequency Range (-10 dB)		32 Hz–120 Hz	40 Hz–150 Hz	42 Hz–150 Hz
Measured Maximum SPL (Peak)		136 dB SPL	135 dB SPL	134 dB SPL
Power Amplifier	Pink Noise @1m			
	Power Rating	1,020 W		
	Dynamic Continuous	800 W		
Power Amplifier	Power Consumption (1/8 output power)	100 W		
Components		LF	18" cone, 4" voice coil	15" cone, 2.5" voice coil
Dimensions (W × H × D; including rubber feet)		563 × 683 × 721 mm	480 × 611 × 614 mm	400 × 567 × 570 mm
Weight		49.7 kg	36.0 kg	30.0 kg
Handles		Steel, side x 2		
Pole Sockets (top surface)		Ø35 mm (depth: 80 mm), M20 (threaded depth: 25 mm)		
Connectors	Input	XLR3-31 × 2		
	Output	XLR3-32 × 2 (THROUGH or HPF POST)		
	Power	IEC AC inlet × 1 (V-Lock)		
Input Sensitivity (LEVEL: center)		+10 dBu		
Maximum Input Level		+24 dBu		

* The contents of this manual apply to the latest specifications as of the publishing date. To obtain the latest manual, access the Yamaha website then download the manual file.

Setup of Cardioid Mode

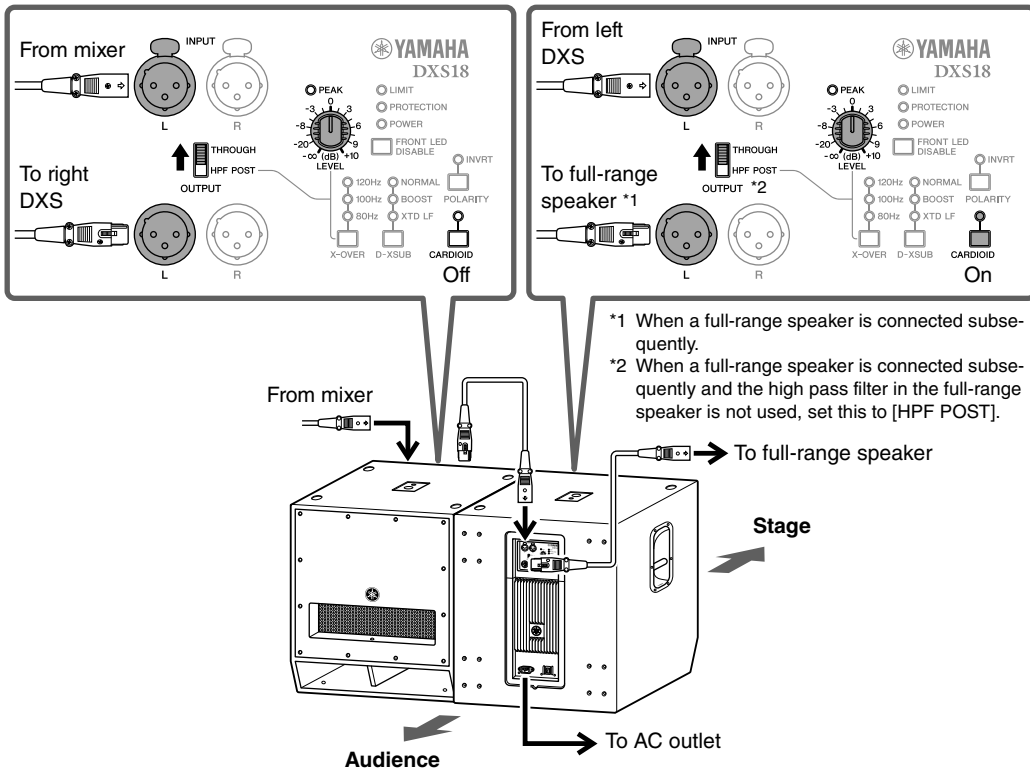
Because directivity in the low frequency range is weak, the output sound from the subwoofer diffracts not only toward the audience but also to the stage in almost the same sound pressure. By using the Cardioid mode, bass to the audience is summed up and bass to the stage is canceled. This suppresses the bass volume on the stage, providing a greater allowance before howling, and provides more powerful bass for the audience.

