

**iSP**  
**Technologies**

ACTIVE  
SERIES



**XMAX 118/115**  
**SUBWOOFER**  
**ACTIVE 3 WAY SPEAKER SYSTEM**  
**OWNERS MANUAL**

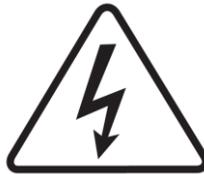
## IMPORTANT SAFETY INSTRUCTIONS

### **Please read the following very carefully before operating this unit**

- Read ALL instructions carefully before using this unit. Keep these instructions for future reference. Heed all warnings and follow all instructions.
- Do not use this unit near water, in the rain, or where there is moisture. If this warning is ignored a serious electrical shock or death may occur.
- Do not attempt to service this unit. No user serviceable parts inside. Refer servicing to qualified, ISP approved personnel. Servicing is required when the unit is damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Do not block any ventilation openings on the unit. Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus that produces heat.
- Do not defeat the grounding pin on the power plug. A grounding type plug has two blades and a third grounding prong. If the grounded plug does not fit in your outlet, please consult an electrician for replacement of the outlet, which may be obsolete.
- Care should be taken to avoid any foreign objects or liquid into this unit. Avoid exposure of this equipment to dripping or splashing and ensure that no objects filled with liquid, such as vases, are placed on the equipment.
- Only use accessories or attachments that are specified by the manufacturer.
- Use only with the caster attachment, stand, connecting bracket, or table specified by the manufacturer, or sold as an accessory with the unit. When a castor attachment is used, use caution when moving the cart/apparatus combination to avoid injury from tipping over.
- To completely disconnect this unit from the AC mains, disconnect the power supply cord plug from the AC receptacle.
- This active speaker system has internal power amplifier(s) and a heatsink located internally with cooling ports on the back of the unit for airflow over the heatsink. Care should be taken to avoid placing this active speaker in a location where the airflow over the heatsink is impeded and proper cooling of the internal amplifiers is not provided. Avoid placing this system close to other heat sources. The external heatsink may reach high temperatures under normal use. Do not block the external heatsink with any other object. Make certain there is proper ventilation for the external heatsink when in use.
- Do not drive the unit into excessive heavy distortion for an extended period of time to avoid premature speaker failure.
- Failure to follow these instructions may void the warranty.



THIS UNIT CONTAINS POTENTIALLY LETHAL VOLTAGES. TO PREVENT ELECTRIC SHOCK OR HAZED, DO NOT REMOVE THE POWER AMPLIFIER MODULE, INPUT PANEL OR AC INPUT PANEL. NO UER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED ISP TECHNOLOGIES SERVICE PERSONNELL.



The lightning bolt triangle is used to alert the user to the risk of electric shock.



The exclamation point triangle is used to alert the user to important operating or maintenance instructions.

# Caution: Exposure to extremely high noise levels can cause permanent hearing loss.

The XMAX speaker system is capable of producing in excess of 130db SPL at 1 meter. Continued exposure to noise levels in excess of 90db may cause permanent hearing loss. Below is a chart of the OSHA (Occupational Safety & Health Administration) regulations for Occupational Noise Exposure. Please note: OSHA requires hearing protection for any work environment when the sound levels exceed those shown in Table G-16 when measured on the A scale of a standard sound level meter at slow response.

TABLE G-16- PERMISSIBLE NOISE EXPOSURES	
Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4	115

## INTRODUCTION

Thank you for purchasing ISP Technologies XMAX active subwoofer system. The XMAX is a high output active subwoofer system for high SPL sound reinforcement applications. The XMAX was designed with a 1000 watt 18 inch woofer. The XMAX incorporates a *High Current D-CAT™* power amplifier system capable of producing upwards of 600 watts RMS as a stand-alone system. The XMAX can deliver over 1000 watts RMS power. The amplifier receives its input signal from an internal 4<sup>th</sup> order crossover network specifically designed to provide optimized phase and frequency response for a composite system. The internal amplifier is based on ISP Technologies patent pending D-CAT (Dynamic Current Amplifier Technology) amplifier technology. The D-CAT technology is capable of delivering extremely high output current providing an improvement in transient response, output current and a noticeable improvement in **PUNCH**. The D-CAT amplifier technology utilizes a monolithic power amplifier driver that reduces parts count and greatly improves reliability. The D-CAT amplifiers provide improved reliability by including short circuit and over temperature protection.

