

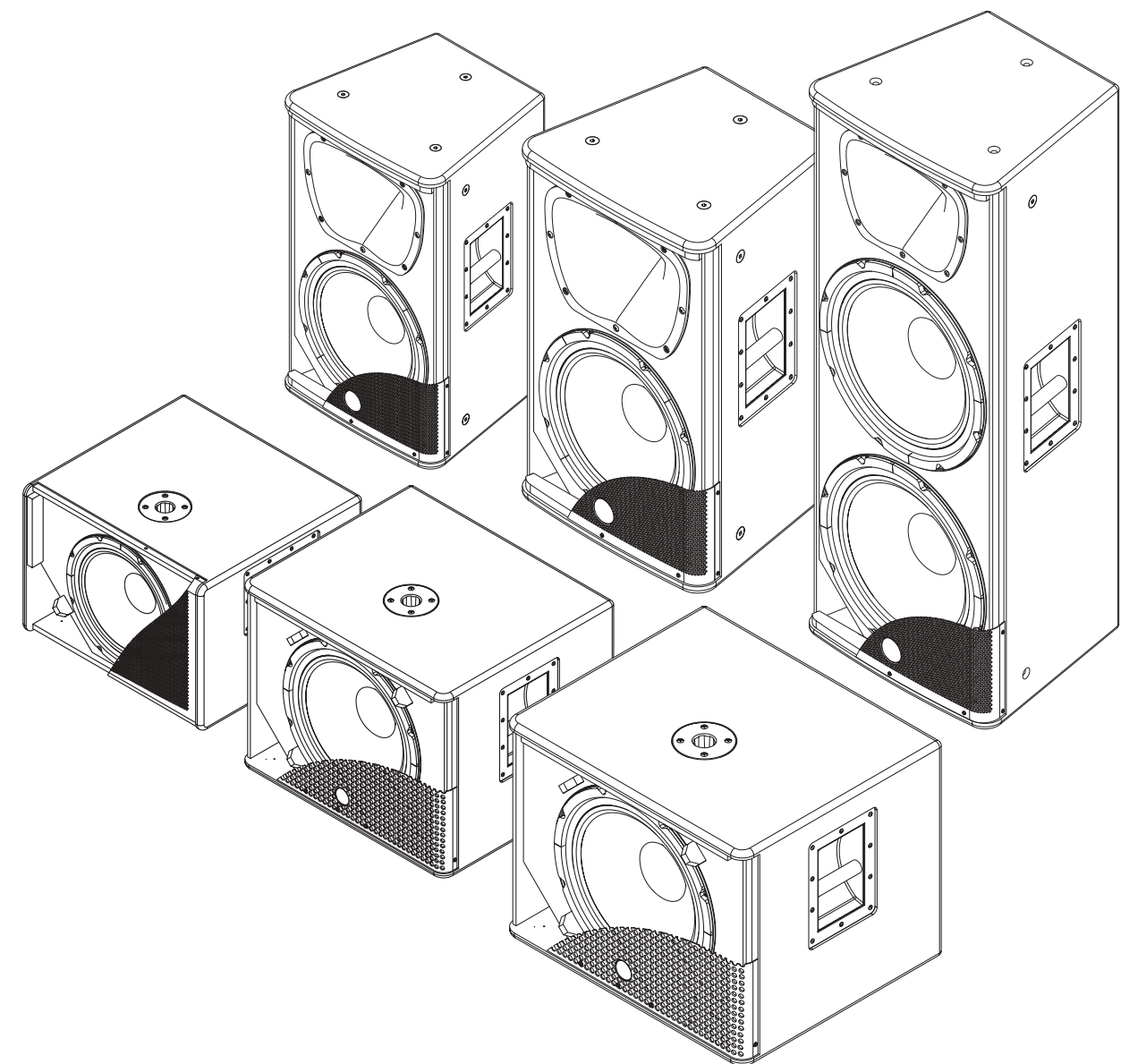
# INVO TONE

**USER'S MANUAL**

## **ACTIVE SPEAKER CABINET**

**DSX12A/15A/215A**


**DSX12SA/15SA/18SA**







# IMPORTANT SAFETY INSTRUCTION



**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)
-  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 choosing INVOTONE. The new INVOTONE DSX series cabinets have been designed to provide a cost effective high grade solution while using high quality components.