NOTE

- Use the same model and input signal for the DXS. You can also use the units connected in daisy chain fashion with setting the OUTPUT jack to [THROUGH].
- To obtain the optimum Cardioid characteristics, locate the cabinet away from walls by more than 1.2 m.

Two-unit, side-by-side placement

Place the two DXS units facing in opposite directions. Set the CARDIOID switch of the DXS facing the audience to off, and that of the DXS facing the stage to on. Make sure that the other settings (LEVEL, POLARITY, X-OVER) of the units are set the same.



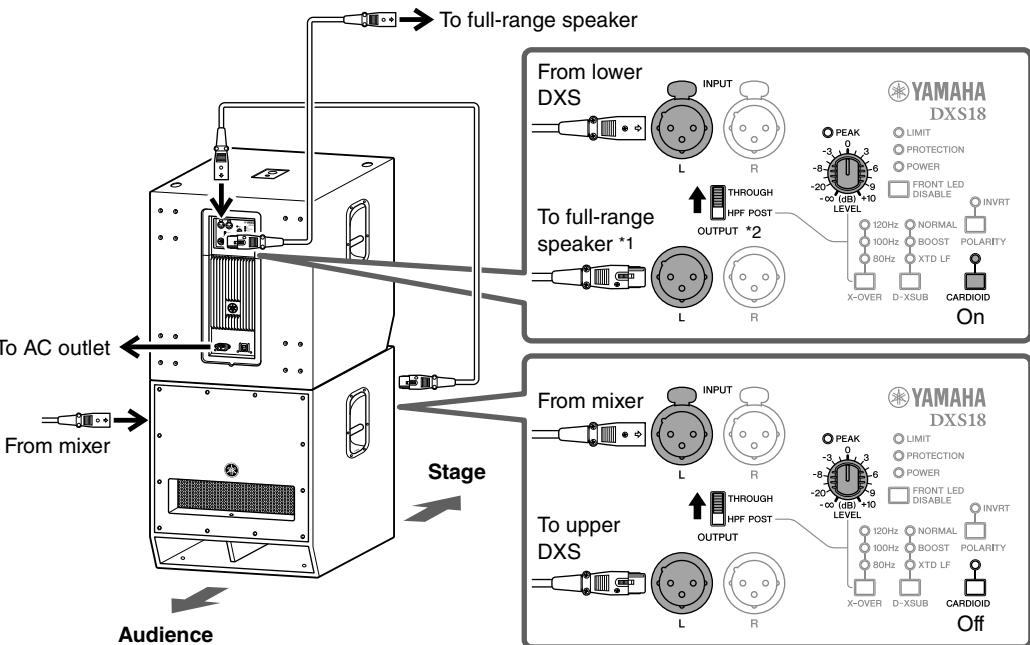
Two-unit, vertically stacked placement

You can also construct a system for Cardioid mode by vertically stacking two units. Set the CARDIOID switch of the DXS facing to the stage side to on. Make sure that the other settings (LEVEL, POLARITY, X-OVER) of the units are set the same.



