IMPORTANT SAFETY INSTRUCTION

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT. THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.

This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

⏚ Protective Ground Terminal
~ AC mains (Alternating Current)
ϟ Hazardous Live Terminal
ON: Denotes the product is turned on.
OFF: Denotes the product is turned off.

CAUTION
Describes precautions that should be observed to prevent damage to the product.

1. Read this Manual carefully before operation.
2. Keep this Manual in a safe place.
3. Be aware of all warnings reported with this symbol.
4. Keep this Equipment away from water and moisture.
5. Clean it only with dry cloth. Do not use solvent or other chemicals.
6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.
7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk of electric shock. Do not place heavy objects on the power cord. This could cause electric shock or fire.
8. Unplug this equipment when unused for long periods of time or during a storm.
9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.
10. To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

WARNING

To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.

Dispose of this product should not be placed in municipal waste and should be separate collection.

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer, or sold with the Equipment. When a cart is used, use caution when moving the cart / equipment combination to avoid possible injury from tip-over.

12. Permanent hearing loss may be caused by exposure to \ extremely high noise levels. The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level.
These are shown in the following chart:

HOURS X DAY	SPL	EXAMPLE
8	90	Small gig
6	92	train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1,5	102	
1	105	
0,5	110	
0,25 or less	115	Rock concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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INTRODUCTION

Thank you for purchasing a **INVOTONE DSX SERIES** Passive loudspeaker. The DSX series are high performance loudspeakers designed for portable, front of house, and fixed installation sound reinforcement applications.

Consisting of five two-way loudspeakers, **12" DSX12, 15" DSX15,** as well as the **15"DSX15 S / 18"DSX18 S / 2*18"DSX218S** subwoofer, the **DSX** series features models perfectly suited for whatever performance requirements you have. The speakers are designed to handle high output power while producing a smooth, precise sound. For prolonged durability and max-imum protection against weat and tear, the **DSX** speakers feature plywood cabinet construction finished with a durable black textured paint, and black powder-coated perforated steel grille backed with black cloth. The loudspeaker is furnished with twelve M10x30 fly-points for appli-cations that require permanent installation.
As fixed sound reinforcement or as a durable, great-sounding road PA, the **DSX** loudspeaker is ideal for sound professionals and performers looking for serious output and precision sound quality from a PA speaker system. Premium-grade materials, advanced construction processes and multiple mounting and suspension options allow for a wide range of live and installed applications. Great pride & care is placed in delivering products with excellent performance, specifications, and dependable reliability. Every INVOTONE audio product is strictly tested and complied to very strict standards.

Please carefully read this manual before starting operation! Thank you again for choosing **INVOTONE DSX SERIES.**

FEATURES

DSX12/15

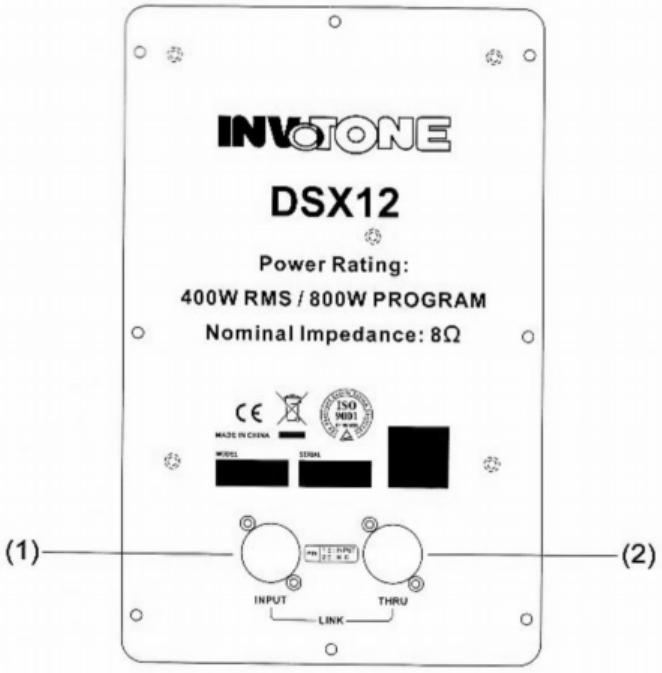
*Professional Painted Plywood Cabinet
*2-Way Passive Vented Speaker
*Nominal Impedance: 8Ω
*1"EXIT, 1.75" Voice Coil Compression Driver
*Electronic Dynamic Protection
*Horn Coverage: 90°H x 60°V
*Connectors: 2 x SPK4 Style
*Program Power: 800W/1000W
*Plywood cabinet, resistant black paint, metal grille, rubber feet, two Metal Handles
*One metal standard pole-mount plus

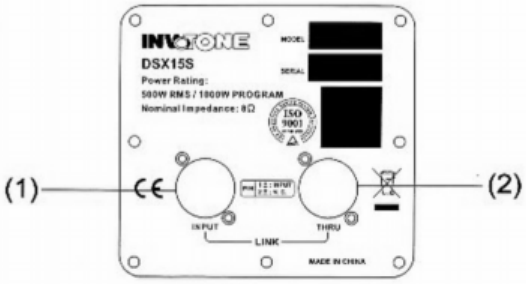
DSX15S/18S/218S

*Professional Painted Plywood Cabinet
*Passive Vented Subwoofer
*Program Power:1000W / 2000W(**DSX218S**)
*Nominal Impedance: 8 Ω / 4 Ω (**DSX218S**)
*Connectors: 2 x SPK4 Style
*Plywood cabinet, metal grille, rubber feet, two Wood Handles
*One metal standard pole-mount

BACK PANEL DESCRIPTION

PASSIVE FULL-RANGE Speaker DSX12/15
PASSIVE VENTED SUBWOOFER: DSX15S /DSX18S /DSX218S





(1) INPUT: Receive the power coming from an external power amplifier.
(SPK +1/-1 connected; +2/-2 not connected).