The DSX12A/15A/215A are powerful loudspeaker systems adopting a brand new and lightweight 1000Watt continuous Class D power module. DSX/12A/15A/215A also overcome the traditional loudspeaker paradigm. Every model is equipped with the identical 1.75" voice coil compression driver and a woofer of high quality for both solo and combination performance. In spite of the compact system size, the device reaches high levels of soundpressure. Thanks to a continuous and smart DSP processing.

Premium-grade materials, advanced construction and multiple mounting and suspension options allow a wide range of live performance and different applications to be installed. Great pride & care is placed in delivering products of excellent performance, specifications and dependable reliability. Every INVOTONE audio product is strictly tested and complies to very strict standards.

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

### ATTENTION!

Be carefully in setting speakers Input Level.

All Two Way Systems (DSX12A/15A/215A) can be adjusted from low line up to high microphon levels.

## Features

### DSX12A/15A/215A

- \*Attractive and professional appearance
- \*2-Way Active Vented Speaker
- \*1"EXIT, 1.75" Voice Coil Compression Driver
- \*Linkwitz-Riley crossover with 24dB filter slope
- \*1000W Class D Bi-AMP with DSP
- \*Volume control/Power ON with green LED/Clip limiter with Red LED/Ground lift
- \*Thermal/convection fan/overload/ Digital Lim/compressor
- \*110-120V~50/60Hz or 220-240V~50/60Hz switchable
- \*Plywood cabinet, Hi-resistant black paint, metal grille, rubber feet, metal handles
- \*One metal standard pole-mount plus 12xM10 Flying points

### DSX12SA/15SA/18SA

- \*350W Class D for DSX12SA, 1000W Class D for DSX15SA/18SA
- \*In-Left/Mono(COMBO)Right(XLR-F)/Out-Left/Mono Right(XLR-M)/Link-Left/Mono-Right(XLR-M) Balanced(15K Ohms)
- \*Volume Control/Phase Switch/HPF for L-R Satellite or By Pass/Power ON with Green LED/ Clip Limiter with Red LED/ Ground Lift.
- \*Thermal/Convection-Fan/Overload/Lim./Compressor
- \*110-120V~50/60Hz or 220-240V~50/60Hz Switchable
- \*Plywood cabinet, metal grille, rubber feet, metal handles
- \*One metal standard pole-mount

## Useful Data

Please write your serial number here for future reference.

**Serial Number:**

**Date of Purchase:**

**Purchased at:**

## TECHNICAL SPECIFICATIONS

Model Active	DSX15SA
System Type	Active Vented Subwoofer
Power AMP	Class D 1000W
Speaker	15" WF, 3"Sandwich V.C With Long excursion
Frequency Response (-6dB)	45Hz-120Hz
Max SPL	128dB (at 1M)
Connector	In-Left/Mono(COMBO)Right(XLR-F)/Out-Left/Mono Right (XLR-M)/Link-Left/ Mono-Right(XLR-M)Balanced(15K Ohms)
External Controls	Volume Control/Phase Switch/HPF-100Hz for L-R Satellite or By Pass/Power ON with Green LED/Clip Limiter with Red LED/Ground Lift
Electronic Protections	Thermal/Convection-Fan/Overload/Lim./Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plywood cabinet, resistant black paint, metal grille, rubber feet, two metal handles
Dimensions (HxWxD)	450 x580 x 485mm (17.72" x 22.84 x 19.1")
Net Weight	24.95kg/55.03(lbs)
Volume	7.573CFT