CAUTION

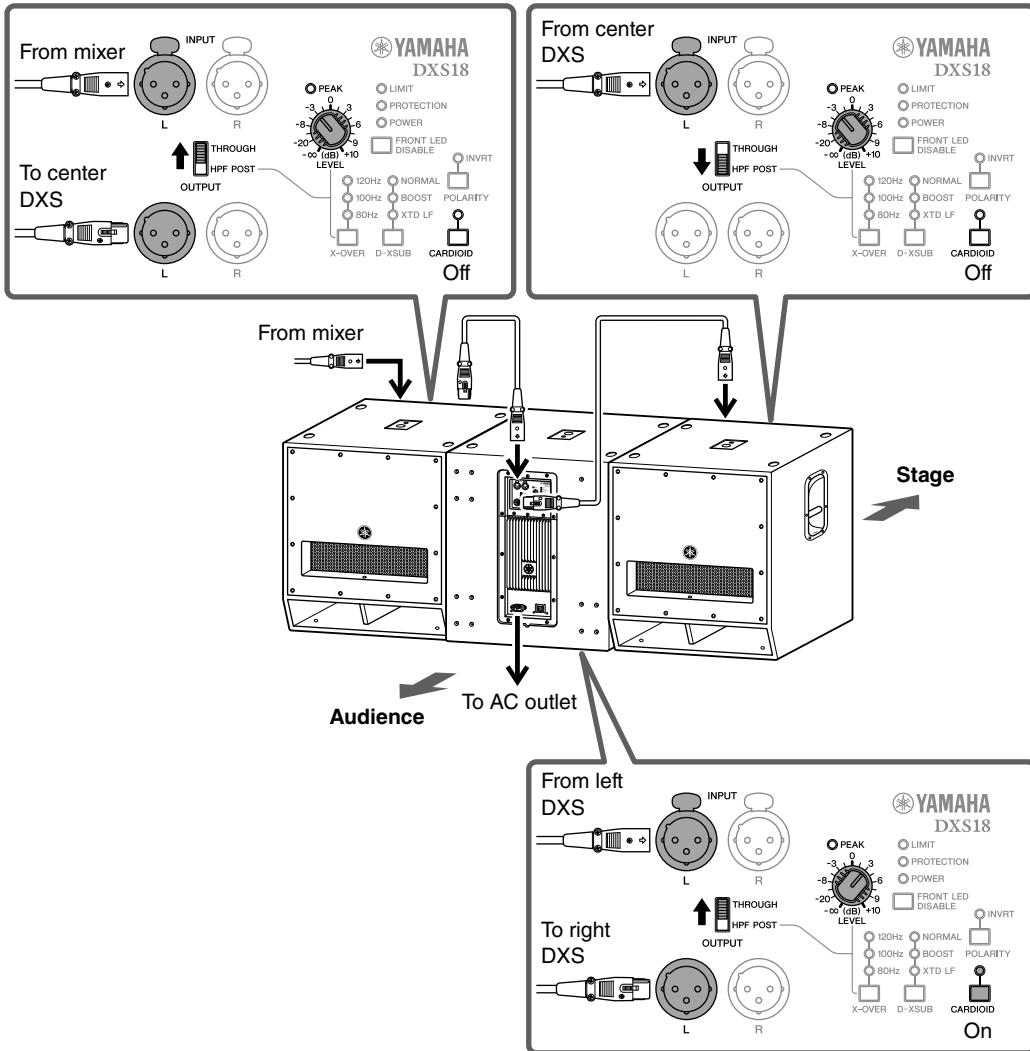
- When vertically stacking DXS units, make sure they are stable and not in danger of falling over.
- Align the rubber feet of the upper DXS unit to the feet cups of the lower DXS.
- When using vertically stacked DXS units, do not place any objects (such as full-range speakers or another DXS) on top of them or insert speaker poles.



- *1 When a full-range speaker is connected subsequently.
*2 When a full-range speaker is connected subsequently and the high pass filter in the full-range speaker is not used, set this to [HPF POST].

