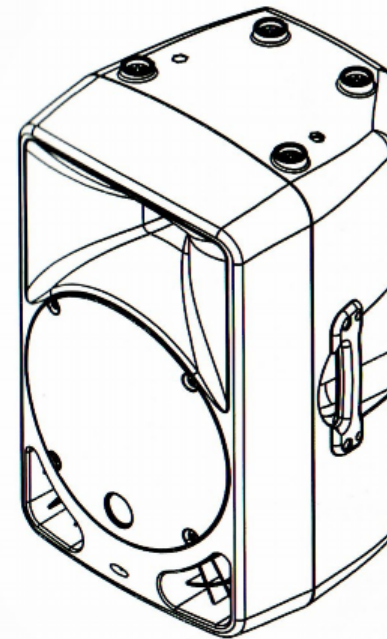


INVOTONE

USER'S MANUAL

IPS12HA/15HA **PROFESSIONAL SPEAKER** ACTIVE MODELS



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 Cards 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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1. INTRODUCTION

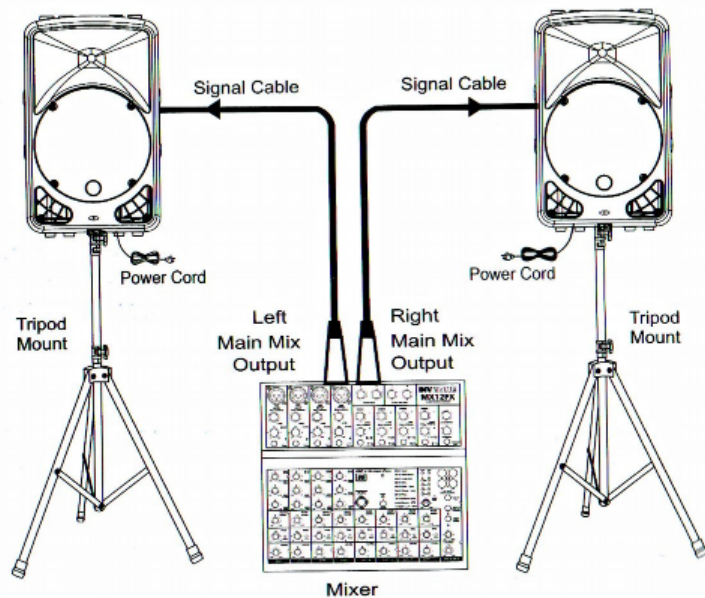
Thank you for purchasing INVOTONE IPS12HA/15HA, active sound reinforcement speaker cabinets. It is just one of the many INVOTONE products which a talented, multinational audio team and engineers and musicians have developed with their great passion for music. Your IPS12HA/ 15HA is capable of enormous sound pressure level and it has been created to give you a performance that is better than any loudspeaker in this range. Thanks to the quality of its transducers, built-in amplifier.

Enjoy your IPS12HA/15HA and make sure to read this Manual carefully before operation!

2. QUICK START

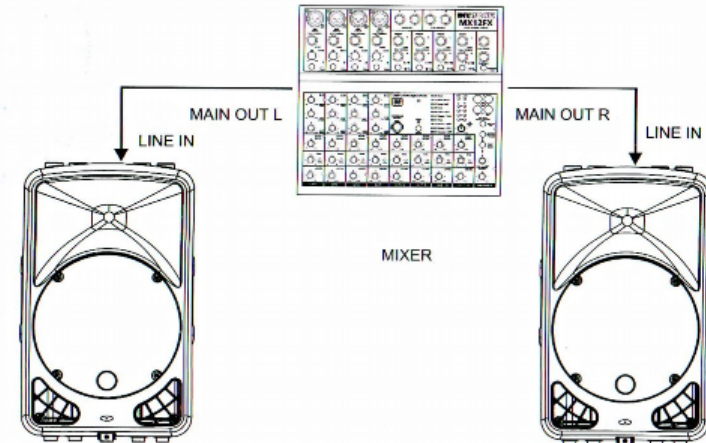
Make all initial connections with all the equipments powered off, and ensure that all the main volume controls are turned completely down.

