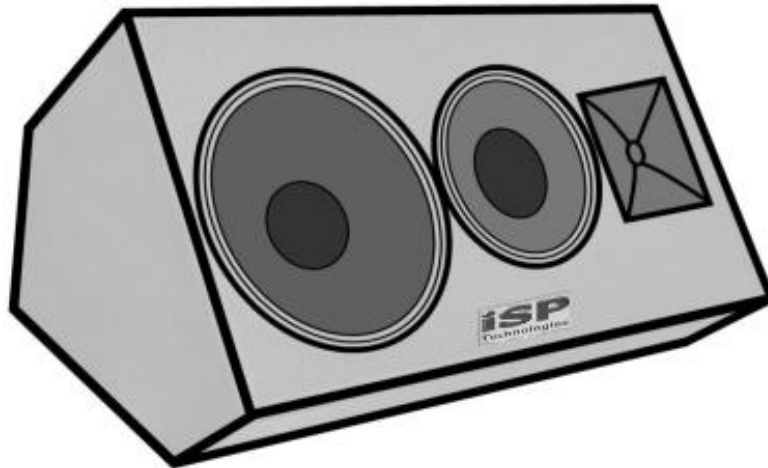


iSP
Technologies

ACTIVE
SERIES



TRIPOWER SERIES
TRIWEDGE
ACTIVE 3 WAY MONITOR 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 three internal power amplifiers and an external heatsink located on the back of the speaker for cooling of the internal amplifiers. 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 amplifiers. 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 Triwedge 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 Triwedge speaker system is capable of producing in excess of 124db 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 Tripower Series Triwedge active monitor system. The Triwedge is a high output three-way active floor monitor speaker system designed to deliver HI-FI sound quality for high SPL sound reinforcement applications. The Triwedge is designed with a 300-watt 12-inch woofer, a 300-watt 10-inch midrange driver and a high performance, 2-inch high frequency compression driver. The Triwedge has three separate power amplifiers capable of producing more than of 600 watts of power. Each amplifier receives its input signal from an internal 4th order crossover network specifically designed to provide optimized phase and frequency response at each crossover point. The internal amplifiers are 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.

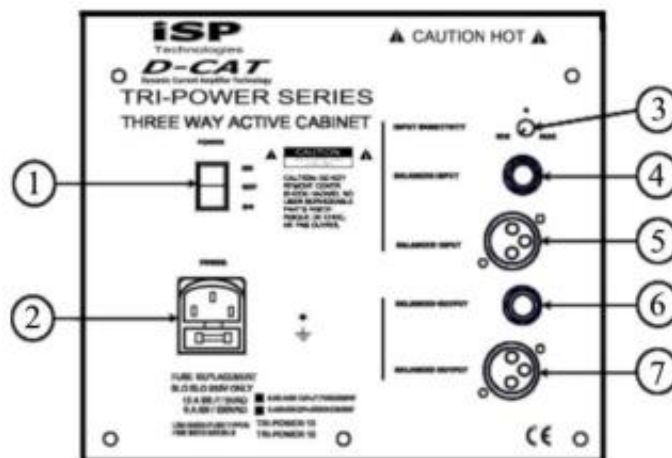
The Triwedge offers both ¼ inch RTS and XLR balanced inputs as well as, ¼-inch RTS and XLR outputs for connecting multiple speakers. A sensitivity adjustment knob allows you to adapt the speaker for a wide range of common signal levels. The Tripower cabinet is made of high quality 13 ply Baltic birch plywood with a durable spray on black finish for long life.

PLACEMENT

The Triwedge is designed to sit on the floor or stage in a flat position and can also be used as a top box in a standing position or pole mounted. Do not position or mount the cabinet where it can tip over and fall on someone. 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 (below about 500 Hz.). Placing it closer to the floor and walls will reinforce the low frequency response. The closer it is, the higher in frequency this reinforcement will go. When used as a top box make sure that adequate space (at least 6 inches) is left behind the cabinet to allow for airflow over the amplifier heatsink.