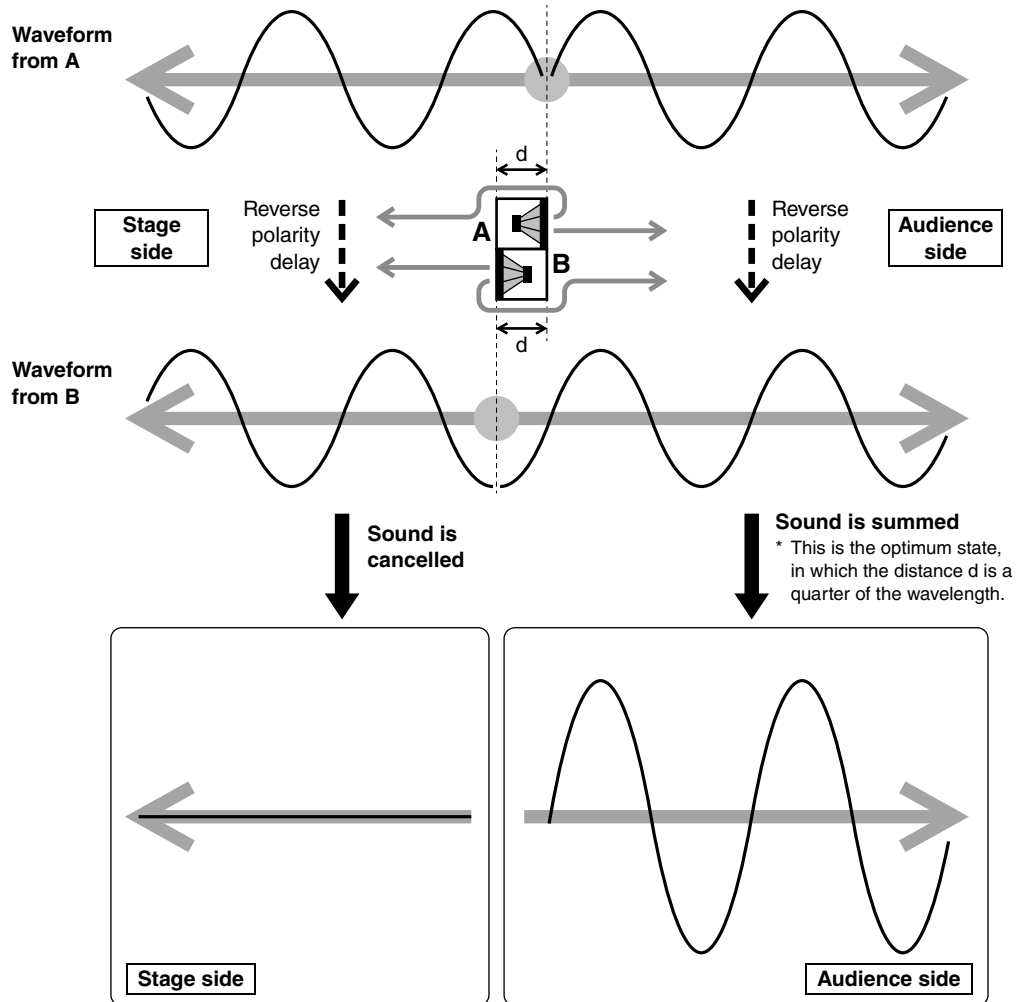
Three-unit, side-by-side placement

Set the CARDIOID switch of only the DXS unit facing the stage to on. Set the levels of the two DXS units facing the audience to the same. Set the level of the DXS unit facing to the stage approximately 6 dB greater than the DXS units facing the audience.



About Cardioid mode

The distance between a speaker (A) facing to the audience sound source speaker and another speaker (B) facing to the stage is defined as **d**. A delay is applied to the sound from speaker B, equivalent to distance **d**.



The sound of each speaker is cancelled on the stage side and summed together on the audience side. The directional characteristics of this combination are represented in the polar pattern illustration at right. Since the form resembles a heart shape, it is called Cardioid mode.

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

Please keep this manual in a safe place for future reference.

WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

Power supply/power cord

- Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.
- Only use the voltage specified as correct for the device. The required voltage is printed on the name plate of the device.
- Use only the supplied power cord/plug.
- If you intend to use the device in an area other than in the one you purchased, the included power cord may not be compatible. Please check with your Yamaha dealer.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.
- When setting up the device, make sure that the AC outlet you are using is easily accessible. If some trouble or malfunction occurs, immediately turn off the power switch and disconnect the plug from the outlet. Even when the power switch is turned off, as long as the power cord is not unplugged from the wall AC outlet, the device will not be disconnected from the power source.
- Remove the electric plug from the outlet when the device is not to be used for extended periods of time, or during electrical storms.
- Be sure to connect to an appropriate outlet with a protective grounding connection. Improper grounding can result in electrical shock, fire, or damage.

Do not open

- This device contains no user-serviceable parts. Do not open the device or attempt to disassemble the internal parts or modify them in any way. If it should appear to be malfunctioning, discontinue use immediately and have it inspected by qualified Yamaha service personnel.

Water warning

- Do not expose the device to rain, use it near water or in damp or wet conditions, or place on it any containers (such as vases, bottles or glasses) containing liquids which might spill into any openings. If any liquid such as water seeps into the device, turn off the power immediately and unplug the power cord from the AC outlet. Then have the device inspected by qualified Yamaha service personnel.
- Never insert or remove an electric plug with wet hands.

Hearing loss

- Do not use the device for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.
- Before connecting the device to other devices, turn off the power for all devices. Also, before turning the power of all devices on or off, make sure that all volume levels are set to the minimum. Failing to do so may result in hearing loss, electric shock, or device damage.
- When turning on the AC power in your audio system, always turn on the device LAST, to avoid hearing loss and speaker damage. When turning the power off, the device should be turned off FIRST for the same reason.

