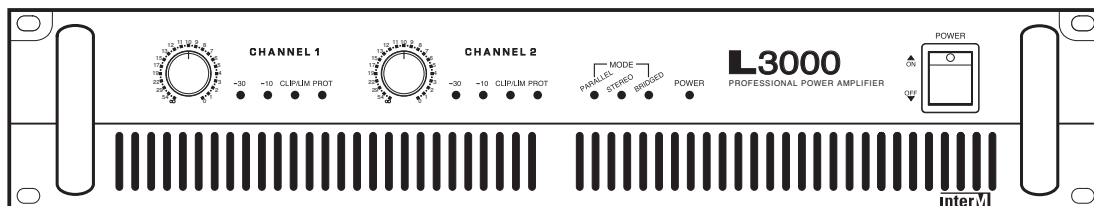


Operating Manual



L800/1400/1800/2400/3000 Professional Power Amplifier



* Rack mount products in the Western Hemisphere(North America, South America, and the Caribbean) do not have handles installed due to customer preference.

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Contents

Welcome	
Warning.....	1
Unpacking.....	2
Short Form Instructions.....	2
Installation	
Environment.....	3
Important Safety Instructions.....	3
Description	4
Features	4
Accessories.....	4
Front Panel	5
Rear Panel	6
Applications	
Stereo Installation.....	8
Parallel Installation.....	8
Bridge Mono Installation.....	9
Linked Installation.....	9
Connections.....	10
Block Diagrams	11
Specifications	13
Service	
Procedures.....	14
Schematic.....	14
Parts List.....	14
Variations and Options	14
Warranty	14

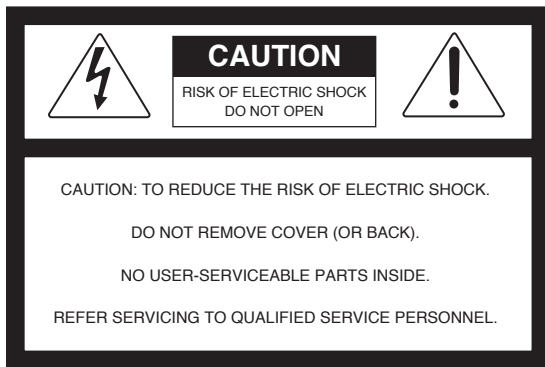
Welcome

A personal welcome to you from the management and employees of Inter-M

All of the co-workers here at Inter-M are dedicated to providing excellent products with inherently good value, and we are delighted you have purchased one of our products.

We sincerely trust this product will provide years of satisfactory service, but if anything is not to your complete satisfaction, we will endeavor to make things right.

Welcome to Inter-M, and thank you for becoming part of our worldwide extended family!



WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

*Do not install this equipment in a confined space such as a book case or similar unit.

*The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

*Worded: "WARNING FOR YOUR PROTECTION PLEASE READ THE FOLLOWING-WATER AND MOISTURE: Unit should not be used near water(e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so than objects do not fall and liquids are not spilled into the enclosure through openings."



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Attentions: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.

Unpacking

Please take a few minutes to read this manual to familiarize yourself with important information regarding installation, product features, and operation.

As with most electronic devices, ORIGINAL PACKAGING (OR EQUAL) IS REQUIRED in the unlikely event that the product needs to be returned for servicing.

Short Form Instructions

1. Do not connect the AC power until step 6. The ac mains POWER switch should be in the OFF position.
2. Adjust both of the LEVEL controls to the fully attenuated position (turn fully counter-clockwise).
3. Connect an appropriate line level input signal to either the balanced XLR or the balanced 1/4" TRS (Tip-Ring-Sleeve) connector marked INPUTS.
4. Move the MODE selector to the desired position. The Stereo position is the most common.
5. Connect the OUTPUTS to the speaker load according to the mode of operation determined in the previous step.
6. With the ac mains POWER switch in the OFF position, plug in the supplied Universal AC power cord to the product and connect to an appropriate AC source.
7. Depress the ac mains POWER switch to the ON position. The indicator within the power switch will illuminate.
8. The product is ready for operation. Slowly increase the LEVEL control to the desired operating level. Avoid illuminating the PEAK indicator and do not apply too much power to the speakers.
9. Operate the product and the system in a manner which DOES NOT illuminate the PEAK warning indicator.

Installation

Environment

Never place this product in an environment which could alter its performance or reduce its service life. Such environments usually include high levels of heat, dust, moisture, and vibration.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Description

- L800
A 2U rack space, 2 channel amplifier capable of 800W into 4Ω load (bridged mono).
- L1400
A 2U rack space, 2 channel amplifier capable of 1400W into 4Ω load (bridged mono).
- L1800
A 2U rack space, 2 channel amplifier capable of 1800W into 4Ω load (bridged mono).
- L2400
A 2U rack space, 2 channel amplifier capable of 2400W into 4Ω load (bridged mono).
- L3000
A 2U rack space, 2 channel amplifier capable of 3000W into 4Ω load (bridged mono).