Model Active	DSX18SA
System Type	Active Vented Subwoofer
Power AMP	Class D 1000W
Speaker	18" WF, 3"Sandwich V.C With Long excursion
Frequency Response (-6dB)	40Hz-120Hz
Max SPL	129dB (at 1M)
Connector	In-Left/Mono(COMBO)Right(XLR-F)/Out-Left/Mono Right(XLR-M)/Link-Left/ Mono-Right(XLR-M) Balanced (15K Ohms)
External Controls	Volume Control/Phase Switch/HPF-80Hz for L-R Satellite or By Pass/Power ON with Green LED/Clip Limiter with Red LED/Ground Lift
Electronic Protections	Thermal/Convection-Fan/Overload/Lim./Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plywood cabinet, resistant black paint, metal grille, rubber feet, two metal handles
Dimensions (HxWxD)	535 x 661x 515.5mm (21.06" x 26.02 x20.3")
Net Weight	31.84kg/70.2(lbs)
Volume	10.441 CFT

## TECHNICAL SPECIFICATIONS

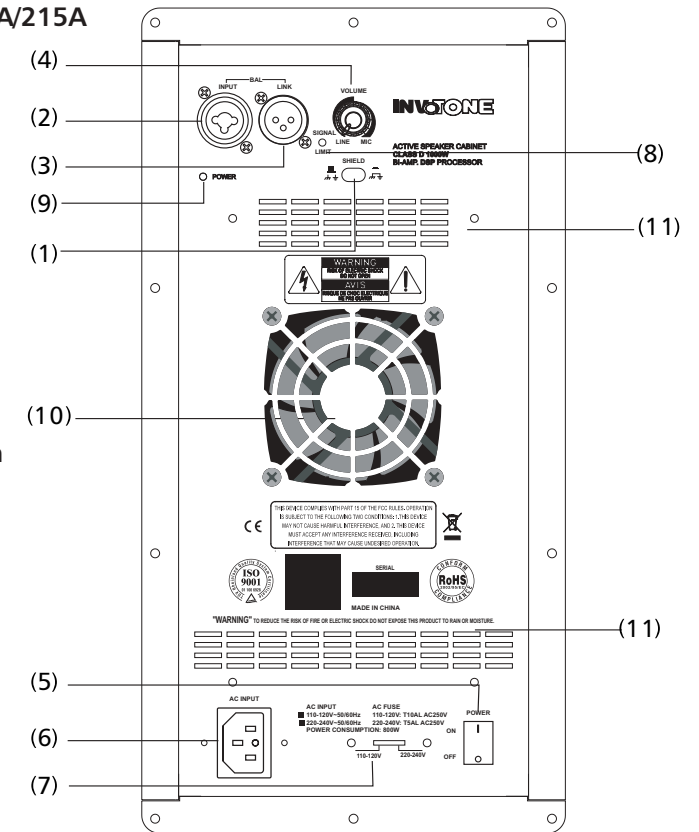
Model Active	<b>DSX215A</b>
System Type	2-Way Active Vented Speaker
Transducer Driver	1" Compression Driver, 1.75" Voice Coil
Transducer Low	2*15" Woofer, 3" voice coil
Frequency Response (-6dB)	45Hz-20KHz
Crossover Frequency	At 1.5KHz with 24dB filter slope, Linkwitz-Riley Type
Max SPL	133dB (at 1M)
Power AMP	Class D 1000W, Bi-AMP with DSP
Input Connector	Line/Mic -Combo/Link-XLR
Input Sensitivity	Line&-6dBu/Mic &-40dBu
External Controls	Volume Control/Power ON with Green LED/ Clip Limiter with Red LED/ Ground Lift.
Electronic Protections	Thermal/Convection-Fan/Overload/Dual Digital Lim./Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plywood cabinet, resistant black paint, metal grille, rubber feet, two metal handles
Mounting	One metal standard pole-mount /12xM10 Flying Points
Dimensions (HxWxD)	43.4"(1100mm) * 16.9"(430mm)* 15.2"(386mm)
Net weight	39.12(kg)/86.2(lbs)
Volume	10.22 CFT