Fire warning

- Do not place any burning items or open flames near the device, since they may cause a fire.

If you notice any abnormality

- If any of the following problems occur, immediately turn off the power switch and disconnect the electric plug from the outlet.
 - The power cord or plug becomes frayed or damaged.
 - Unusual smells or smoke are emitted.

NOTICE

To avoid the possibility of malfunction/damage to the product, or damage to other property, follow the notices below.

Handling and maintenance

- Do not use the device in the vicinity of a TV, radio, AV equipment, mobile phone, or other electric devices. Otherwise, the device, TV, or radio may generate noise.
- Do not expose the device to excessive dust or vibration, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day), in order to prevent the possibility of panel disfiguration, unstable operation, or damage to the internal components.
- Do not place vinyl, plastic or rubber objects on the device, since this might discolor the panel.
- When cleaning the device, use a dry and soft cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.
- Condensation can occur in the device due to rapid, drastic changes in ambient temperature—when the device is moved from one location to another, or air conditioning is turned on or off, for example. Using the device while condensation is present can cause damage. If there is reason to believe that condensation might have occurred, leave the device for several hours without turning on the power until the condensation has completely dried out.
- When placing the speaker face down, always place it on a flat surface.
- Do not touch the speaker driver unit.
- Air blowing out of the ports is normal.
- Always turn the power off when the device is not in use.

Connectors

- XLR-type connectors are wired as follows (IEC60268 standard): pin 1: ground, pin 2: hot (+), and pin 3: cold (–).

Information

About this manual

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- The company names and product names in this manual are the trademarks or registered trademarks of their respective companies.

About disposal

- This product contains recyclable components. When disposing of this product, please contact the appropriate local authorities.

- Some object has been dropped into the device.
 - There is a sudden loss of sound during use of the device.
 - Cracks or other visible damage appear on the device.
- Then have the device inspected or repaired by qualified Yamaha service personnel.

- If this device should be dropped or damaged, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device inspected by qualified Yamaha service personnel.

CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property. These precautions include, but are not limited to, the following:

Power supply/power cord

- When removing the electric plug from the device or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.

Location

- Do not place the device in an unstable position where it might accidentally fall over and cause injuries.
- When installing the device:
 - Make sure the top surface faces up; do not install on its sides or upside down.
 - Do not use the device in a confined, poorly-ventilated location. Inadequate ventilation can result in overheating, possibly causing damage to the device(s), or even fire. Make sure that there is adequate space around the device: at least 30 cm above, 30 cm at the sides and 30 cm behind.
- Do not use the speaker's handles for suspended installation. Doing so can result in damage or injury.
- Do not hold the bottom of the device when transporting or moving it. In doing so, you may pinch your hands under the device, and result in injury.
- Do not press the rear panel of the device against the wall. Doing so may cause the plug to come in contact with the wall and detach from the power cord, resulting in short circuiting, malfunction, or even fire.
- Do not place the device in a location where it may come into contact with corrosive gases or salt air. Doing so may result in malfunction.
- Avoid being near the device during a disaster, such as an earthquake. Since the device may turn over or fall and cause injury, stay away from the device quickly and move to a safe place.
- Before moving the device, remove all connected cables.
- When transporting or moving the device, always use three or more people. Attempting to pick this unit up with only one or two people may result in lower back injuries, or the equipment may be dropped and damaged, resulting in injury.
- Be sure to adhere to the conditions for "Installing a Speaker Pole" when mounting the speaker on top using the pole socket.
- Tipping this unit over may break the unit, cause damage to the internal parts or result in personal injury.

Maintenance

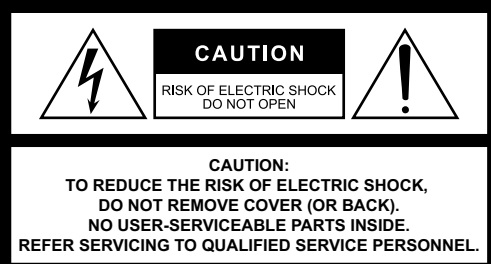
- Remove the power plug from the AC outlet when cleaning the device.