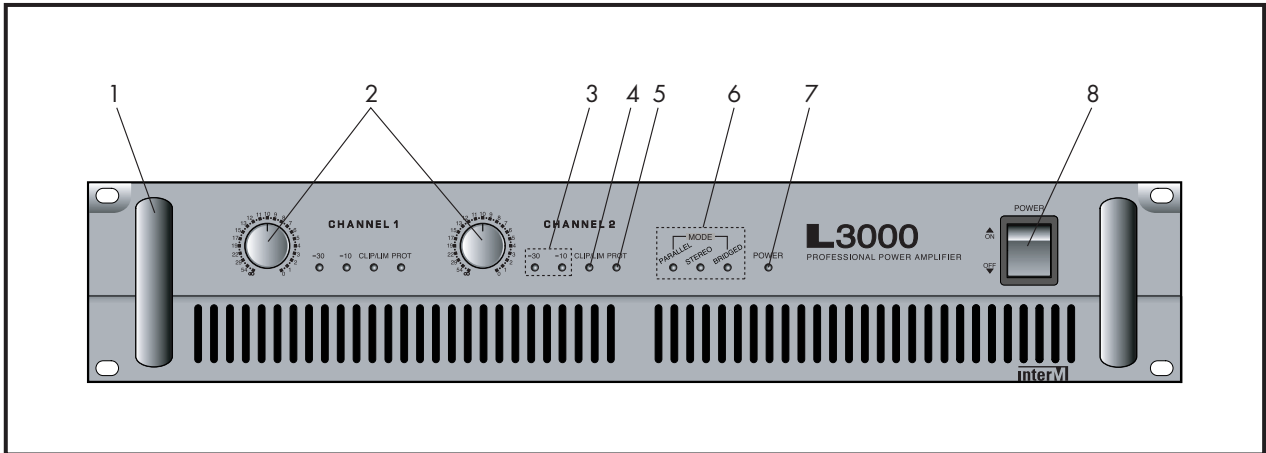
Features

- 2Ω-load stable per channel, 4Ω-load stable in bridge mono
- 2U rack space
- Selectable High Pass Filter on each channel
- Clip limiter circuitry
- Forced air cooled (front panel intake, rear panel exhaust)
- Front panel indicators for different operating modes
- Front panel indicators for output signal level, clip, protect, and power
- Rack Ears for permanent installation in a standard 19" (rack mount width) enclosure.
- Detachable AC power cord

Accessories

One detachable universal AC mains power cord is provided for use with this product.

Front Panel



1. HANDLES

These are provided for easy transporting and installing into equipment enclosures or racks.

2. LEVEL CONTROL

This control adjusts the level (amplitude) of the input signal for each channel. In stereo or parallel mode the knobs will determine the signal level independently for each channel. In the bridge mono mode channel 1 will be turned fully to the right and channel 2 will be turned right only as needed to achieve the desired signal level.

3. LEVEL INDICATOR

These indicators should illuminate during normal operation when there is an output signal.

4. CLIP LIMITER INDICATOR

This warns of a problem when illuminated. Reduce the LEVEL of the device which supplies signal to the amplifier or reduce the LEVEL control(s) on the amplifier. This should not be continuously illuminated during normal operation, but may flash occasionally.

5. PROTECTION INDICATOR

This warns of a problem in the system when illuminated. Reduce the volume and look for problems. It is possible that the amplifier is too hot or the speaker impedance is too low. This should not be illuminated during normal operation.

6. MODE INDICATOR

This indicates the operating mode based on the position of the MODE selector switch located on the rear panel.

