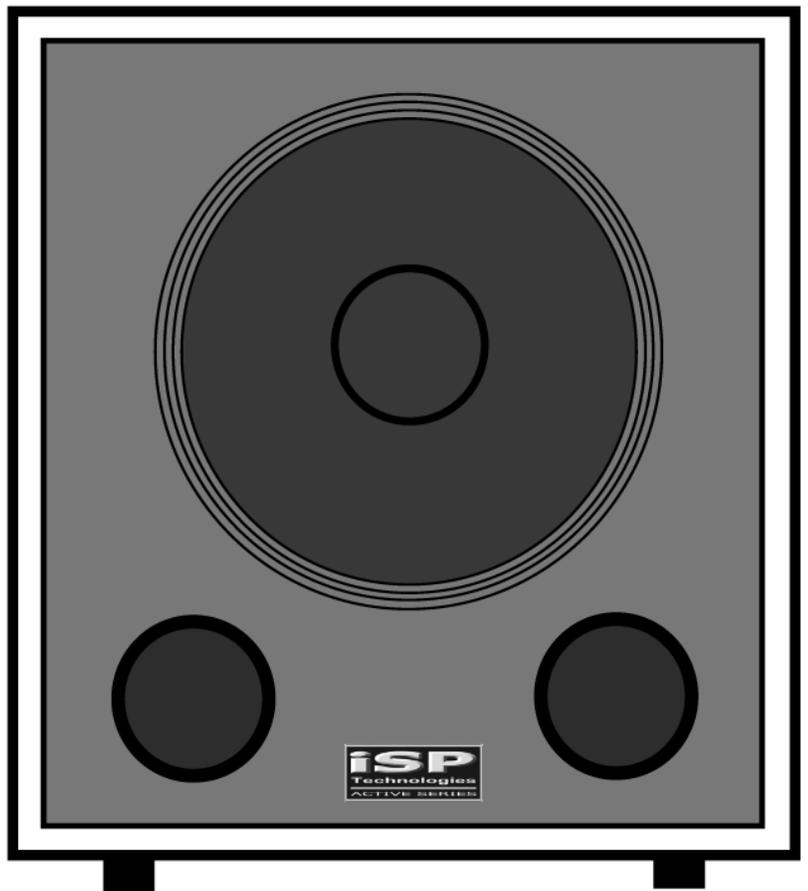


iSP
Technologies

ACTIVE SERIES



SA115

**ACTIVE SUBWOOFER SYSTEM
OWNERS MANUAL**

IMPORTANT SAFETY INSTRUCTIONS!

Please read this very carefully before operating this unit

- Read **ALL** instructions carefully before using this unit.
- Do not operate 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 service personnel.
- Never remove or defeat the ground connection on the power cord of this unit.
- Care should be taken to avoid spilling any foreign objects or liquid into this unit.
- This active speaker system has an internal amplifier and an externally visible heatsink located on the back of the speaker for cooling of the internal amplifier. Care should be taken to avoid placing this active speaker in a location where the external heatsink does not allow proper cooling of the internal amplifier. 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 is use.
- Do not drive the SA115 into excessive heavy distortion for an extended period of time to avoid premature speaker failure.
- Failure to follow these instructions may void the warranty.



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

The SA115 speaker system is capable of producing in excess of 126db 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 SA115 active subwoofer system. The SA115 is a high output active subwoofer system for high SPL sound reinforcement applications. The SA115 was designed with a 400-watt 15-inch woofer. The SA115 incorporates a *High Current D-CAT™* power amplifier system capable of producing upwards of 600 watts RMS as a stand-alone system. The SA115 can deliver over 900 watts RMS when connected to one of ISP Technologies passive satellite subwoofers, SA115 or SA118. The amplifier receives its input signal from an internal fourth 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 SA115 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 SA115 speaker for a wide range of common signal levels. The SA115 subwoofer cabinet is made of high quality 13 ply Baltic birch plywood with a durable spray on black finish for long life.