The XMAX offers XLR balanced inputs and XLR balanced full range and High Pass outputs allowing connections for multiple speakers in a system. A sensitivity adjustment knob allows you to adapt the XMAX speaker for a wide range of common signal levels. The XMAX subwoofer cabinet is made of high quality 13 ply Baltic birch plywood with a durable spray on black finish for long life.

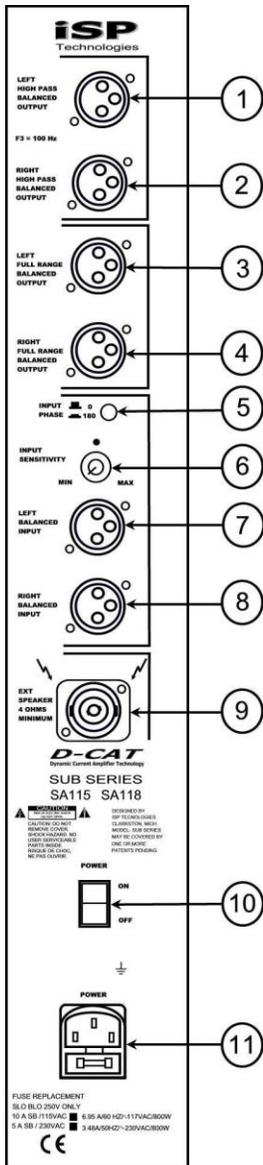
## **PLACEMENT**

The XMAX is designed to sit directly on the floor or stage. Do not position or mount the cabinet where it can tip over and fall on someone. Do not attempt to mount the cabinet on speaker stands. Do not attempt to 'fly' (suspend by cables, chains, ropes, etc.) the cabinet. It was not designed for flying. Position it only on a flat, stable surface where it is not in danger of tipping over.

Also note that the placement of the cabinet relative to floors and walls will affect the low frequency response. Placing it closer to the floor and walls will reinforce the low frequency response. Also make sure that adequate space (at least 6 inches) is left behind the cabinet for airflow over the internal amplifier heatsink.

A pole mount socket is provided on the top of the XMAX for mounting one of ISP Technologies Active Series Tripower or VMAX series speakers. A standard 1-3/8 inch pole is required for mounting the Tripower speakers. To avoid accidents and insure stability this pole length should not exceed 2 feet in length.

# REAR PANEL DESCRIPTION



**1. LEFT HIGH PASS BALANCED OUTPUT-** This XLR male connector provides a balanced high pass output from the left channel input. The high pass frequency is set at 100 Hz with a 24 dB per octave roll off.

**2. RIGHT HIGH PASS BALANCED OUTPUT-** This XLR male connector provides a balanced high pass output from the right channel input. The high pass frequency is set at 100 Hz with a 24 dB per octave roll off.

**3. LEFT FULL RANGE BALANCED OUTPUT-** This XLR male connector provides a balanced full range output from the left channel input. This connector may be used to daisy-chain the full range signal to additional powered sub cabinets such as another XMAX or SA115.

**4. RIGHT FULL RANGE BALANCED OUTPUT--** This XLR male connector provides a balanced full range output from the right channel input. This connector may be used to daisy-chain the full range signal to additional powered sub cabinets such as another SA 118 or SA115.

**5. INPUT PHASE SWITCH-** This switch is used to change the polarity of the input signal going to the power amp of the subwoofer. This will be dependent on the placement of the Tripower relative to the subwoofer or if another type of powered cabinet is to be used. The (0) setting (switch out) will make the subwoofer phase coherent with any of the Tripower series. This switch will not change the phase of any of the balanced outputs.

**6. INPUT SENSITIVITY-** This control determines the overall input level of the signal to the power amp section of the subwoofer cabinet. Adjusting this level will not affect the level of the signal passing through to the full range or the high pass outputs.

**7. LEFT BALANCED INPUT-** This female XLR connector provides an input for the left channel signal source. This will also feed the left channel signal to the left high pass and left full range balanced outputs.

**8. RIGHT BALANCED INPUT-** This female XLR connector provides an input for the right channel signal source. This will also feed the right channel signal to the left high pass and right full range balanced outputs.