Model Active	<b>DSX12SA</b>
System Type	Active Vented Subwoofer
Power AMP	Class D 350W
Speaker	12" WF, 2.5" voice coil
Frequency Response(-6dB)	47Hz-125Hz
Max SPL	124dB (at 1M)
Connector	In-Left/Mono(COMBO)Right(XLR-F)/Out-Left/Mono Right (XLR-M)/Link-Left/Mono-Right(XLR-M) Balanced (15K Ohms)
External Controls	Volume Control/Phase Switch/HPF-100Hz for L-R Satellite or By Pass/ Power ON with Green LED/Clip Limiter with Red LED/Ground Lift
Electronic Protections	Thermal/Convection-Fan/Overload/Lim./Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plywood cabinet, resistant black paint, metal grille, rubber feet, one metal handle, metal standard pole-mount
Dimensions (HxWxD)	370x530x480mm(14.57"x20.87"x18.90")
Net weight	18.6kg/41.01lbs
Volume	6.1 CFT

## Back Panel Description

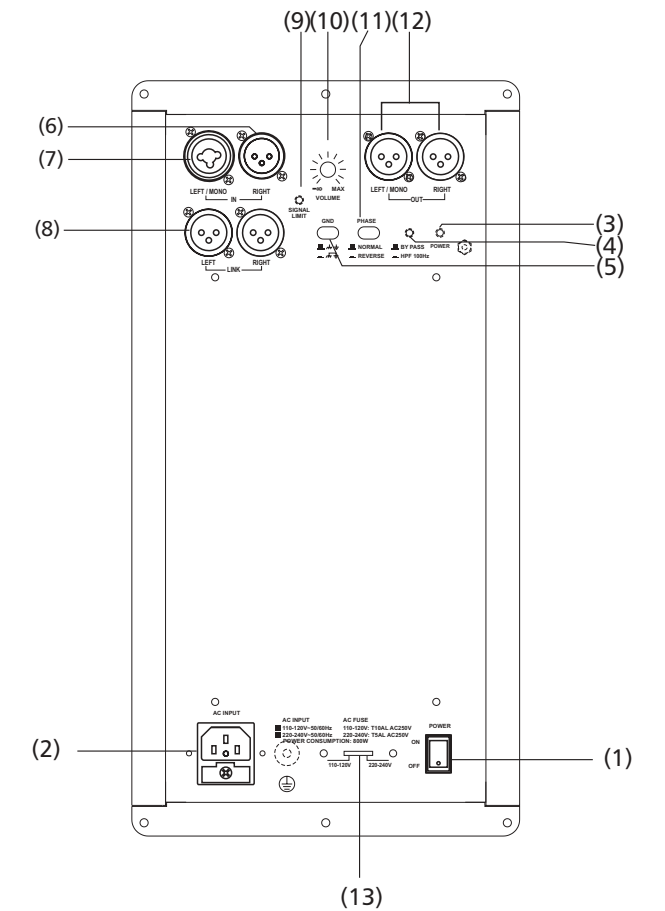
### ACTIVE FULL-RANGE Speaker DSX12A/15A/215A

- (1) Gnd switch
- (2) Mic/line in with combo
- (3) Link on XLR
- (4) Volume control
- (5) Main power switch
- (6) Input AC power socket with AC fuse
- (7) AC input voltage selector
- (8) Clip LED indicator
- (9) Power LED
- (10) Convection fan
- (11) Vents for heat dissipation and ventilation



### ACTIVE SUBWOOFER DSX12SA/15SA/18SA

- (1) ON-OFF main power switch
- (2) Input AC power socket with main fuse
- (3) Power LED, green indicates on status
- (4) Bypass switch, selects high pass filter or bypass filter
- (5) Ground lift switch
- (6) Line in right on XLR connector
- (7) Line in left/mono on combo connector
- (8) Link left/right on XLR connector
- (9) Signal/limit, red LED, indicate on status
- (10) Volume main power amplifier control
- (11) Phase switch reverse the polarity of sub out
- (12) Out left/right on 2xXLR connector
- (13) Power switch selector