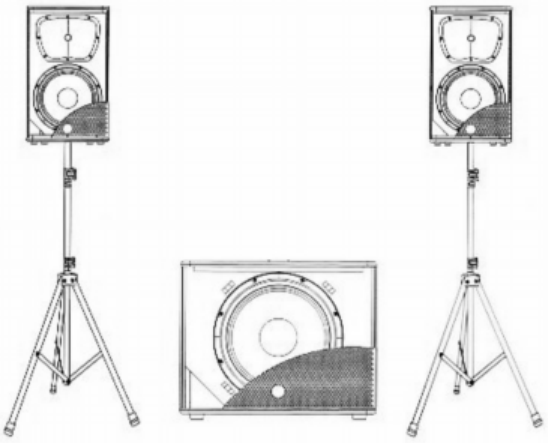
(2)OUTPUT: Power output for satellite speaker, under passive crossover filtered at 180 Hz.
(SPK +1/-1 connected; +2/-2 not connected).

Configuring the DSX15S / DSX18S / DSX218S Subwoofer

Before you start plugging in cables, you should take a minute to decide how you want to interface your new subwoofer. Most system set-ups fall into one of two categories: Mono or Stereo sub operation.

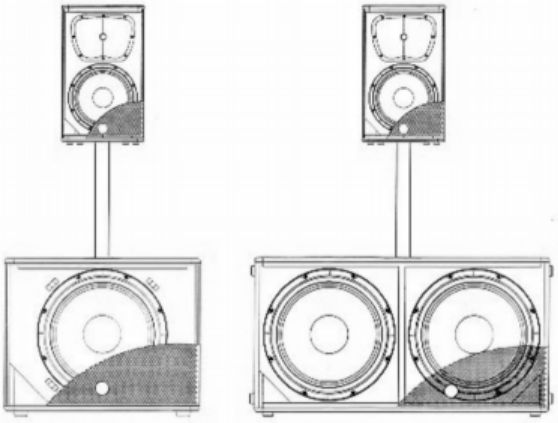
Mono Sub Operation

In most cases, a common (mono) sub bass setup is preferable. Low frequencies produced by a sub woofer tend to be non-directional. Since low frequency waves take so much space to develop, it is difficult for the ear to tell if sub bass is coming from the left or right side (unless you are in a ver large room). Because of this phenomenon, just about all sub bass material is mixed in mono.



Stereo Sub Operation

In larger rooms, as well as in theaters and theme park installations (for low frequency special audio effects), two or more subwoofers can be used in stereo. For additional low-end, you can daisy chain a pair of subwoofers to each side of your speaker system using the paral-lel outputs.



Positioning the Subwoofer

The placement of the subwoofer can affect the overall performance of your system since room acoustics may create standing waves, an acoustical phenomenon that causes certain bass frequencies to sound louder. Here are a few points you should consider when setting up your system, which can help you achieve optimal performance in your space.

The ideal placement of the subwoofer is as close to the main front of house speakers as possible, in order to blend the satellites and subwoofer. Mounting the satellite speakers on top of the subwoofer allows you to align the drivers. The closer the subwoofer is to a wall, the louder the bass frequencies will sound, and you can adjust the mix between the subwoofer and satellite speakers by moving the subwoofer closer to and further from a wall.

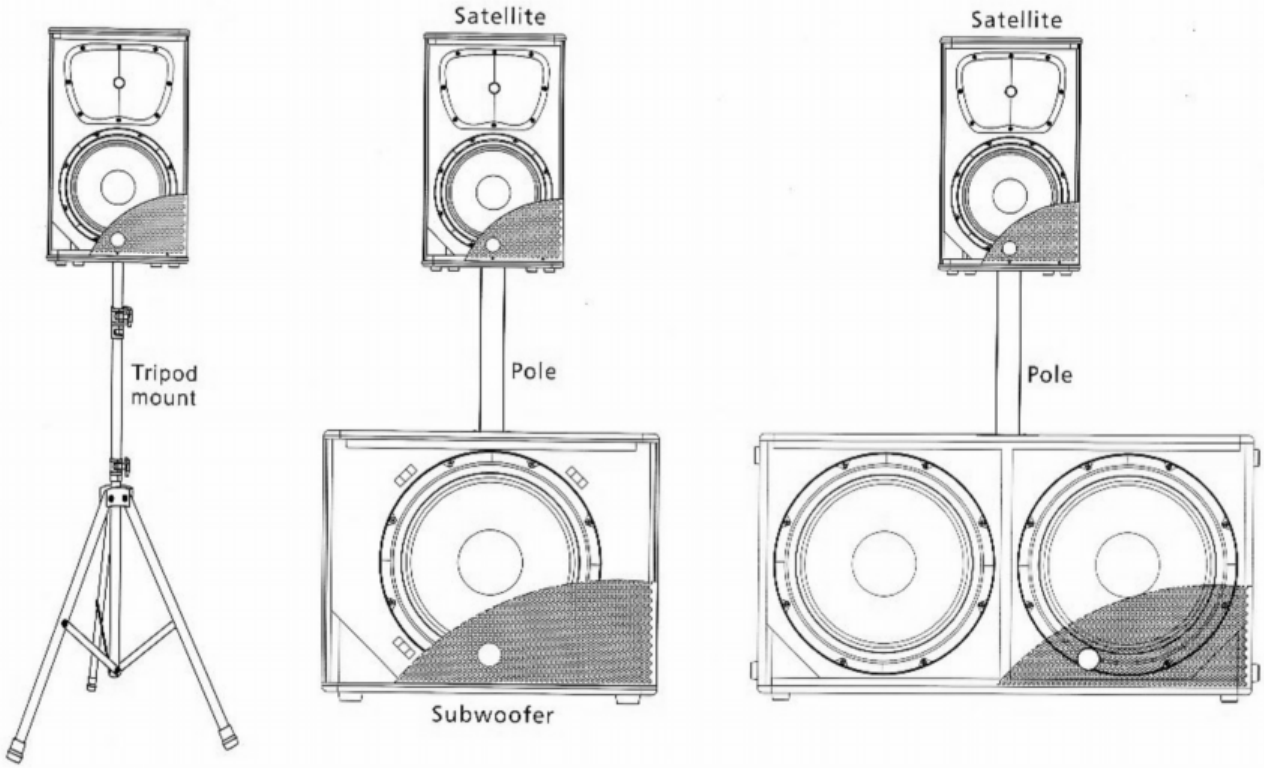
Avoid placing the subwoofer in a corner. This can make the subwoofer appear to be louder, but only for a limited frequency band, and will make the mix sound "boomy" and not well defined. The best way to increase the overall level of bass is to add a second subwoofer.