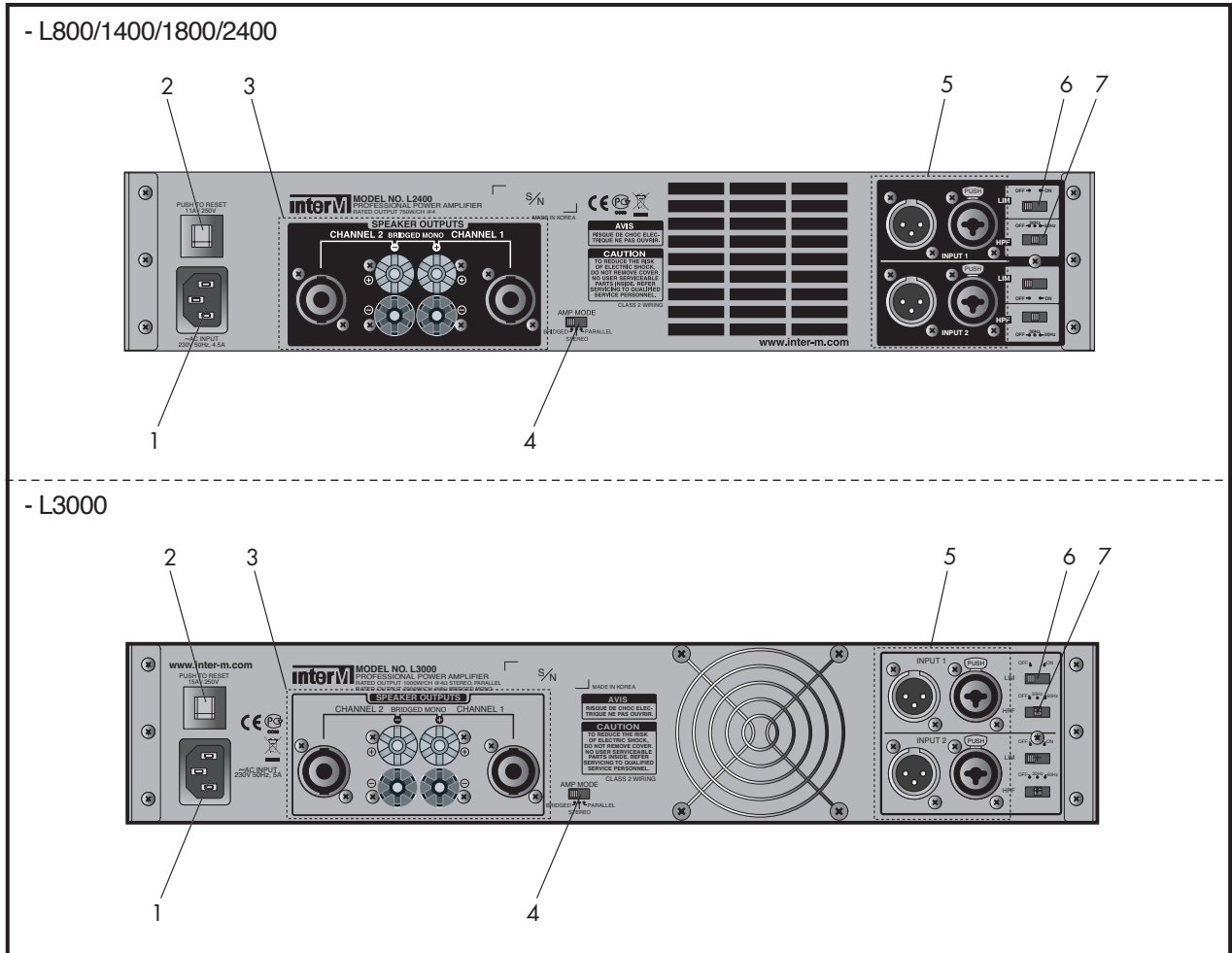
7. POWER INDICATOR

This confirms the amplifier is switched ON and receiving AC mains POWER when illuminated.

8. POWER SWITCH

The position of this switch determines whether the AC mains power is ON or OFF. The power-on status is confirmed by the illuminated power indicator. Amplifiers are always the last item in a system to be turned on. It is generally a good idea to reduce the level controls before applying AC mains power.

Rear Panel



1. AC INPUT

Connect this product to an appropriate AC mains power source using the supplied Universal AC Power Cord.

2. CIRCUIT BREAKER

This protects the amplifier by shutting down the power when the amplifier operates abnormally due to overload or malfunction. Push to reset.

3. OUTPUT CONNECTORS

Binding Posts and Speakon-type connectors are provided. Bridged Mono operation requires a different method of connecting the speaker cables than Stereo operation. Be sure that the amplifier is in the correct mode before connecting the speaker load.

4. MODE SELECTOR SWITCH

Move this switch to select the STEREO, PARALLEL or BRIDGED MONO position as needed for the application. The Stereo mode is most common. Channel 1 input provides signal through the amplifier to the channel 1 output. The channel 2 input provides signal through the amplifier the channel 2 output.

The Parallel mode uses the channel 1 input provides signal through the amplifier to both the channel 1 and channel 2 outputs. No input will be supplied to channel 2 in the Parallel mode.

The Bridge Mono mode combines both channels to create one larger mono channel. Input signal applied to channel 1 will provide signal through the amplifier to the positive terminals of Channel 1 and channel 2. Do not connect any signal to the channel 2 input or any loads to the negative outputs.

5. BALANCED INPUT CONNECTORS

Each input channel is equipped with a special connector that will accept either a 1/4" TRS or an XLR connector. Even though the connector is of a special design, the standard rules for wiring the input connectors apply.

6. CLIP LIMITER SWITCH

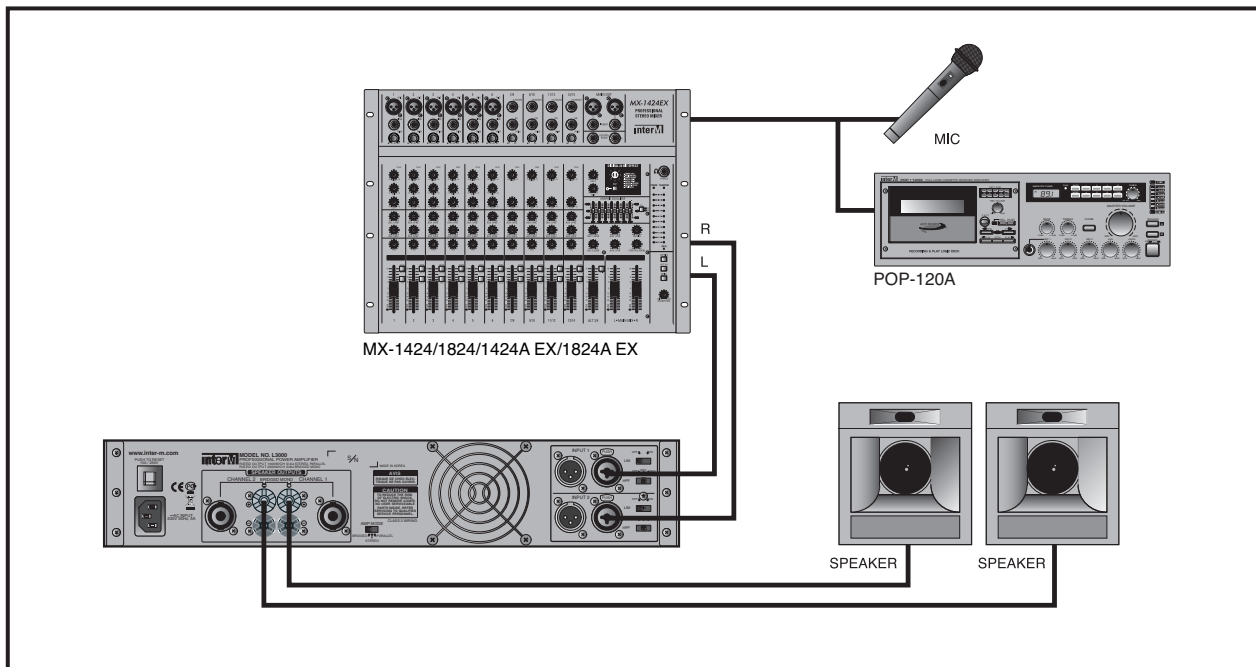
The CLIP LIMITER reduces the internal operating level of the amplifier as necessary to insure that signal peaks do not overdrive the amplifier, causing distortion or damage to the amplifier or loudspeakers. It is recommended to leave this switched to the "ON" position to reduce distortion and help provide protection to the loudspeakers.