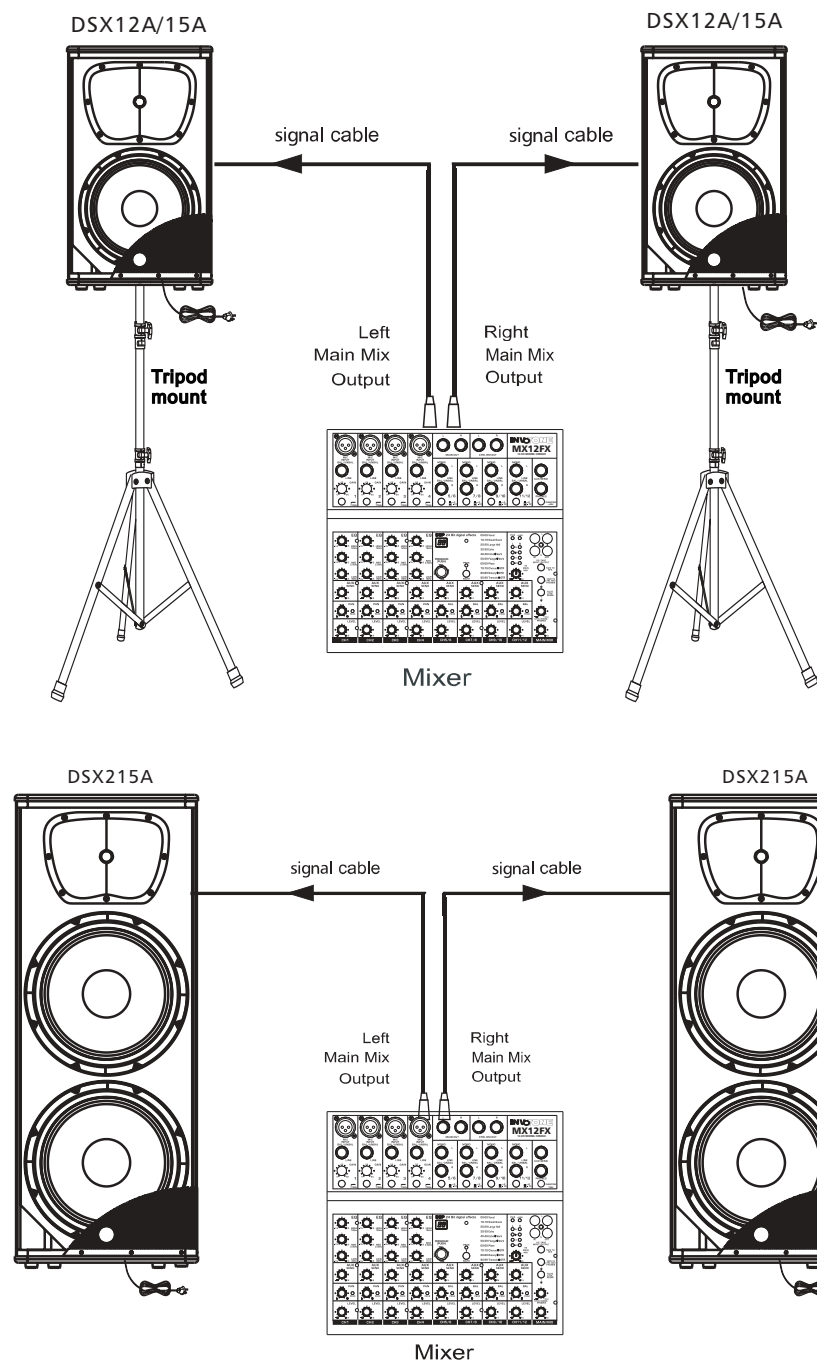


## Connection Plate

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

### For Active Full-range Speaker Cabinet

- 1) Connect one side of the signal cable at your mixer into Output Left/ Right (with Stereo-Jack or XLR) and the other side of cable into the Line Input (COMBO) of your active speaker cabinet (with Stereo-Jack or XLR).
- 2) Connect the power cords to main.
- 3) Turn on your mixer first, then the active speaker cabinets.
- 4) Turn up the volume controls of the active speaker cabinets.
- 5) Use PFL function to get the proper input level for the mixer, and adjust the Main Mix Level control to set the output level.
- 6) After using, turn off your active speaker cabinets first, then the mixer.