Using Speaker Stanus

The DSX12 and DSX15 feature standard 1⅜" pole mount receptacles, which enable the speaker to be mounted on a standard tripod stand or subwoofer satellite pole. For best results, raise the speakers above the heads of the listening audience.

When mounting a speaker onto any stand, always ensure that the stand is on a flat, level surface, with the legs fully extended. Be sure to check that the maximum load weight for the stands is greater than the weight of the DSX loudspeaker. Never use a stand with a maximum load weight lower than the speaker. Do not attempt to mount more than one speaker on a stand at one time. The DSX loudspeakers are heavy. It is recommended that a second person to help place the cabinet on a stand.

When the speaker is placed on a stand, always check the integrity and center of gravity of the system. If the speaker can be tipped easily, or the pole is swaying, it is recommended that you lower the height of the stand. Position the stand and route cables so that the performers and the audience cannot tip over or trip on the system.



CONNECTION PLATE

Matching With 2-Way Full-Range Speakers

1). Connect one side of speaker cable to the Output CHA / CHB or Binding POST of your stereo power amplifier and other side to the Input socket of your subwoofer, do the same connection on your second power amplifier and the 2-way full-range passive speakers with a second speaker cable.

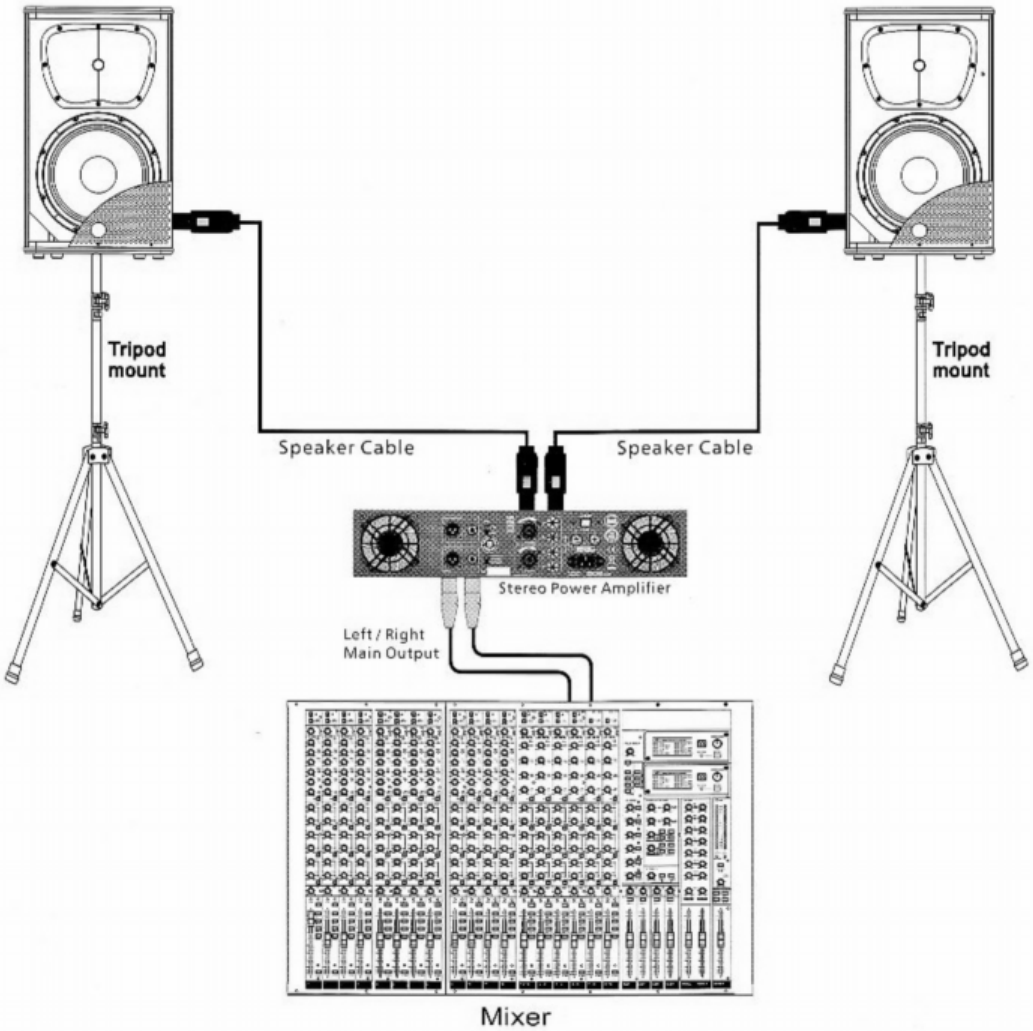
2). Complete other connections as illustrated.

3). Turn on your mixer first, then the stereo power amplifier.

4). Turn up the volume controls of your amplifier to about 70%.

5). Use PFL function to get the proper input level for the mixer, and adjust the Main Mix Level control to manipulate the output level.

6). After using, turn off your stereo power amplifier first, then the mixer.



CONNECTION PLATE

Make your initial connections with all the equipment powered off, and ensure that all the main volume controls are turned completely down.

Two Passive Subwoofers & Two Passive Satellite Speakers

1). Connect one side of speaker cable to the Output CHA / CHB or Binding POST of your stereo power amplifier and other side to the Input socket of your subwoofer, do the same connection on your second power amplifier and the 2-way full-range passive speakers with a second speaker cable.