7. HIGH PASS FILTER SWITCH

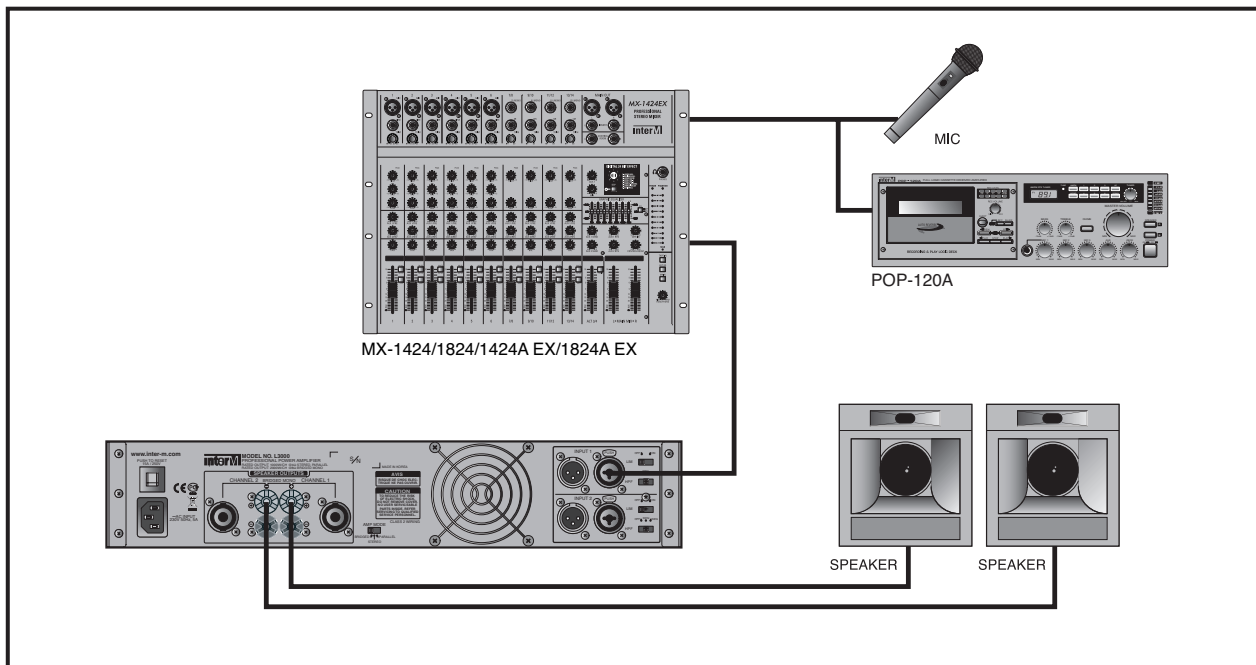
Select the switch position that is best suited for your application. The OFF position allows full frequency range signals to reach the loudspeakers. The 30Hz position reduces the signal amplitude below 30 Hz to conserve power and help protect the loudspeakers. The 50Hz position reduces the signal amplitude below 50 Hz to conserve power and help protect the loudspeakers.