## TECHNICAL SPECIFICATIONS

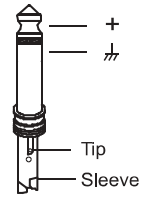
Model Active	<b>DSX12A</b>
System Type	2-Way Active Vented Speaker
Transducer Driver	1" Compression Driver, 1.75" Voice Coil
Transducer Low	12" Woofer, 3" voice coil
Frequency Response (-6dB)	50Hz-20KHz
Crossover Frequency	At 1.5KHz with 24dB filter slope, Linkwitz-Riley Type
Max SPL	128dB (at 1M)
Power AMP	Class D 1000W, Bi-AMP with DSP
Input Connector	Line/Mic -Combo/Link-XLR
Input Sensitivity	Line & -6dBu/Mic & -40dBu
External Controls	Volume Control/Power ON with Green LED/ Clip Limiter with Red LED/ Ground Lift.
Electronic Protections	Thermal/Convection-Fan/Overload/Dual Digital Lim./Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plywood cabinet, resistant black paint, metal grille, rubber feet, two metal handles
Mounting	One metal standard pole-mount /12xM10 Flying Points
Dimensions (HxWxD)	24.6"(625mm) * 15"(380mm)* 13.8"(350mm)
Net weight	23.18(kg)/51.1(lbs)
Volume	4.95 CFT

Model Active	<b>DSX15A</b>
System Type	2-Way Active Vented Speaker
Transducer Driver	1" Compression Driver, 1.75" Voice Coil
Transducer Low	15" Woofer, 3" voice coil
Frequency Response (-6dB)	48Hz-20KHz
Crossover Frequency	At 1.5KHz with 24dB filter slope, Linkwitz-Riley Type
Max SPL	130dB (at 1M)
Power AMP	Class D 1000W, Bi-AMP with DSP
Input Connector	Line/Mic -Combo/Link-XLR
Input Sensitivity	Line & -6dBu/Mic & -40dBu
External Controls	Volume Control/Power ON with Green LED/ Clip Limiter with Red LED/ Ground Lift.
Electronic Protections	Thermal/Convection-Fan/Overload/Dual Digital Lim./Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plywood cabinet, resistant black paint, metal grille, rubber feet, two metal handles
Mounting	One metal standard pole-mount /12xM10 Flying Points
Dimensions (HxWxD)	27.6"(700mm) * 16.9"(430mm)* 15.2"(386mm)
Net weight	26.16(kg)/57.7(lbs)
Volume	6.82 CFT