**9. EXTENSION SPEAKER OUTPUT-** Not functional on XMAX Subwoofer.

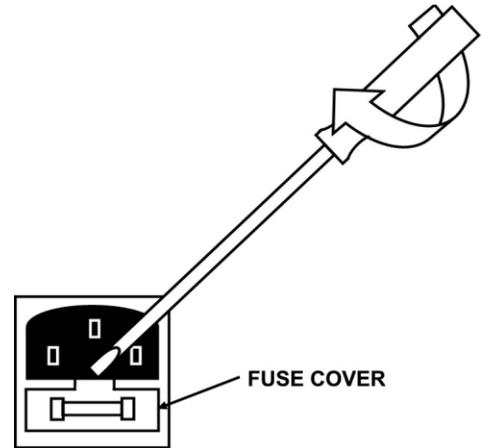
**10. POWER SWITCH-** This switch provides power to the subwoofer amp section. Make sure that the input sensitivity control is set to minimum upon power up

**11. POWER INLET MODULE-** This module provides a connection for the power cord and also houses the mains fuse. **(See Fuse Replacement Section)**

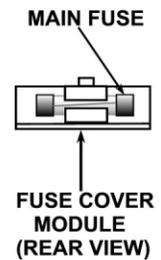
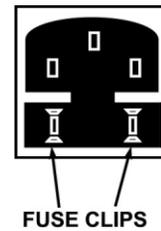
# FUSE REPLACEMENT

1. Use a small screwdriver as shown to slide the fuse cover out from the power inlet module. The fuse can be found inside the fuse cover module after it is pulled out.

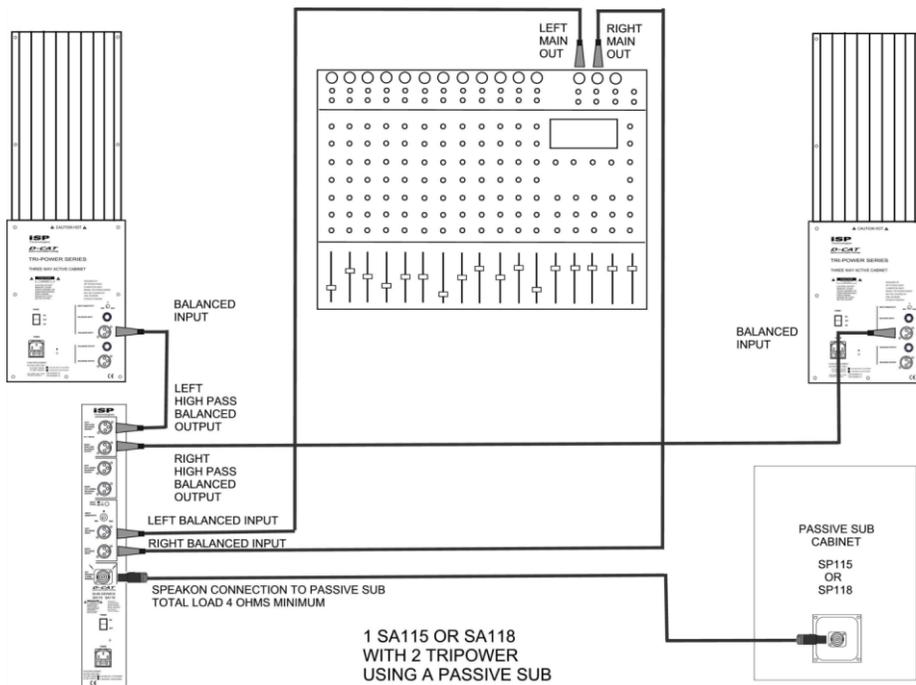
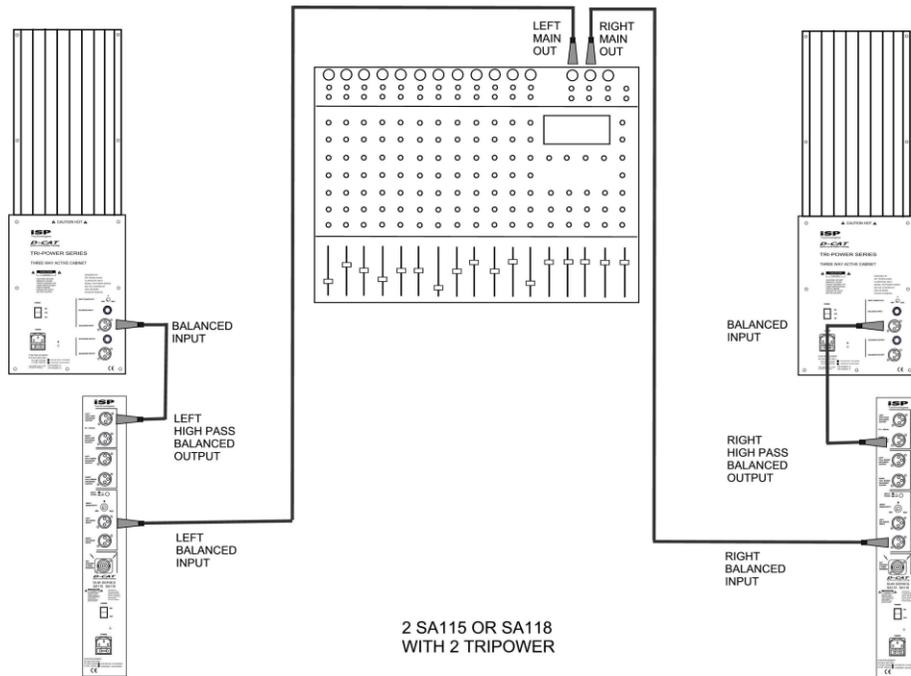
**NOTE: A SMALL COMPARTMENT IS ALSO PROVIDED WITHIN THE FUSE COVER MODULE FOR STORING A SPARE FUSE.**