Applications

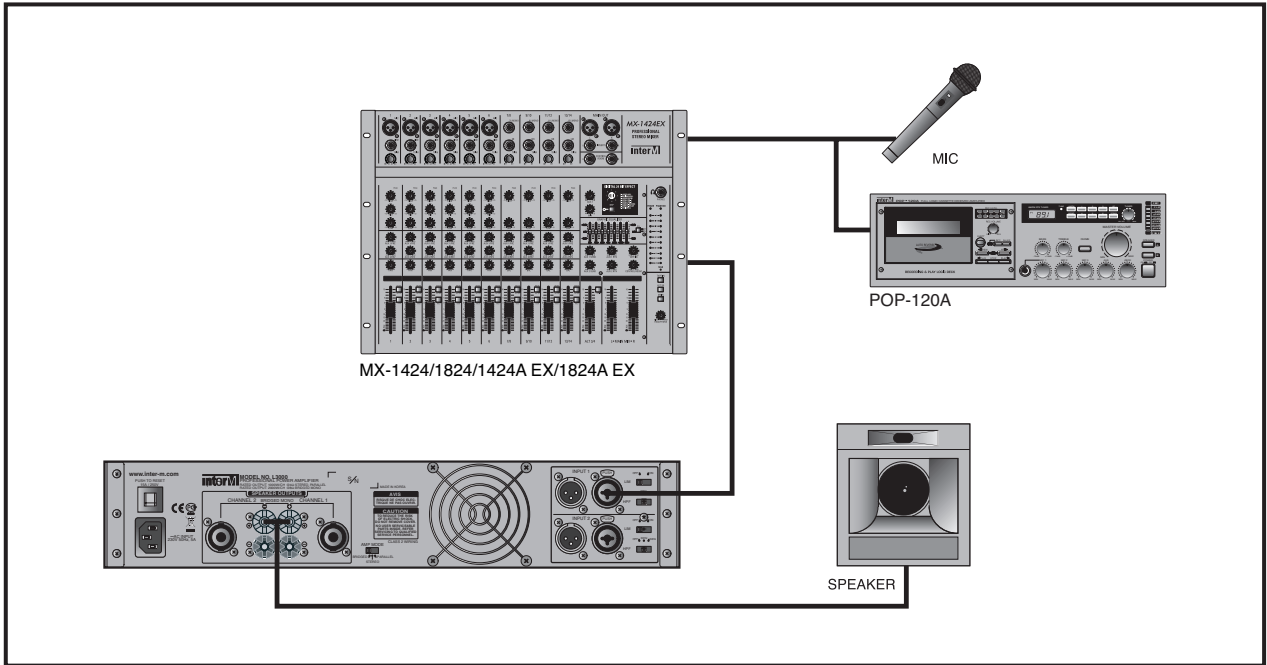
Stereo Installation



Parallel Installation

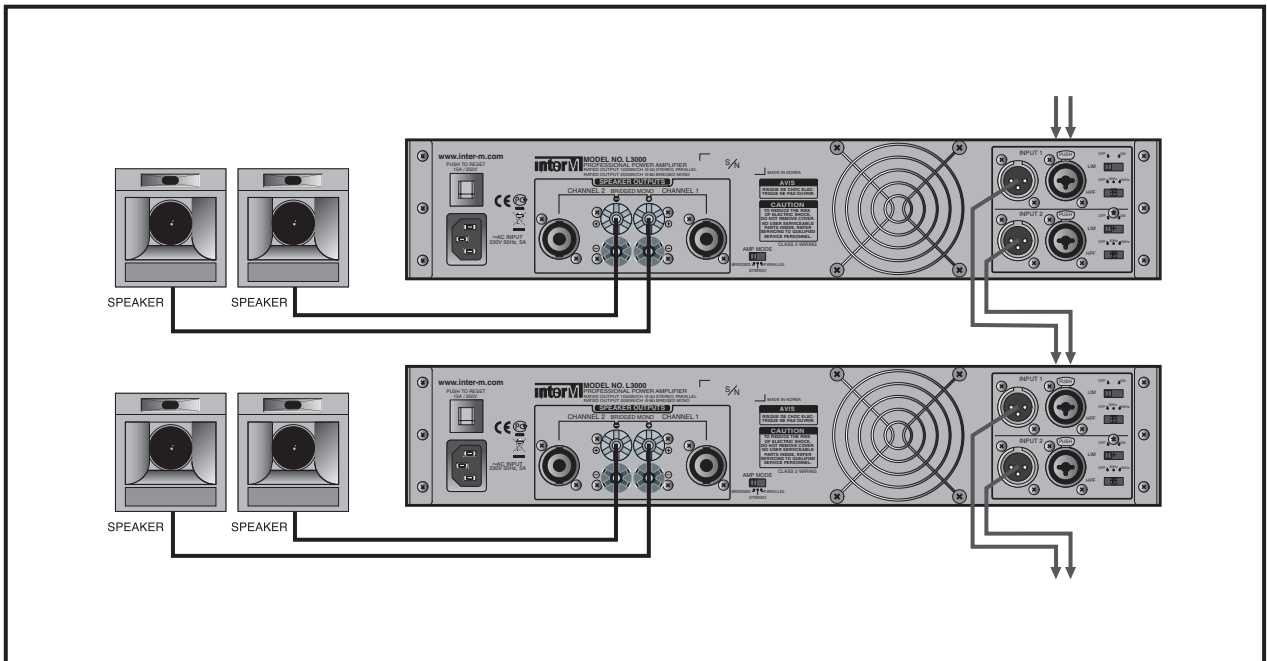


Bridged Mono Installation



Linked Installation

Linking is possible when in Stereo/Parallel or Bridged Mono operation



Connections

Inter-M products are wired according to professionally accepted wiring practices used throughout the world.