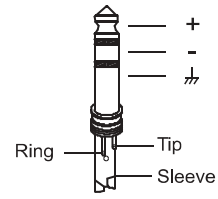
## Wire Connections

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 examples show

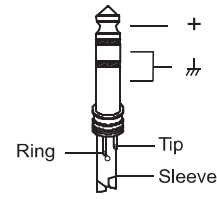
### For 1/4" Phone jack



TS Type Unbalanced

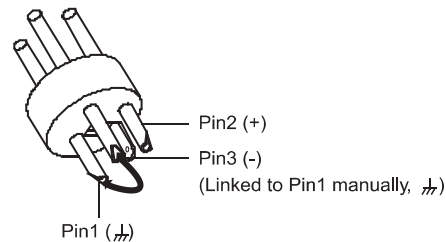


TRS Type Balanced

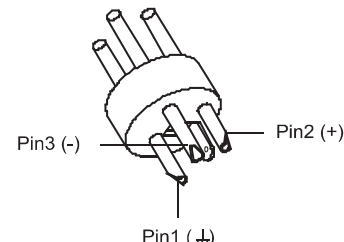


TRS Type Unbalanced

### For XLR connector



XLR Type Unbalanced

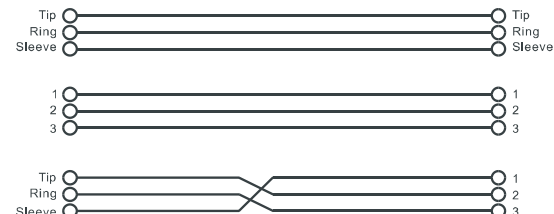
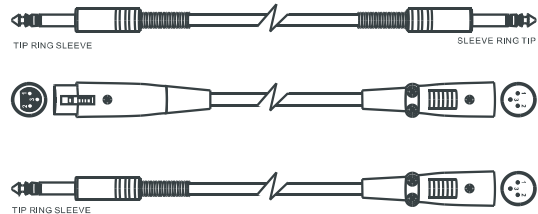


XLR Type Balanced

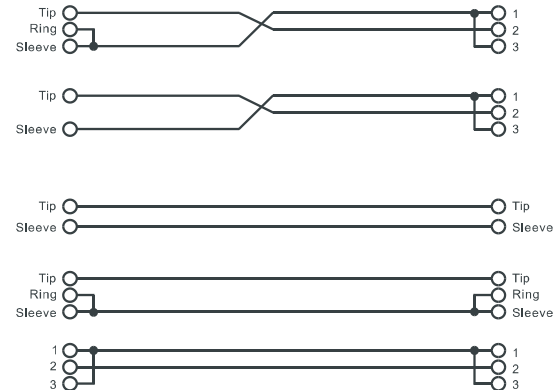
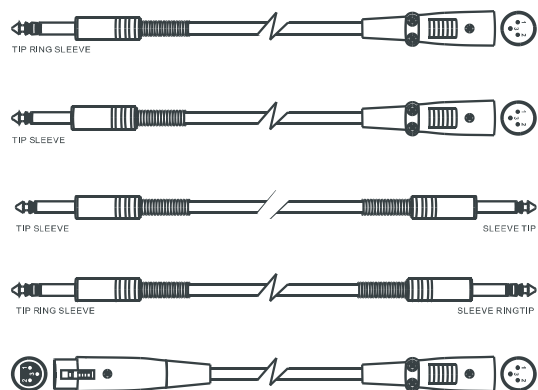
### In-line Connection