REAR PANEL DESCRIPTION



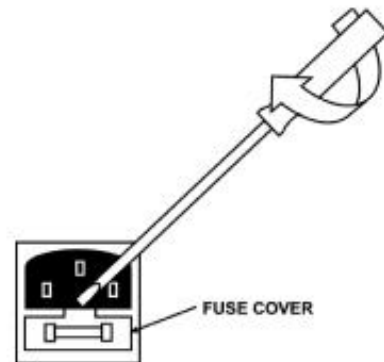
1. **POWER SWITCH**-This switch provides power to the Tri-Power power amp section. This switch is a three-position switch where center is OFF and the outer positions are ON.
2. **POWER INLET MODULE**-This module provides a connection for the power cord and also houses the mains fuse. (See Fuse Replacement Section)
3. **INPUT GAIN**- This control determines the overall input level of the signal to the power amp section of the Tri-Power cabinet. Adjusting this level will not affect the level of the signal passing through to output connectors.
4. **BALANCED 1/4" PHONE INPUT**-This jack provides an input for balanced or unbalanced line level signal source.
5. **BALANCED XLR INPUT**-This female XLR connector provides an input for balanced line level signal source

- BALANCED 1/4" PHONE OUTPUT** – This 1/4" phone provides a balanced loop through for connecting to additional powered cabinets.
- BALANCED XLR OUTPUT**- This XLR male provides a balanced loop through for connecting to additional powered cabinets.

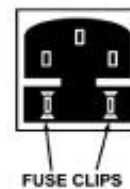
FUSE REPLACEMENT

- 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.

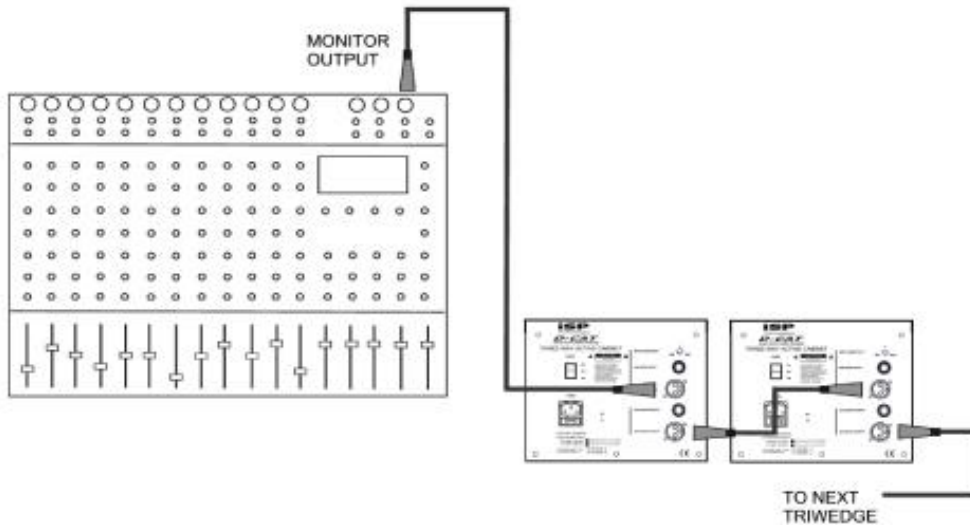
NOTE: A SMALL COMPARTMENT IS ALSO PROVIDED WITHIN THE FUSE COVER MODULE FOR STORING A SPARE FUSE.



- 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.

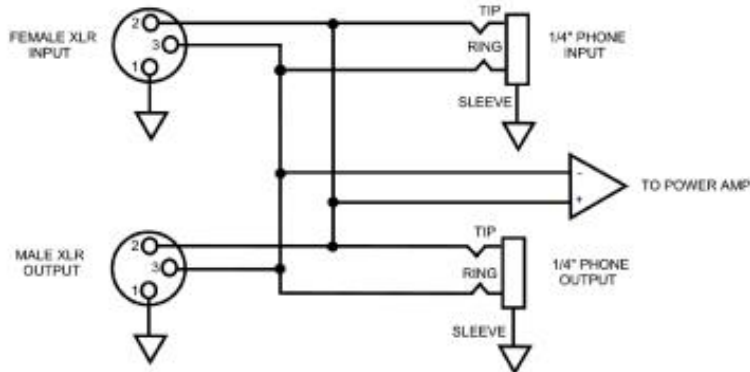


CONNECTION DIAGRAM



BALANCED CONNECTION DESCRIPTION

The ISP Tripower series has balanced XLR and 1/4" phone inputs and outputs configured to AES standards (Audio Engineering Society). These connections are connected in a loop through configuration 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. On the 1/4" phone jacks the configuration is Tip is (+), Ring is (-), and Sleeve is ground.