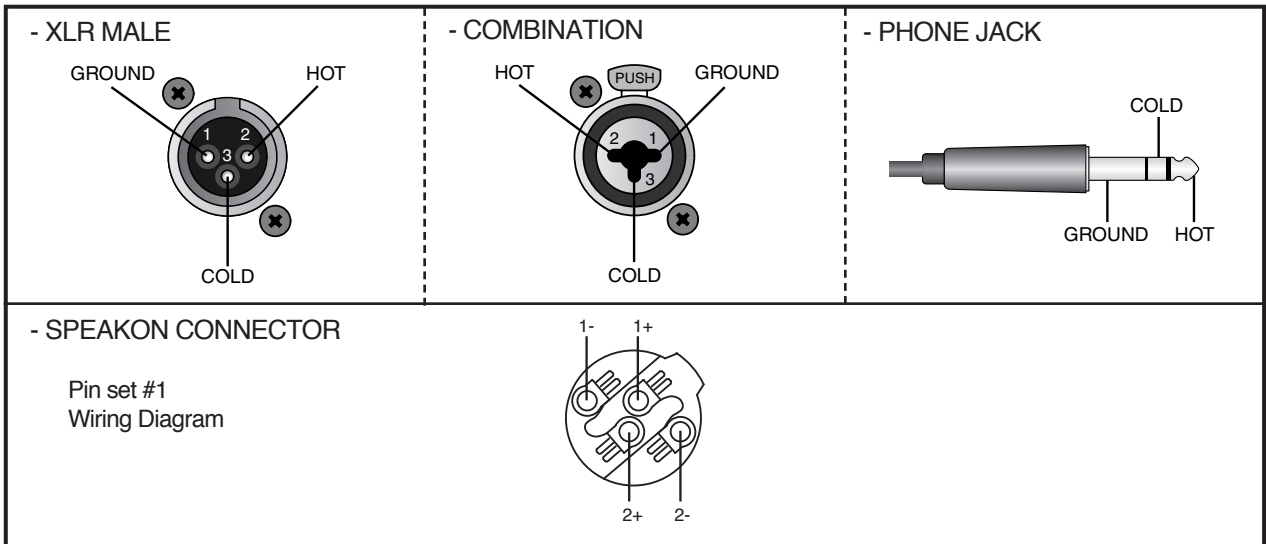
Balanced XLR connectors are wired as described:

- Pin #1 shield
- Pin #2 Positive
- Pin #3 Common

Balanced 1/4" TRS connectors are wired as described:

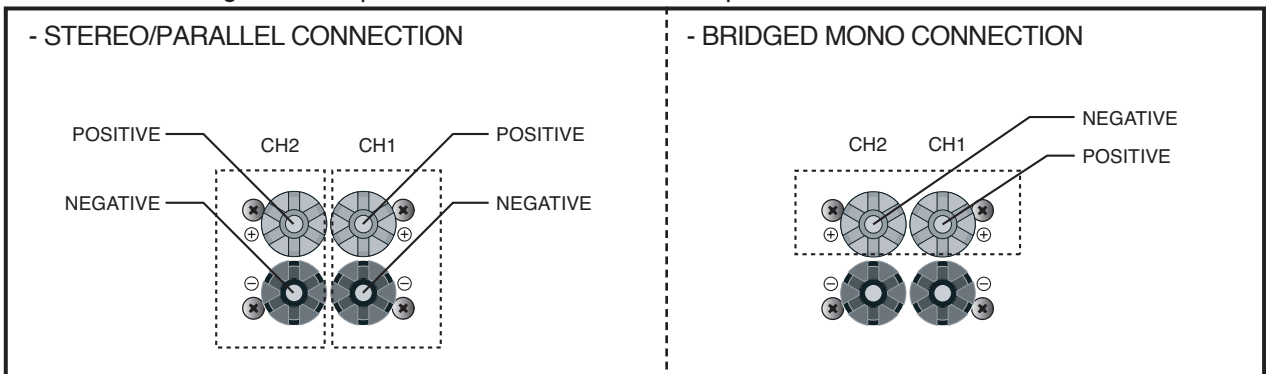
- Tip is Positive
- Ring is Common
- Sleeve is Shield

The combination connector is designed to accept either the XLR or the 1/4" TRS Phone Jack