Handling caution

- Do not insert your fingers or hands in any gaps or openings on the device (ports).
- Avoid inserting or dropping foreign objects (paper, plastic, metal, etc.) into any gaps or openings on the device (ports). If this happens, immediately turn off the power unplug the power cord from the AC outlet, and have the device inspected by qualified Yamaha service personnel.
- Do not operate the device if the sound is distorting. Prolonged use in this condition could cause overheating and result in fire.
- Avoid pulling the connected cables to prevent injuries or damage to the device by causing it to fall.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the device.

PA_en_8



The above warning is located on the rear of the unit.

Explanation of Graphical Symbols

Explication des symboles



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. L'éclair avec une flèche à l'intérieur d'un triangle équilatéral est destiné à attirer l'attention de l'utilisateur sur la présence d'une « tension dangereuse » non isolée à l'intérieur de l'appareil, pouvant être suffisamment élevée pour constituer un risque d'électrocution.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à attirer l'attention de l'utilisateur sur la présence d'instructions importantes sur l'emploi ou la maintenance (réparation) de l'appareil dans la documentation fournie.

IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

(UL60065_03)



L'avertissement ci-dessus est situé sur l'arrière de l'unité.

PRÉCAUTIONS CONCERNANT LA SÉCURITÉ

- Lire ces instructions.
- Conservé ces instructions.
- Tenir compte de tous les avertissements.
- Suivre toutes les instructions.
- Ne pas utiliser ce produit à proximité d'eau.
- Nettoyer uniquement avec un chiffon propre et sec.
- Ne pas bloquer les orifices de ventilation. Installer l'appareil conformément aux instructions du fabricant.
- Ne pas installer l'appareil à proximité d'une source de chaleur comme un radiateur, une bouche de chaleur, un poêle ou tout autre appareil (y compris un amplificateur) produisant de la chaleur.
- Ne pas modifier le système de sécurité de la fiche polarisée ou de la fiche de terre. Une fiche polarisée dispose de deux broches dont une est plus large que l'autre. Une fiche de terre dispose de deux broches et d'une troisième pour le raccordement à la terre. Cette broche plus large ou cette troisième broche est destinée à assurer la sécurité de l'utilisateur. Si la fiche équipant l'appareil n'est pas compatible avec les prises de courant disponibles, faire remplacer les prises par un électricien.
- Acheminer les cordons d'alimentation de sorte qu'ils ne soient pas piétinés ni coincés, en faisant tout spécialement attention aux fiches, prises de courant et au point de sortie de l'appareil.
- Utiliser exclusivement les fixations et accessoires spécifiés par le fabricant.
- Utiliser exclusivement le chariot, le stand, le trépied, le support ou la table recommandés par le fabricant ou vendus avec cet appareil. Si l'appareil est posé sur un chariot, déplacer le chariot avec précaution pour éviter tout risque de chute et de blessure.
- Débrancher l'appareil en cas d'orage ou lorsqu'il doit rester hors service pendant une période prolongée.
- Confier toute réparation à un personnel qualifié. Faire réparer l'appareil s'il a subi tout dommage, par exemple si la fiche ou le cordon d'alimentation est endommagé, si du liquide a coulé ou des objets sont tombés à l'intérieur de l'appareil, si l'appareil a été exposé à la pluie ou à de l'humidité, si l'appareil ne fonctionne pas normalement ou est tombé.

AVERTISSEMENT
POUR RÉDUIRE LES RISQUES D'INCENDIE OU DE DÉCHARGE ÉLECTRIQUE, N'EXPOSEZ PAS CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

(UL60065_03)

FCC INFORMATION (U.S.A.)

- IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!** This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
- IMPORTANT:** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
- NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures: Relocate either this product or the device that is being affected by the interference. Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filters. In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable. If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangeforthorpe Ave, Buena Park, CA90620. The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

(class B)

Information for users on collection and disposal of old equipment:

- This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling of old products, please take them to applicable collection points, in accordance with your national legislation.
- By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. For more information about collection and recycling of old products, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.
- For business users in the European Union:** If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.
- Information on Disposal in other Countries outside the European Union:** This symbol is only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

(weee_eu_en_02)

In Finland: Laite on liitettävä suojamaadoituskeskettimillä varustettuun pistorasiaan.
In Norway: Apparatet må tilkoples jordat stikkontakt.
In Sweden: Apparatens skall anslutas till jordat uttag.

(class 1 hukou)

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(class b korea)

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