- 1). Connect one side of the signal cable at your audio mixer into output left / right (with Stereo-Jack or XLR) and the other side of the signal cable into the line input (Stereo-Jack) of your active speaker cabinet.
- 2). Connect the power cord to mains.
- 3). Turn on your mixer first, then the active speaker cabinets.
- 4). Turn up the volume control 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 manipulate the output level.
- 6). After using, turn off your active speaker cabinets first, then the mixer.

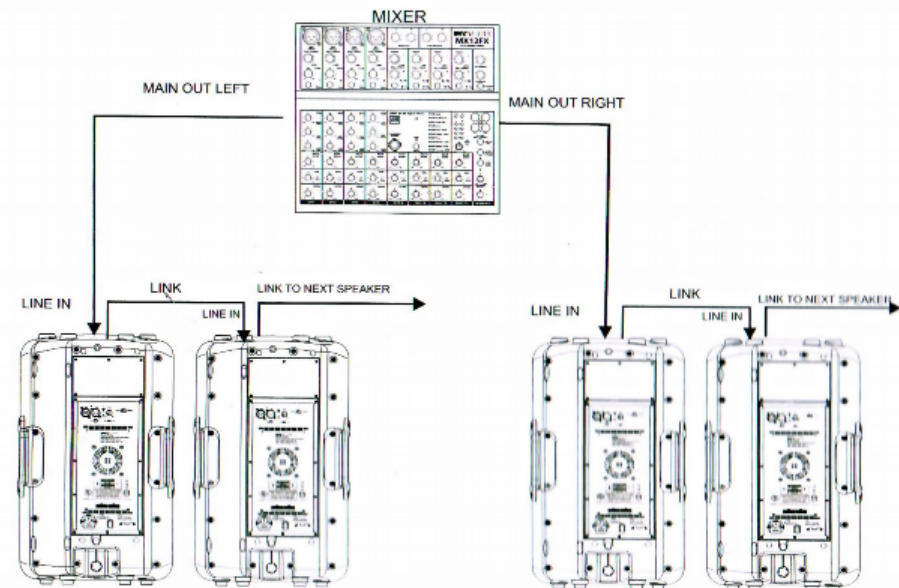


3. HOOKUP DIAGRAMS

Two speakers in stereo operation

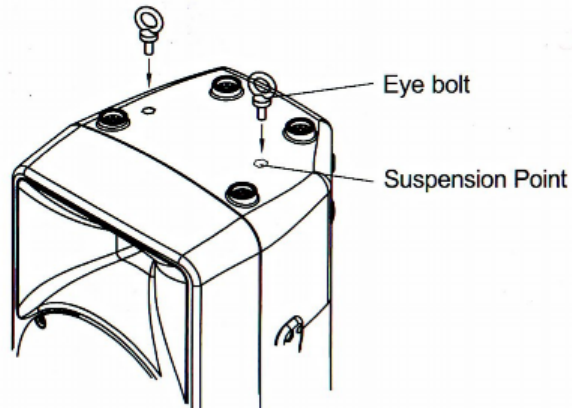


Multiple speakers with the same stereo source

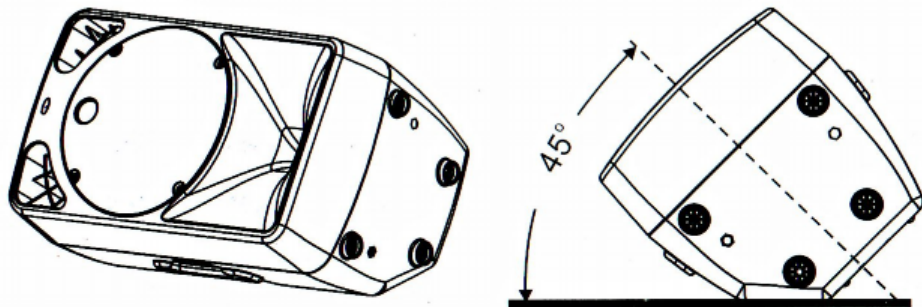


4. RIGGING

The IPS12HA/15HA speaker cabinet also provides the suspension points for installation. (M10x1.5PH LENGTH: 30mm).
For further details, please refer to the right illustration.