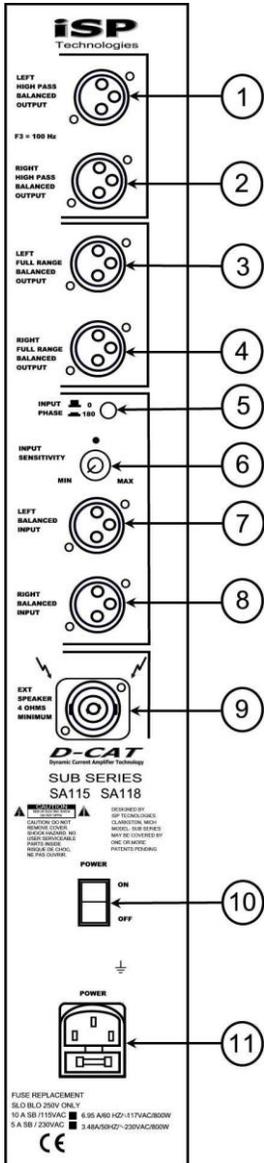
PLACEMENT

The SA115 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 SA115 for mounting one of ISP Technologies Active Series Tripower 12 or Tripower 12XL three-way speakers. A standard 1.5-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

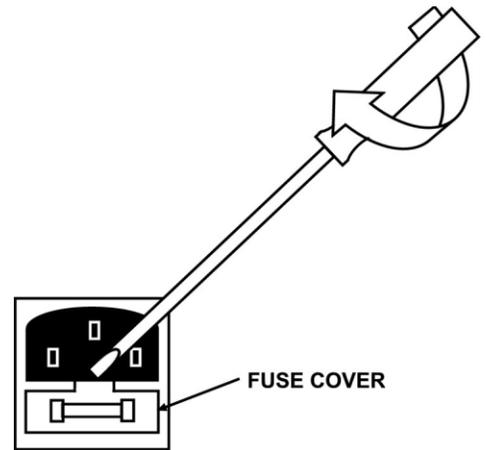


1. **LEFT HIGH PASS BALANCED OUTPUT-** This XLR male connector provides a balanced high pass output from the left channel input. The high pass frequency is set at 100 Hz with a 24 dB per octave roll off.
2. **RIGHT HIGH PASS BALANCED OUTPUT-** This XLR male connector provides a balanced high pass output 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 SA118 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. **EXTENTION SPEAKER OUTPUT-** This Speakon connector provides an output for a passive extension speaker such as the SP115 or SP118. This will also increase the power output of the subwoofer amplifier from 600 watts to 900 watts. If another cabinet is to be used other than a SP115 or SP118 as an extension cabinet, make sure the load of the extension speaker is not less than 4 ohms.
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)**

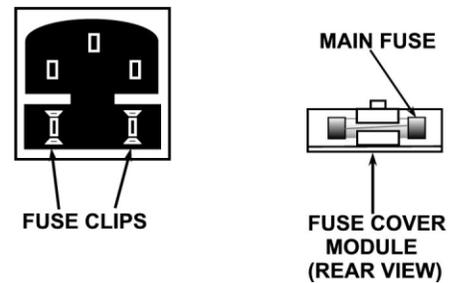
FUSE REPLACEMENT

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.