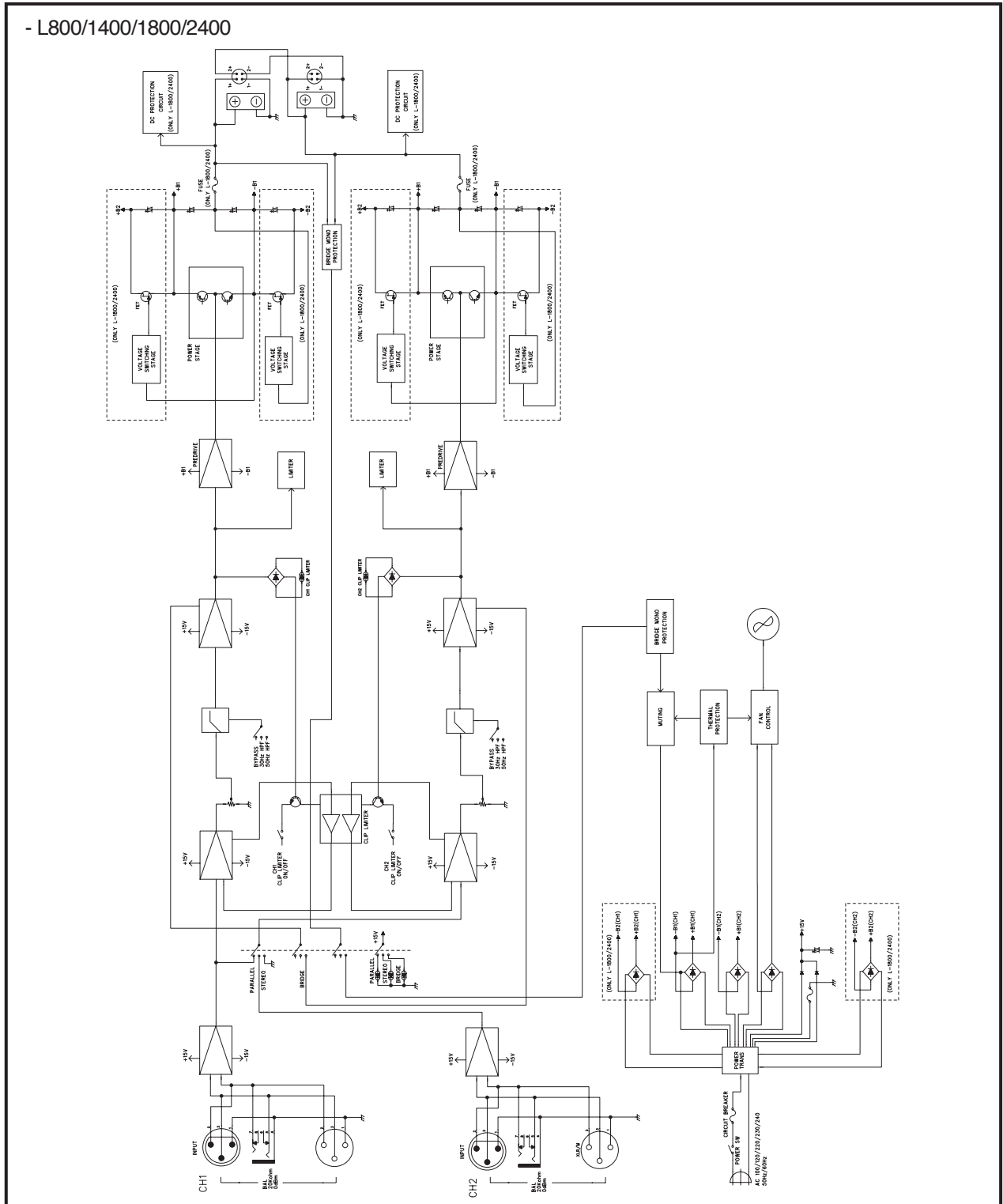
Stereo operation uses the + (positive) and - (negative) terminal from each set of channel output binding posts. (CH1 : 1+, 1- / CH2 : 2+, 2-)

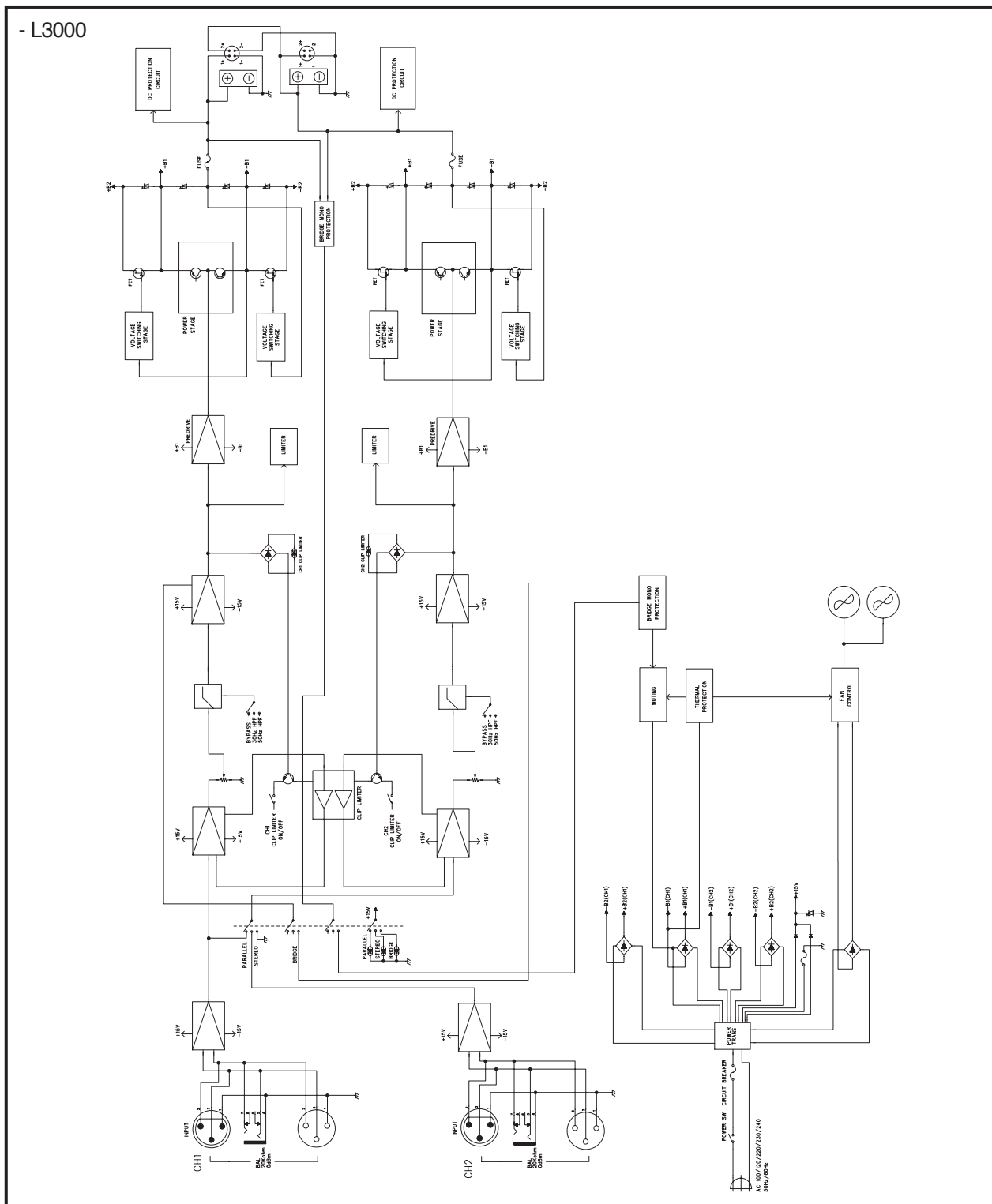
Bridged Mono uses the + (positive) terminal of both channels only. The - (negative) terminals have no connection. Bridged Mono operation has a minimum load impedance of 4Ω.