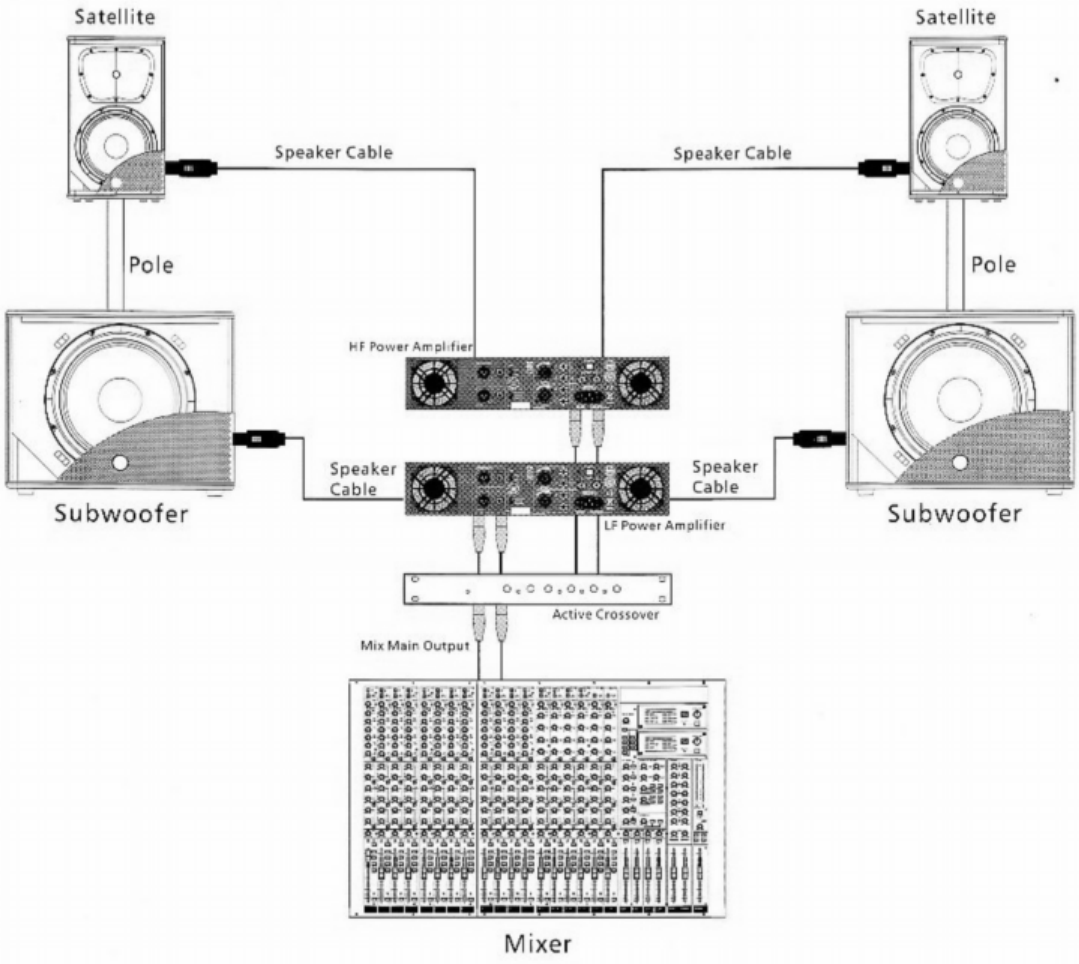
2). Complete other connections as illustrated.

3). Turn on your mixer first, then the stereo power amplifier.

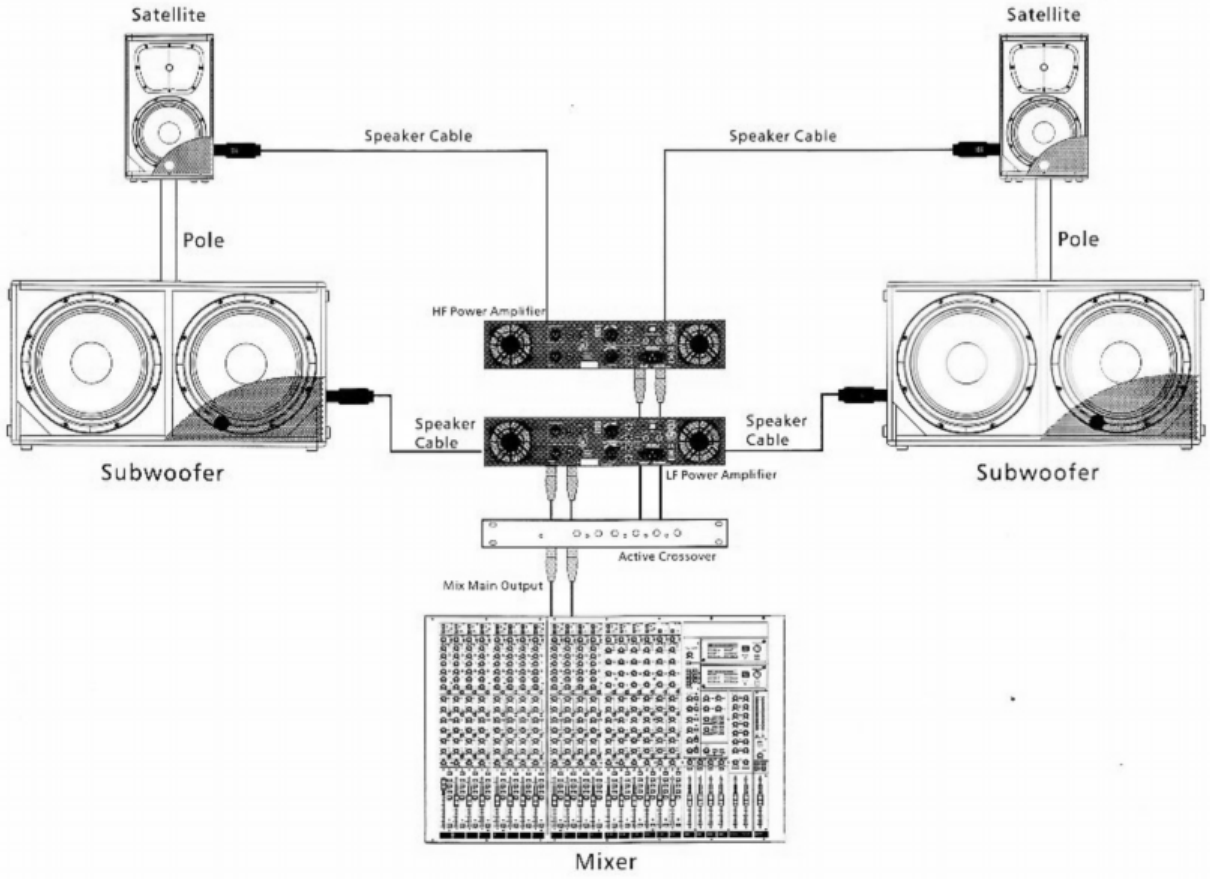
4). Turn up the volume controls of your amplifier to about 70%.