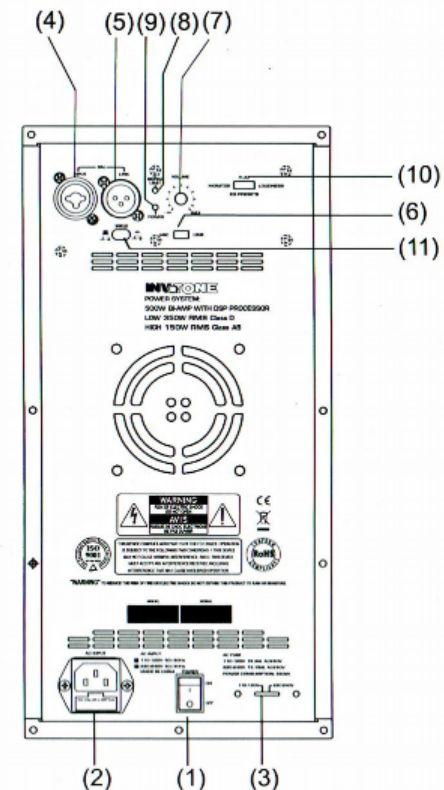
The floor use is as a function of a monitor when the angle is 45°



5. PANEL DESCRIPTION

AMP INTERFACE

- (1) BI-POLAR MAIN POWER SWITCH
- (2) AC POWER SOCKET WITH MAIN FUSE
- (3) POWER SWITCHABLE
- (4) LINE/MIC INPUT ON COMBO CONNECTOR
- (5) LINK OUT ON XLR CONNECTOR
- (6) "INPUT SENSITIVITY" SWITCH FOR LINE & MIC
- (7) MAIN VOLUME CONTROL
- (8) CLIP INDICATOR RED LED
- (9) POWER INDICATOR GREEN LED
- (10) THE IPS12HA/15HA IS SUPPLIED WITH 3 PRESETS, SELECT YOUR FAVORITE AMONG MONITOR-FLAT-LOUDNESS.
MONITOR preset is for cutting lows for stage monitor to get a natural mid-low response.
FLAT preset is suited for live sound reinforcement making sound more enjoyable.
LOUDNESS preset is to equalize the mix for optimal music playback.
- (11) GROUND SWITCH

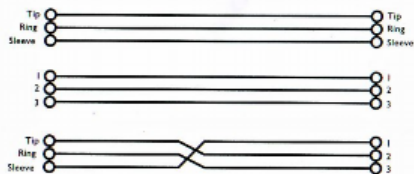
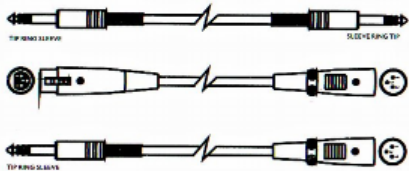


6. WIRE CONNECTIONS

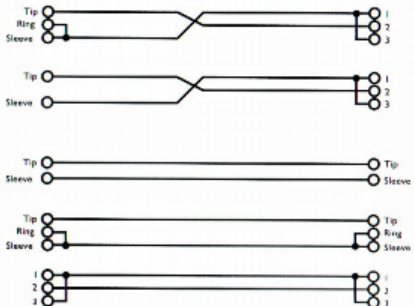
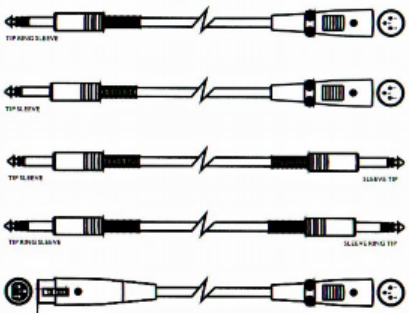
- For Active Speaker Cabinets

As to these circumstances, audio connections are mostly intended for the signal flow, so, determine the wire configuration according to your real application system and its connecting facility. Normally, you have the following choices:

• Balanced



• Unbalanced



7. TECHNICAL SPECIFICATIONS

Model Active	IPS12HA
System Type	2-Way Active Speaker
Transducer Low	12" Neodymium Woofer, 2.5" Voice Coil
Transducer High	1" Compression Driver, 1.75" Voice Coil
Horn Coverage H°XV°	90°H x 45°V
Frequency Response	50Hz-20kHz With FLAT(-6dB)
Crossover Frequency	1.6kHz-DSP Processor 24dB/oct
Max SPL(1M)	123dB Max.
Power system	Bi-Amp (Low: Class D 350W High: Class AB 150W), RMS 500W
Connector	Line / Mic Input With Combo & Link With XLR
External Controls	Volume Control / Line & Mic Switch / Presets Switch / Power on with Green LED / Clip Limiter with Red LED / Ground Lift.
EQ Presets	MONITOR-FLAT-LOUDNESS
Electronic Protections	Thermal / Overload / Digital Limiter / Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plastic Cabinet, Trapezoidal & Monitor Shape, Metal Grille, Rubber feet, 2* Handles (both sides)
Mounting	36mm standard pole-mount, M10* 6PCS Flying Points
Dimensions (H x W x D)	664 x 396 x 362mm
Net Weight	17.4kg/38.36lbs

Model Active	IPS15HA
System Type	2-Way Active Speaker
Transducer Low	15" Neodymium Woofer, 2.5" Voice Coil
Transducer High	1" Compression Driver, 1.75" Voice Coil
Horn Coverage H°XV°	90°H x 45°V
Frequency Response	45Hz-20kHz With FLAT(-6dB)
Crossover Frequency	1.5kHz-DSP Processor 24dB/oct
Max SPL(1M)	124dB Max.
Power System	Bi-Amp (Low: Class D 350W High: Class AB 150W), RMS 500W
Connector	Line / Mic Input With Combo & Link With XLR
External Controls	Volume Control / Line & Mic Switch / Presets Switch / Power on with Green LED / Clip Limiter with Red LED / Ground Lift.
EQ Presets	MONITOR-FLAT-LOUDNESS
Electronic Protections	Thermal / Overload / Digital Limiter / Compressor
Power Supply	110-120V~50/60Hz or 220-240V~50/60Hz Switchable
Enclosure Construction	Plastic Cabinet, Trapezoidal & Monitor Shape, Metal Grille, Rubber feet, 2* Handles (both sides)
Mounting	36mm standard pole-mount, M10* 6PCS Flying Points
Dimensions (H x W x D)	664 x 396 x 402mm
Net Weight	18.3kg/40.34lbs

8. WARRANTY

1. WARRANTY REGISTRATION CARD

To obtain Warranty Service, the buyer should first fill out and return the enclosed Warranty Registration Card within 10 days of the Purchase Date.

All the information presented in this Warranty Registration Card gives the manufacturer a better understanding of the sales status, so as to provide a more effective and efficient after-sales warranty service. Please fill out all the information carefully and genuinely, miswriting or absence of this card will void your warranty service.

2. RETURN NOTICE

- 2.1 In case of return for any warranty service, please make sure that the product is well packed in its original shipping carton, and it can protect your unit from any other extra damage.
- 2.2 Please provide a copy of your sales receipt or other proof of purchase with the returned machine, and give detail information about your return address and contact telephone number.
- 2.3 A brief description of the defect will be appreciated.
- 2.4 Please prepay all the costs involved in the return shipping, handling and insurance.

3. TERMS AND CONDITIONS

- 3.1 INVOTONE warrants that this product will be free from any defects in materials and/or workmanship for a period of 1 year from the purchase date if you have completed the Warranty Registration Card in time.
- 3.2 The warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.
- 3.3 During the warranty service, INVOTONE may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with the right side of this limited warranty.
- 3.4 This warranty does not apply to the damages to this product that occurred as the following conditions:
 - Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.
 - Normal tear and wear.
 - The product has been altered or modified in any way.
 - Damage which may have been caused either directly or indirectly by another product / force / etc.
 - Abnormal service or repairing by anyone other than the qualified personnel or technician.And in such cases, all the expenses will be charged to the buyer.
- 3.5 In no event shall INVOTONE be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.
- 3.6 This warranty gives you the specific rights, and these rights are compatible with the state laws, you may also have other statutory rights that may vary from state to state.