Block Diagrams

English





Specifications

0dB=0.775Vrms, Half Power=1/2 Power Output Level (Rated Power)

	L800	L1400	L1800	L2400	L3000
Power Output Level					
STEREO 1kHz both channels driven					
$R_L=8\Omega$ @ 0.1% THD	200W	280W	360W	500W	650W
$R_L=4\Omega$ @ 0.1% THD	300W	450W	600W	750W	1000W
$R_L=2\Omega$ @ 0.5% THD	430W	700W	900W	1200W	1500W
BRIDGED $R_L=8\Omega$ 1kHz @ 0.1% THD	600W	900W	1200W	1500W	2000W
$R_L=4\Omega$ 1kHz @ 0.5% THD	800W	1400W	1800W	2400W	3000W
Frequency Response $R_L=8\Omega$, P=1W	20Hz~20kHz: $\pm 0/1$ dB, 5Hz~70kHz: -3dB				
Total Harmonic Distortion f=20Hz~20kHz, Half Power(L800/1400) 1/10Power(L1800/2400/3000) STEREO $R_L=8\Omega$ & 4Ω BRIDGED $R_L=8\Omega$	$\leq 0.03\%$ $\leq 0.03\%$				
Channel Separation Half Power $R_L=8\Omega$, f=1kHz, ATT. max. Input 600Ω Shunt	≥ 80 dB				
Residual Noise(DIN Audio Filter)	≤ -85 dB: ATT min.				
Signal-to-Noise Ratio DIN Audio, Input 600Ω Shunt	≥ 100 dB				
Input Sensitivity (Rated Power into 4Ω 1kHz)	2.7dBu	2.7dBu	3.5dBu	3.5dBu	3.5dBu
Damping Factor $R_L=8\Omega$, f=1kHz	≥ 400				
Voltage Gain (ATT max.) 4Ω at 1kHz	30dB	32dB	33dB	34dB	38.5dB
Output Circuitry	AB Class	AB Class	H Class	H Class	H Class
Input Impedance (ATT max.)	$\geq 20k\Omega$ (Balance/Unbalance)				
Indicators	Power (Blue) Clip/Limiter (Red) Signal (Green) Protection (Red) Mode Selector (Yellow)				
Protection	Power SW ON/OFF muting, Full Short circuit, Thermal protection, RF protection				
Fan Circuit	Low-Speed - Variable - Hi-Speed				
Power Source	100-120VAC or 220-240VAC; 50/60Hz (Supplied AC mains transformer depends on country requirements)				
Power Consumption(1/8 POWER)					
100V-120VAC Both Channel Driven $R_L=4\Omega$	6A	7A	8A	9A	11A
230V-240VAC Both Channel Driven $R_L=4\Omega$	3A	3.5A	4A	4.5A	5A
Weight	14kg/30.8lb	14.4kg/31.7lb	15kg/33lb	15.6kg/34.6lb	19.5kg/39.5lb
Dimensions	482(W) x 88(H) x 369(D)mm / 19(W) x 3.5(H) x 14.5(D)in				
Connector	Inputs: balanced combination connector(XLR type+1/4" TRS) Outputs: 5-Way binding posts x 2, Speakon Terminal x 2				
Operating Temperature	$-10^\circ\text{C} \sim +40^\circ\text{C}$				

* Specifications and design subject to change without notice.

Service

Procedures

Ensure the problem is not related to operator error, or external system devices, Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

Schematic

A Schematic is available by contacting your warranty provider.

Parts List

A Parts List is available by contacting your warranty provider.

Variations and Options

Variations

Variations of this product exist to reflect the variations in AC power requirements throughout the world. Product supplied through local sources are compatible with local AC power requirements.

Options

No optional items are available for this product.

Warranty

Warranty terms and conditions vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

To obtain specific warranty information and available service locations contact Inter-M directly or the authorized Inter-M Distributor for your specific country or region.