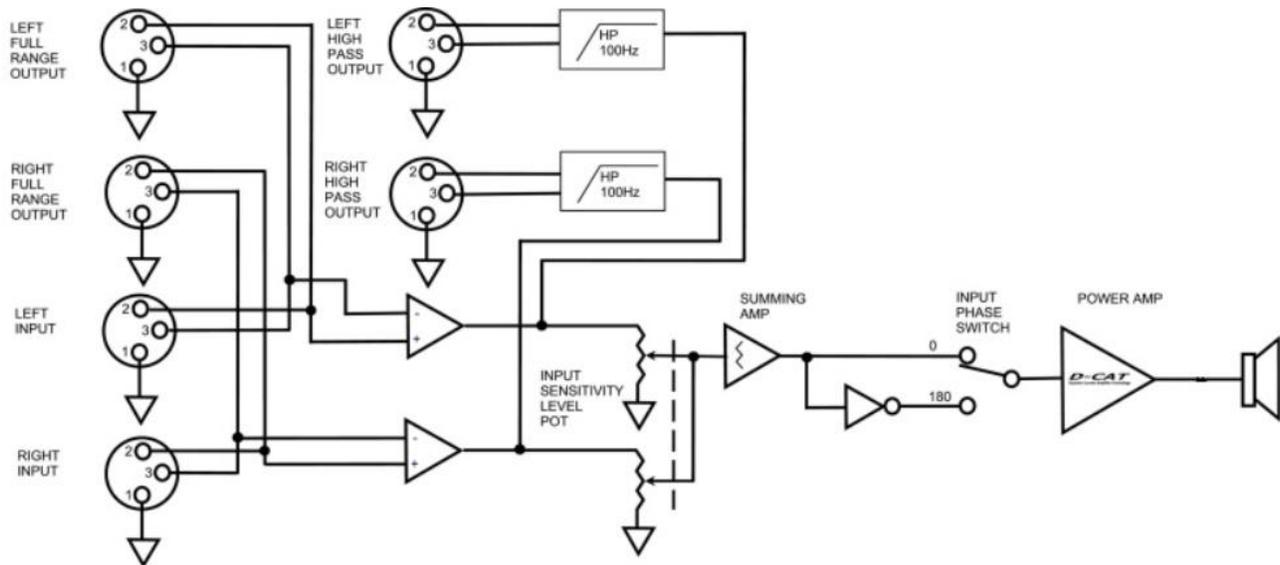
2. After replacing the fuse with another of identical specifications, push the fuse cover module fully back into place, ensuring that the fuse has snapped onto the fuse holder inside the power inlet module.



# CONNECTION DIAGRAM



## BALANCED CONNECTION DESCRIPTION



The ISP Sub Series has balanced XLR and inputs and outputs configured to AES standards (Audio Engineering Society). These connections are connected in a loop through configuration from the inputs to the full range outputs and will accept a balanced line-level input. The standard phase configuration is that pin 2 is (+), pin 3 is (-), and pin 1 is shielded ground on the XLR.