NOTE: IF AN UNBALANCED SIGNAL SOURCE IS USED, THE MALE XLR AND 1/4" PHONE OUTPUTS FOR LOOPING THROUGH TO ADDITIONAL POWERED CABINETS WILL ALSO BE UNBALANCED.

THERMAL CONDITIONS

The ISP Triwedge is capable of producing in excess of 600 watts RMS 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 on a heatsink that is exposed on the bottom of the cabinet. Airflow is forced through a bass port at the bottom of the cabinet over the fins on the one end of the heatsink via the air movement from the 12" woofer. When using the Triwedge as a floor monitor it is recommended that you do not block or obstruct the airflow under the cabinet. The Triwedge has large rubber feet on the bottom of the cabinet that will allow air to move out from the bottom bass port and provide cooling for the internal amplifier. When using the Triwedge as a top box or mounted on a pole allow a minimum of 6 inches of clearance in the back so as to provide proper cooling of the internal amplifiers.

The internal D-CAT amplifiers are thermally protected internally via a thermal switch, which will attenuate the signal 40db if the heatsink temperature exceeds a safe operating temperature. When the temperature drops below this threshold point, full signal will be restored. Tests have shown under extreme conditions that cycling will occur approx. (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 effects.

It should also be noted that a separate internal thermal breaker also protects the power transformer. If the power transformer temperature reaches a critical point, the internal thermal breaker will open. The power LED on the front of the cabinet will go out and the Triwedge will shut down for several minutes while the power transformer cools. If this condition occurs, simply reduce the signal level of the system. This will only occur if the Triwedge is continually pushed into heavy distortion.

NOTE: The power transformer inside the Triwedge contains an enamel coating on the wires. During the first several hours of heavy use, the Triwedge may have a slight odor caused by the enamel on the transformer wires heating.

TRIWEDGE SPECIFICATIONS

System

Frequency Range	55Hz - 18KHz
Frequency Response (-3dB)	60Hz - 18KHz
Horizontal Coverage Angle	90 degrees.
Vertical Coverage Angle	40 degrees.
Peak Output @ 1m	126 dB
Crossover Points	350Hz, 2KHz
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.

Transducers

<u>Low-Frequency Transducer</u>	
Diameter	12" (305mm)
Voice Coil Diameter	2.5" (63.2mm)
Power Handling	300 watts RMS
<u>Mid-Frequency Transducer</u>	
Diameter	10" (254mm)
Voice Coil Diameter	2.5" (63.5mm)
Power Handling	300 watts RMS
<u>High-Frequency Transducer</u>	
Diaphragm Diameter	2" (51mm)
Voice Coil Diameter	2" (51mm)
Throat Size	1" (25.4mm)
Power Handling	80 watts RMS
Diaphragm Material	Titanium

Power Amplifiers

<u>Low-Frequency Amplifier</u>	
Power Output	300 watts RMS
THD	<0.05% typical
<u>Mid-Frequency Amplifier</u>	
Power Output	300 watts RMS
THD	<0.05% typical
<u>High-Frequency Amplifier</u>	
Power Output	80 watts RMS
THD	<0.02% typical

Line Input Power

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

Physical

Height	16.75" (425mm)
Front Width	31.25" (794mm)
Depth	16.75" (425mm)
Weight	85 lbs.
Enclosure	18mm thick, 13 ply Baltic Birch plywood
Geometry	Pentagonal Shape
Mounting Methods	Floor mount / Pole mount

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.

The warranty card must also be filled out and mailed in to ISP Technologies.

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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