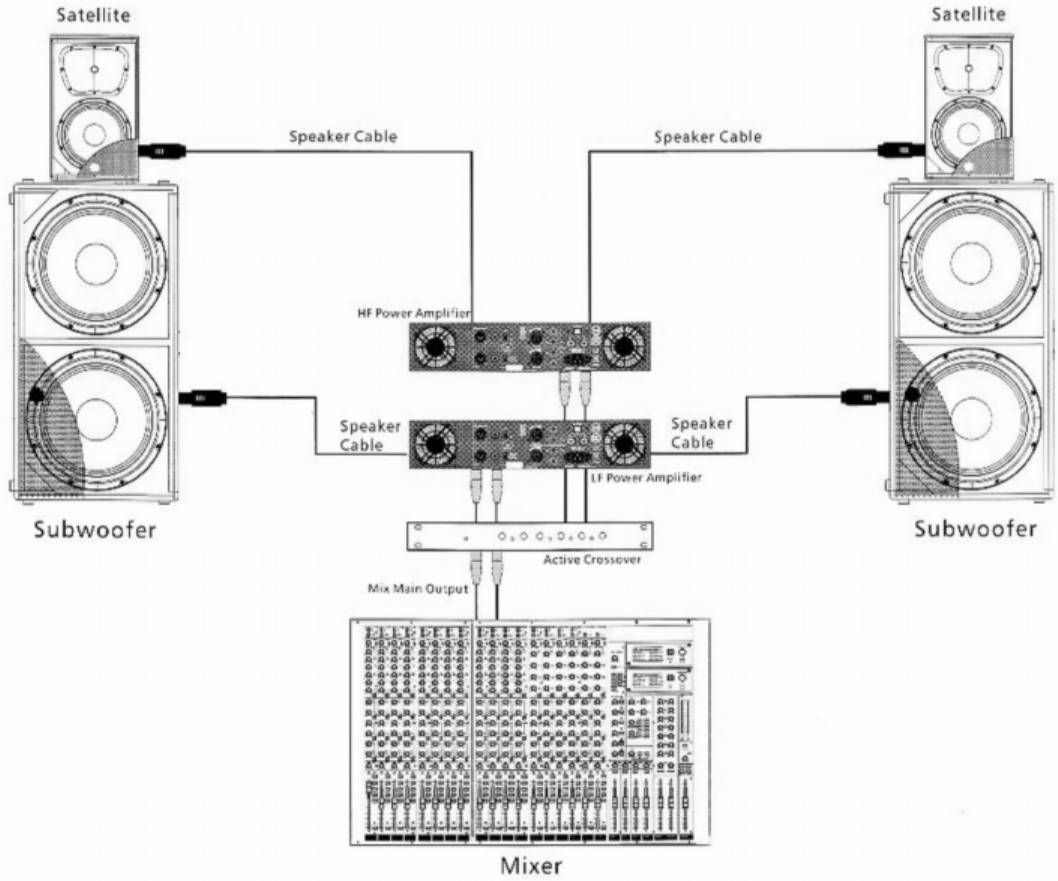
5). Use PFL function to get the proper input level for the mixer, and adjust the Main Mix Level control to manipulate the output level.

6). After using, turn off your stereo power amplifier first, then the mixer.