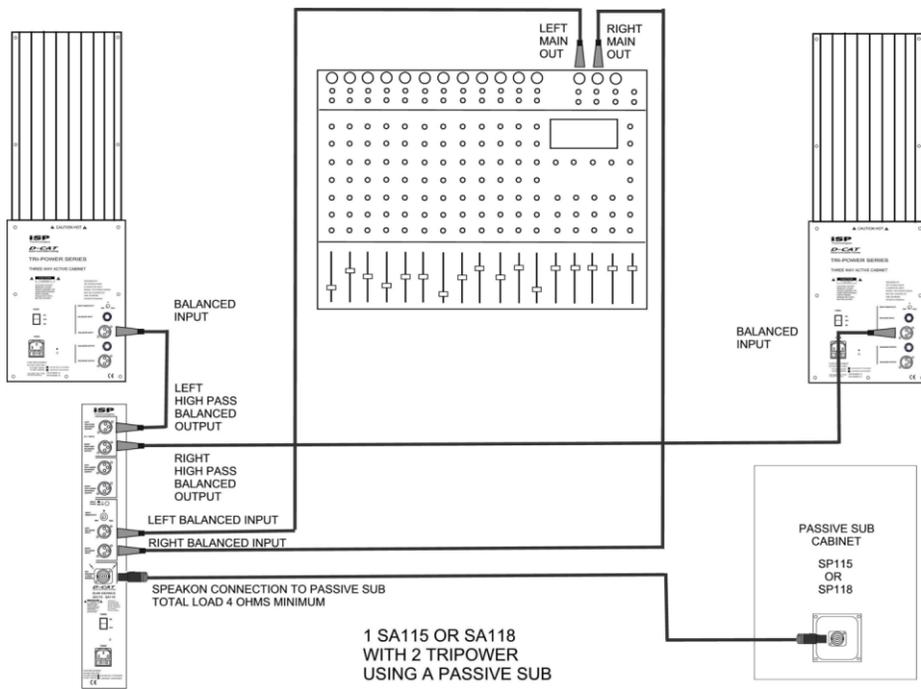
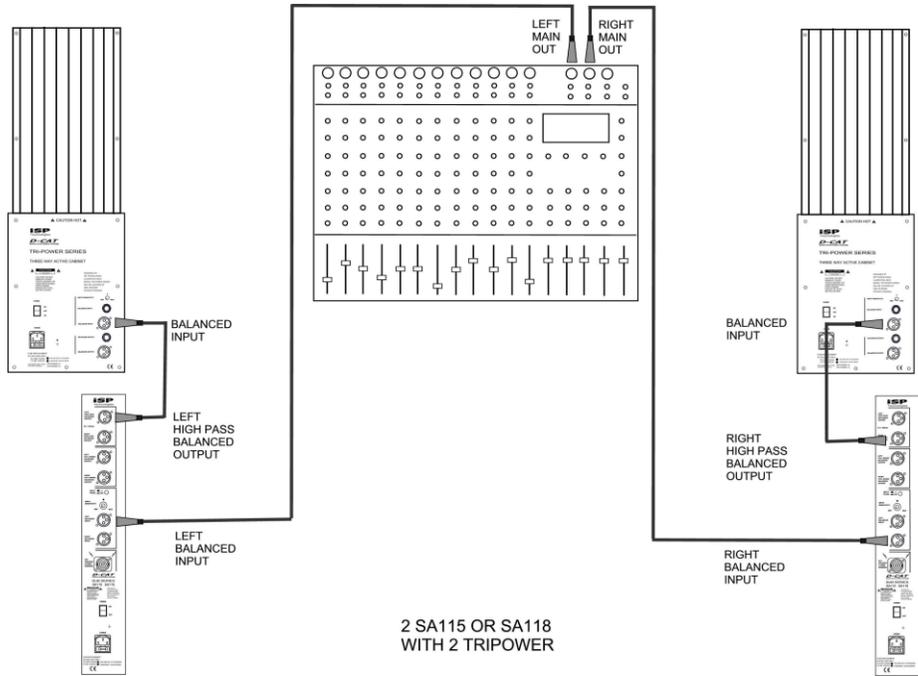
NOTE: A SMALL COMPARTMENT IS ALSO PROVIDED WITHIN THE FUSE COVER MODULE FOR STORING A SPARE FUSE.