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



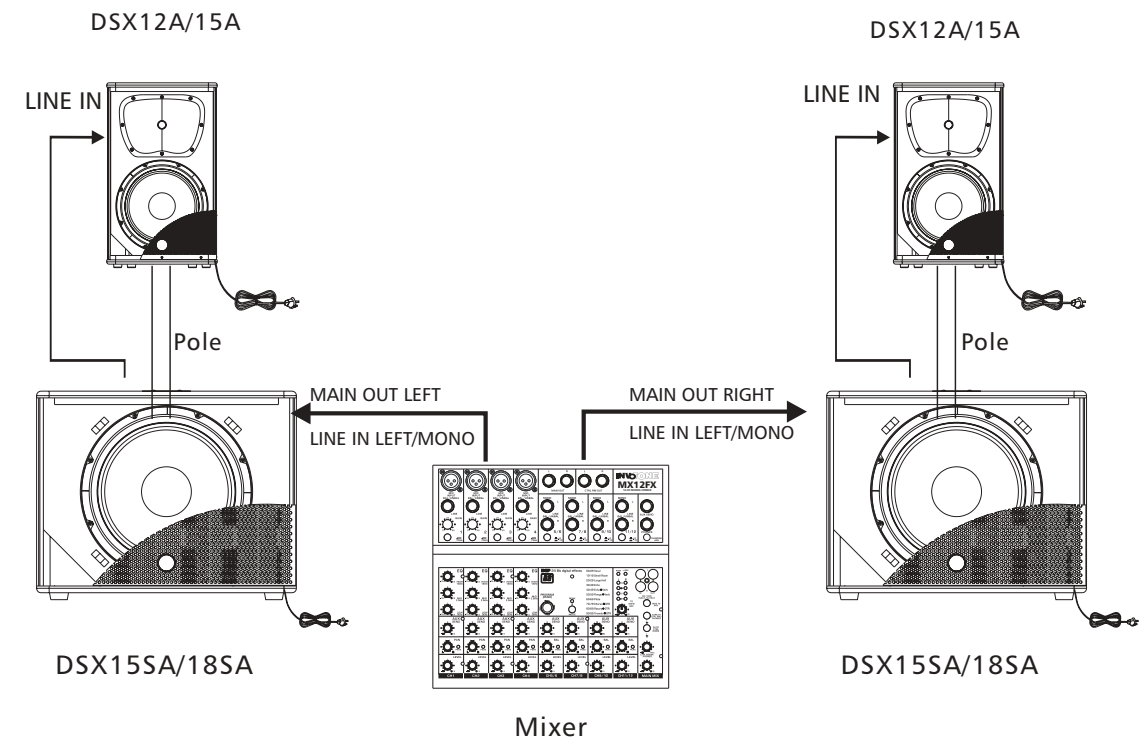
#### • Unbalanced



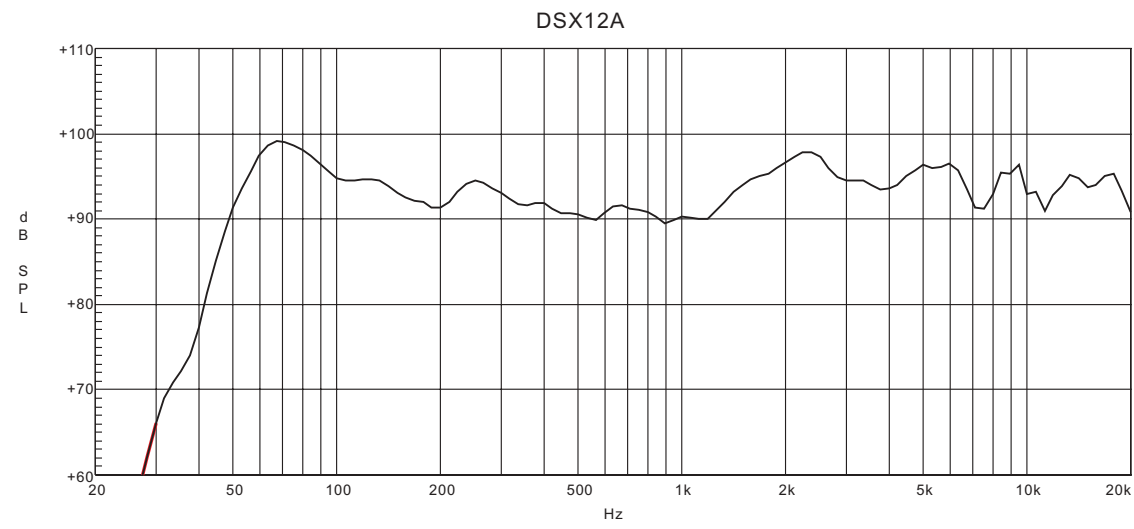
## Connection Plate

### Two Active Subwoofers & Two Active Satellite Speakers

- 1) Make your initial connections with all the equipment powered off, and ensure that all the main volume controls are turned "off" completely, too.
  - 2) Connect one end of the signal cable at your audio mixer into OUTPUT LEFT, and the other end of the cable into the LEFT LINE INPUT of your active subwoofers, Same procedure for the right side speaker.
  - 3) Connect one end of another signal cable at your active subwoofers into LINK LEFT or OUT LEFT, and the other end of the cable into the LINE INPUT LEFT of your active satellite speaker. Same procedure for the right side.
- \*If you connect into the OUT LEFT/RIGHT, and press the BYPASS switch, the 80Hz HPF will be activated.
- 4) Connect the power cords to main.
  - 5) Turn on your mixer first, then the active speaker cabinets.
  - 6) Turn up the volume controls of the active speaker cabinets.
  - 7) Use PFL function to get the proper input level for the mixer, and adjust the Main Mix Level.
  - 8) After using, turn off your active speaker cabinets first, then the mixer.



# Frequency Response Diagram



# Frequency Response Diagram