## SPECIFICATIONS

<b>System</b>	<b>XMAX 118</b>	<b>XMAX 115</b>
Frequency Range (-10dB)	33Hz - 100Hz	35Hz – 100 Hz
Frequency Response (-3dB)	<b>42Hz - 90Hz</b>	48Hz - 90 Hz
Peak Output @ 1m	<b>128 dB SPL</b>	127 dB SPL
Crossover Point	<b>100Hz (24db per Octave)</b>	90 Hz (24db per Linkwitz-Reily)
Input Type	<b>Balanced differential</b>	<b>Balanced differential</b>
Input Impedance	10K ohms	10K ohms
<b>Transducer</b>		
<i>Low-Frequency Transducer</i>		
Diameter	<b>18" (457mm)</b>	15"(386mm)
Voice Coil Diameter	<b>4" (76.2mm)</b>	<b>4" (76.2mm)</b>
Power Handling	<b>1000 watts rms</b>	<b>1000 watts rms</b>
<b>D-CAT Technology Power Amplifier</b>		
<i>Low-Frequency Amplifier</i>		
Power Output	<b>1000 watts RMS</b>	<b>1000 watts RMS</b>
THD	<b>0.06% typical</b>	<b>0.06% typical</b>
<b>Line Input Power</b>		
Voltage	117VAC, 60 Hz	117VAC, 60 Hz
Current	<b>10 amps</b>	<b>10 amps</b>
Power	<b>1700 watts</b>	<b>1700 watts</b>
<b>Physical</b>		
Height	<b>32.5" (825mm)</b>	27.5" (699mm)
Front Width	<b>24" (609mm)</b>	19.63" (499mm)
Depth	<b>24" (609mm)</b>	19.87" (505mm)
Weight	140 lbs.	105 lbs
Enclosure	<b>18mm thick, 13 ply Baltic Birch</b>	<b>15mm thick, 11 ply Baltic Birch</b>
Mounting Methods	<b>Floor mount</b>	<b>Floor mount</b>

Thermal Protection

Output Drivers have internal protection, self-resetting. Heatsink temperature monitored and input is muted if safe temperature is exceeded self-resetting. Transformer has internal thermal fuse, self-resetting.

Note: **D-CAT and XMAX** are trademarks of ISP Technologies Inc.

## **THERMAL CONDITIONS**

The ISP Sub Series is capable of producing 1000 watts at full power. This generates heat that must be dissipated in order to maintain reliability and insure the amplifier components stay within their operating temperature specs. To accomplish this the amplifier is mounted onto a heatsink that is exposed in the front port of the cabinet. Airflow is forced through the fins via the air pressure from the speaker. It is recommended that the fins have at least 6 inches of clearance from any obstruction to allow proper ventilation to occur.

In addition the amplifiers are thermally protected internally via a thermal switch, which will attenuate the signal 40db when the temperature exceeds a certain point. When the temperature drops below a certain point, full signal will be restored. Tests have shown under extreme conditions that cycling will occur (40 sec. ON, 20 sec. OFF).

Under extreme conditions, such as when ambient temperatures are too high (hot rooms, extreme outdoor temperatures) it is recommended to use a fan on the fins to reduce the cycling affects.

## **WARRANTY AND SERVICE**

The unit, parts and workmanship are fully guaranteed to be free of defects under normal use and service for a period of three year from the date of purchase.

Any damage resulting from the misuse or the failure to follow the precautions and instructions will void the warranty.

In the event that the unit needs to be repaired, please return the unit to ISP Technologies directly. Simply repack the unit, send a copy of the original receipt, a note stating the problem, and send it to:

ISP TECHNOLOGIES, LLC  
5479 PERRY DRIVE SUITE B  
WATERFORD, MI. 48329  
Attn: Repair Dept.

All shipping charges must be fully prepaid.

ISP will not be responsible for any damages incurred in shipping of any unit. Any claim will need to be settled with the shipping company.

The warranty will be voided if the serial number has been tampered with in any way. The warranty card must also be filled out and mailed into ISP Technologies in order to activate.

Should you have any questions for the repair department prior to returning the product please call 1-248-673-7790.

NOTE: This Product may be covered under one or more of the following patents or patents pending: 7,035,413; 6,944,305; 6,931,134; 6,831,514; 6,091,013

NOTE: If it is determined that the power amp module has failed, it is possible for an ISP certified service center to remove the module from the cabinet by removing the mounting screws and disconnecting the speaker terminals and the transformer. The module may be sent back to ISP separately. Please contact ISP for technical support to help determine if the amplifier module may be defective.



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