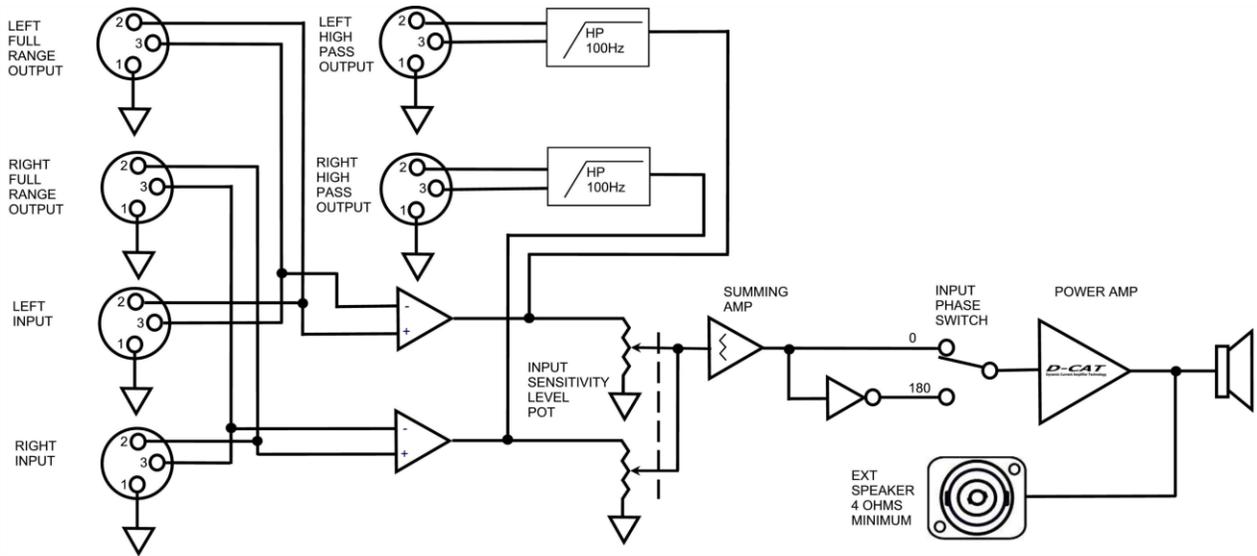
2. After replacing the fuse with another of identical specifications, push the fuse cover module fully back into place, ensuring that the fuse has snapped onto the fuse holder inside the power inlet module.



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.

SA115 SPECIFICATIONS

System

Frequency Range	40 Hz – 100 Hz
Frequency Response (-3dB)	45 Hz – 100 Hz
Peak Output @ 1m	126 dB SPL
Crossover Point	100 Hz (24 dB per Octave)
Input Type	Balanced differential
Input Impedance	10K ohms
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.

Transducer

Low-Frequency Transducer	
Diameter	15" (381mm)
Voice Coil Diameter	3" (76.2mm)
Power Handling	400 watts RMS

D-CAT Technology Power Amplifier

Low-Frequency Amplifier	
Power Output / Stand-Alone	600 watts RMS
Power Output with SP115-SP118	900 watts RMS
THD	0.06% typical

Line Input Power

Voltage	117VAC, 60 Hz
Current	6.9 amps
Power	800 watts

Physical

Height	24" (609mm)
Front Width	20" (508mm)
Depth	19" (482mm)
Weight	95 lbs.
Enclosure	18mm thick, 13 ply Baltic Birch plywood
Mounting Methods	Floor mount

Note: *D-CAT* is a trademark of ISP Technologies LLC

THERMAL CONDITIONS

The ISP Sub Series is capable of producing 600 watts at full power to 900 watts using an extension passive cabinet. 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 internally mounted on the rear 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).

WARRANTY AND SERVICE

The Internal Circuitry is fully guaranteed to be free of defects under normal use and service for a period of three years from the date of purchase. The Speakers and Cabinet that are used in this product are fully guaranteed to be free of defects under normal use and service for a period of three years.

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.

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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