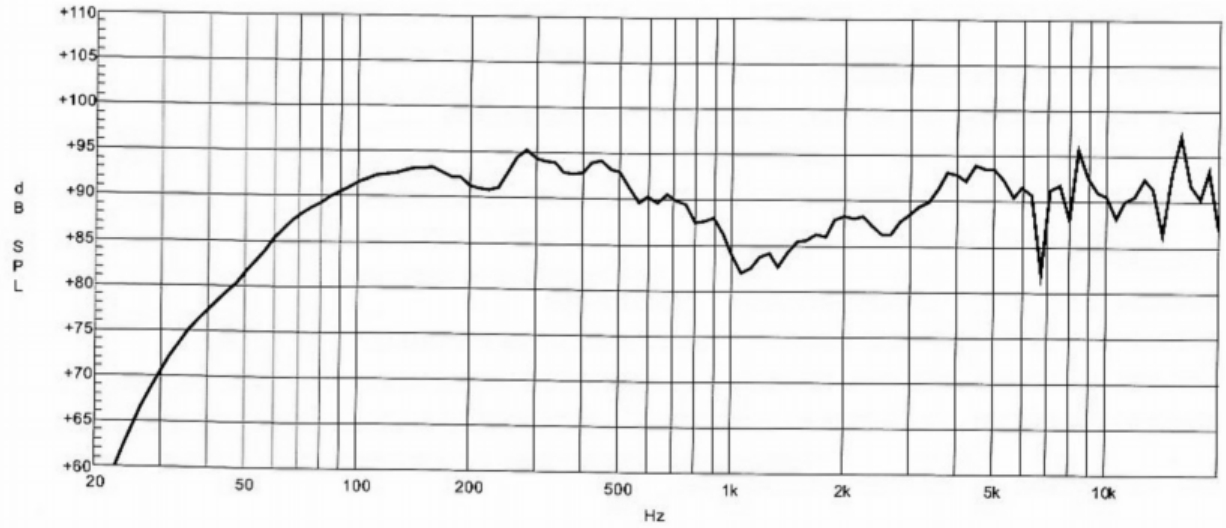
CONNECTION PLATE



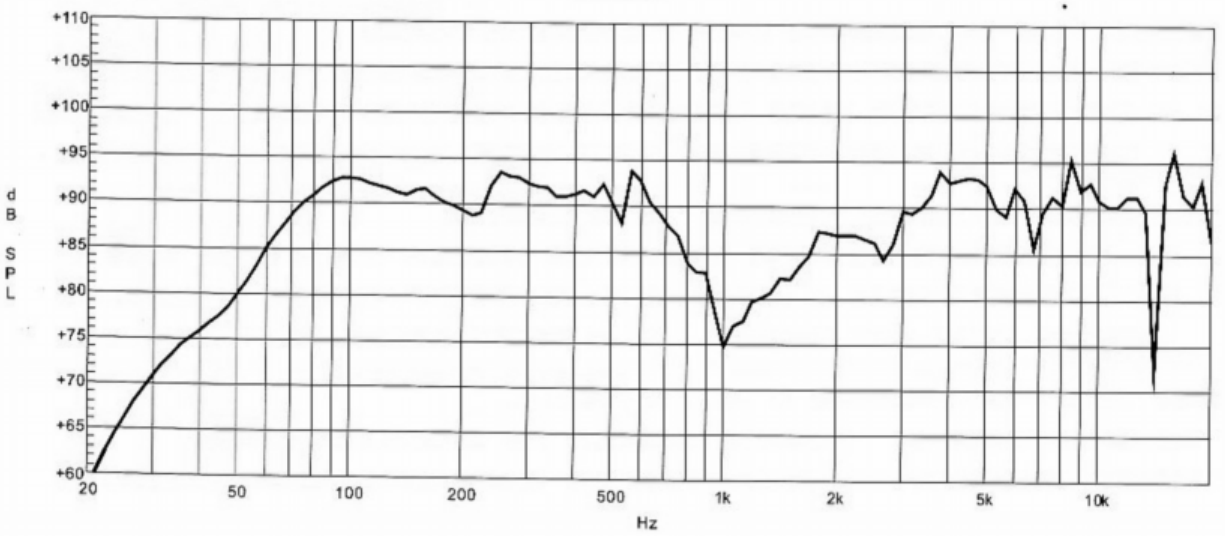


FREQUENCY RESPONSE DIAGRAM

DSX12

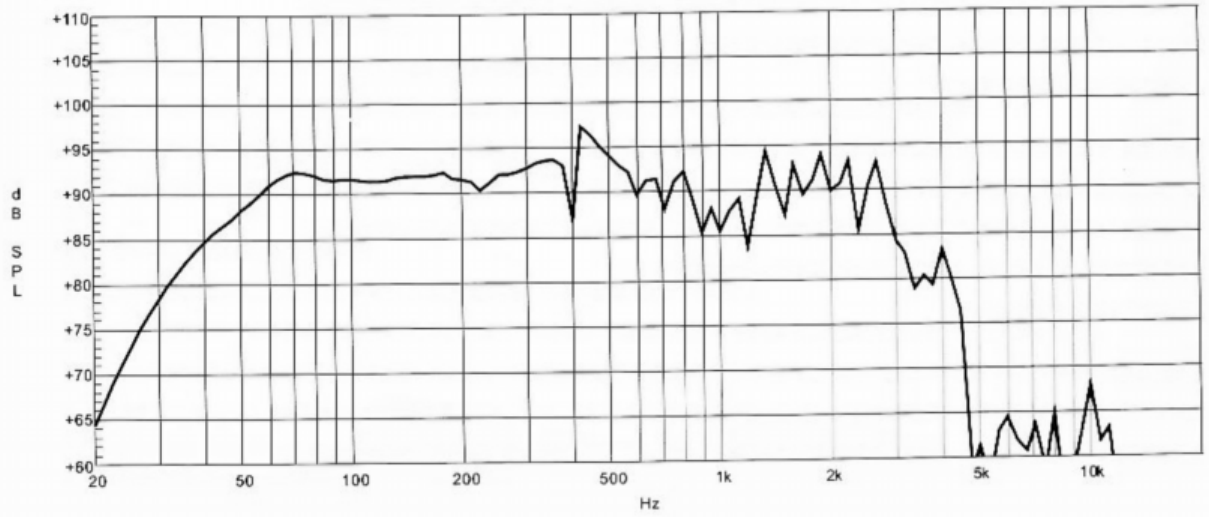


DSX15

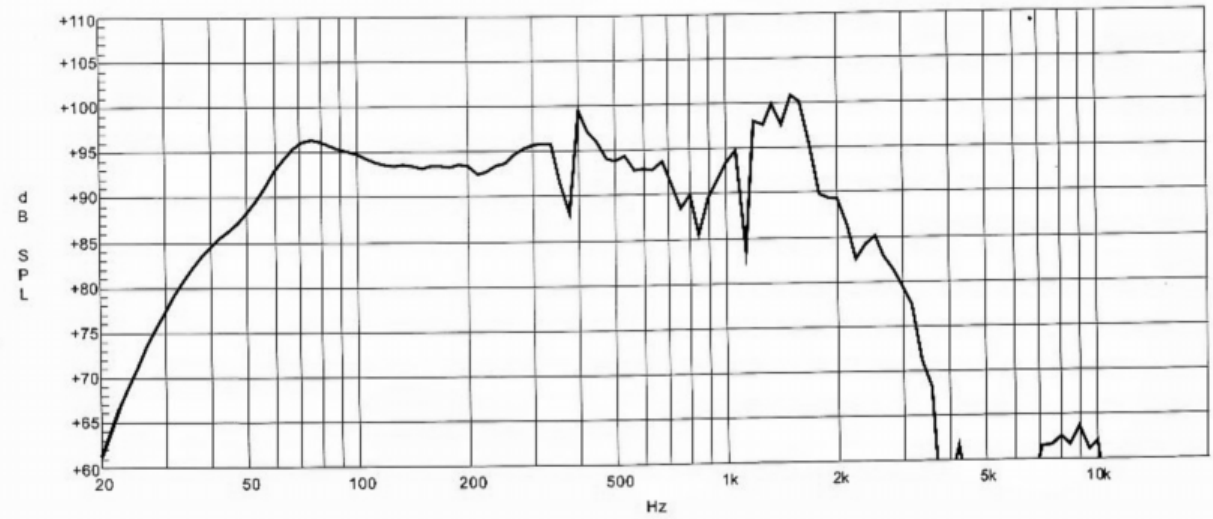


FREQUENCY RESPONSE DIAGRAM

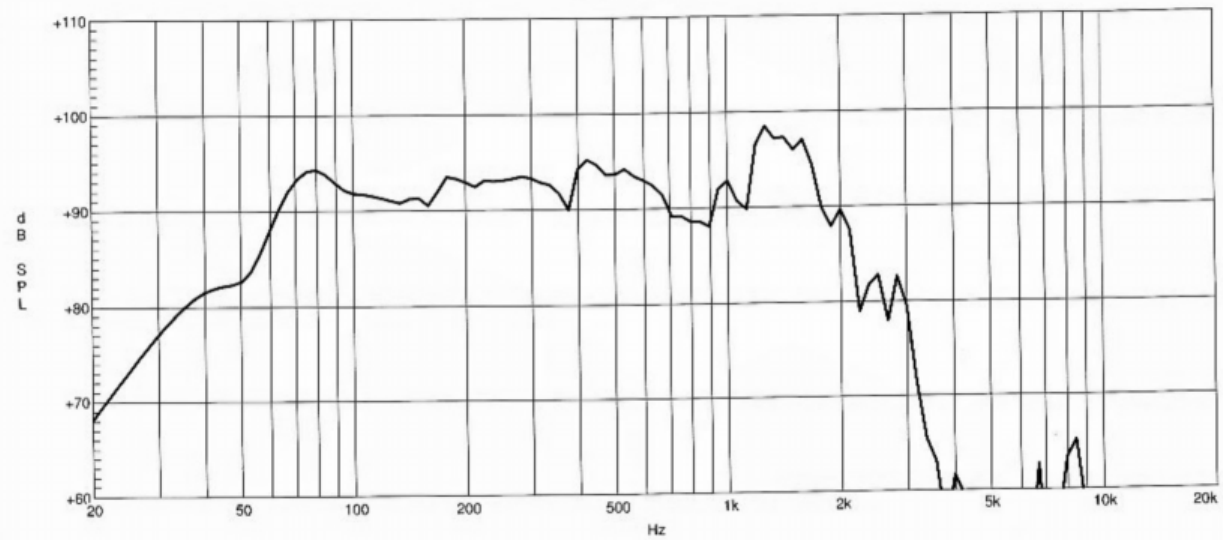
DSX15S



DSX18S



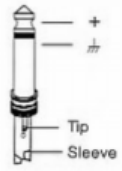
DSX218S



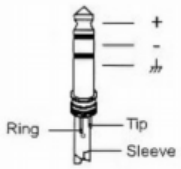
WIRE CONNECTIONS

Either the 1/4" TRS phone jack or XLR connector can be wired in balanced and unbalanced modes, which will be determined by the actual application status, please wire your system as the following wiring examples:

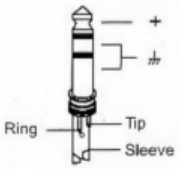
For 1/4" Phone jack



TS Type Unbalanced

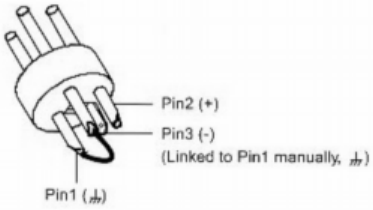


TRS Type Balanced

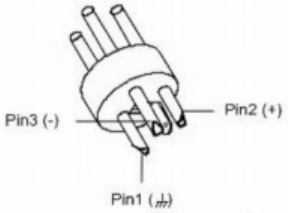


TRS Type Unbalanced

For XLR connector



XLR Type Unbalanced

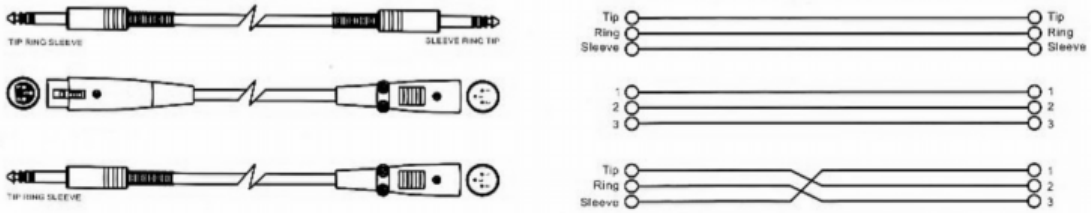


XLR Type Balanced

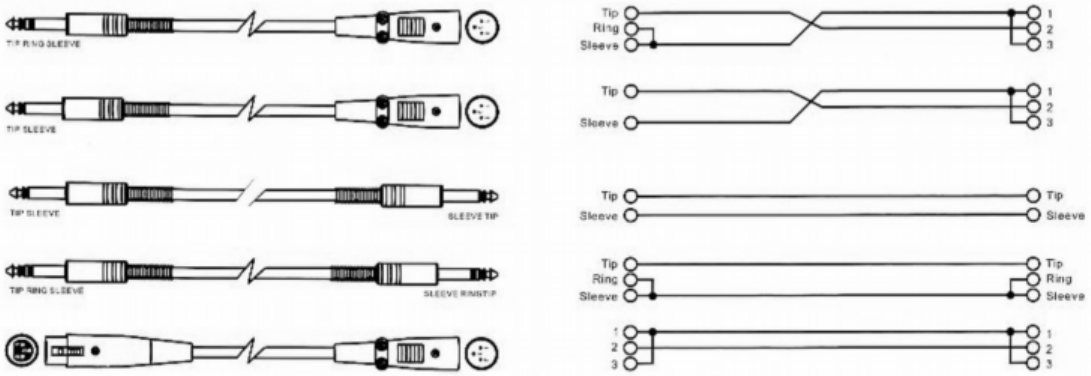
In-line Connection

For these applications the unit provides 1/4" TRS and XLR connectors to easily interface with most professional audio devices. Follow the configuration examples below for your particular connection.

•Balanced

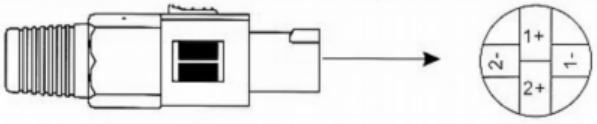


• Unbalanced



For Passive Speaker Cabinets

Please only use the power connectors to make connections with other signal source equipment for the passive speaker cabinets. The power connector has four terminals:1+, 1-, 2+, 2-.



In our cabinets, only 1+/1- are used to connect the Speaker+/Speaker-, and 2+/2- are not used.

TECHNICAL SPECIFICATIONS

Model Active	DSX12
System Type	12" 2-Way Passive Loudspeaker
Output Power	400W RMS , 800W Program
Maximum SPL @ 1m	128dB Max.
Frequency Response	50Hz-20kHz (-6dB)
Impedance	8 Ω
Transducer Low	12" (318mm) Woofer, 3" (75mm) Voice Coil
Transducer High	1" (25mm)Exit Compression driver , 1.75" (44mm)Voice Coil
Crossover Frequency	At 1.8kHz with 24dB/Oct
Horn Coverage (HxV)	90° H x 60° V , nominal (@-6dB)
Electronic Protections	Electronic Dynamic Protection
Connectors	2 x SPK4 Style
Enclosure Construction	Plywood Cabinet, Resistant Black Paint,Metal Grille, Rubber Feet, two Metal Handles
Mounting information	One Metal Standard Pole-mout, 12 x M10 Flying Points
Dimensions (HxWxD)	381 x 350 x 625mm (15" x 13.8" x 24.6")
Net Weight	22.5 kg / 49.6 lbs

Model Active	DSX15
System Type	15" 2-Way Passive Loudspeaker
Output Power	500W RMS , 1000W Program
Maximum SPL @ 1m	130dB Max.
Frequency Response	48Hz-20kHz (-6dB)
Impedance	8 Ω
Transducer Low	15" (382mm) Woofer, 3" (75mm) Voice Coil
Transducer High	1" (25mm)Exit Compression driver , 1.75" (44mm)Voice Coil
Crossover Frequency	At 1.8kHz with 24dB/Oct
Horn Coverage (HxV)	90° H x 60° V , nominal (@-6dB)
Electronic Protections	Electronic Dynamic Protection
Connectors	2 x SPK4 Style
Enclosure Construction	Plywood Cabinet, Resistant Black Paint,Metal Grille, Rubber Feet, two Metal Handles
Mounting information	One Metal Standard Pole-mout, 12 x M10 Flying Points
Dimensions (HxWxD)	431 x 386.7 x 700mm (16.97" x 15.22" x 27.56")
Net Weight	25.63 kg / 56.5 lbs

TECHNICAL SPECIFICATIONS

Model Active	DSX15S
System Type	15" Passive Vented Subwoofer
Output Power	500W RMS , 1000W Program
Maximum SPL @ 1m	128dB Max.
Frequency Response	45Hz-2.5kHz (-6dB)
Impedance	8 Ω
Transducer Low	15" (379.3mm)Premium Woofer, 3" (75mm)Sandwich Voice Coil
Connectors	2 x SPK4 Style
Enclosure Construction	Plywood Cabinet, Resistant Black Paint,Metal Grille, Rubber Feet, two Wood Handles
Mounting information	One Metal Standard Pole-mout
Dimensions (HxWxD)	580 x 450 x 488mm (22.8" x 17.7" x 19.2")
Net Weight	24.35kg / 53.7 lbs

Model Active	DSX18S
System Type	18" Passive Vented Subwoofer
Output Power	500W RMS , 1000W Program
Maximum SPL @ 1m	129dB Max.
Frequency Response	40Hz-2.2kHz (-6dB)
Impedance	8 Ω
Transducer Low	18" (460mm)Premium Woofer, 3" (75mm)Sandwich Voice Coil
Connectors	2 x SPK4 Style
Enclosure Construction	Plywood Cabinet, Resistant Black Paint,Metal Grille, Rubber Feet, two Wood Handles
Mounting information	One Metal Standard Pole-mout
Dimensions (HxWxD)	661 x 535 x 518.5mm (26.0" x 21.1" x 20.4")
Net Weight	30.58kg / 67.4 lbs

Model Active	DSX218S
System Type	18" Passive Vented Subwoofer
Output Power	1000W RMS , 2000W Program
Maximum SPL @ 1m	131dB Max.
Frequency Response	37Hz-2KHz (-6dB)
Impedance	4 Ω
Transducer Low	2*18" (460mm)Premium Woofer, 3" (75mm)Sandwich Voice Coil
Connectors	2 x SPK4 Style
Enclosure Construction	Plywood Cabinet, Resistant Black Paint,Metal Grille, Rubber Feet, two Wood Handles
Mounting information	One Metal Standard Pole-mout
Dimensions (HxWxD)	535 x518.5 x 1000mm (21.06" x 20.41 x 52.36")
Net Weight	44.28kg / 97.4 lbs