

Operation Manual

Public Address Amplifier **PA-612/624**



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

interM

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.



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.

*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 that objects do not fall and liquids are not spilled into the enclosure through openings.

*CLASS 2 WIRING (Adjacent to speaker terminal): The speaker output of this apparatus can exceed 10 Watts and could be a shock injury. Connection to speakers should be performed by a skilled person.

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

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

*This apparatus shall be connected to a mains socket outlet with a protective earthing connection.

*It has been designed to be easy to disconnect the device. To disconnect the device from power, separate AC input cable from inlet or unplug the AC Cord.

CAUTION

*These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

NOTE

*This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Unpacking

Although your PA-612/624 is neither complicated nor difficult to operate, we recommend you take a few minutes to read this brief manual and familiarize yourself with the important information regarding product features, setup and operation.

As with most electronic devices, we strongly recommend you retain the original packaging. In the unlikely event the product must be returned for servicing, the original packaging (or reasonable equivalent) is required.

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.



Features

- DIGITAL PROCESSING & DIGITAL AMPLIFIER

Designed with a full digital amplifier, low power consumption, low set weight and low heat.

- INTERNAL 400HZ HPF

The clearness of a signal can be improved by internal 400Hz high pass filter. When this filter is activated, the sound under 400Hz frequency is removed.

- INTERNAL THERMISTOR (PA-624 ONLY)

When the unit is overridden by over-heating, internal thermistor will detect it and operate FAN in 2 steps to protect the unit from over-heating.

- GAIN ADJUSTMENT

Input gain is adjustable from -12dB to 0dB (1V).

- EMERGENCY BATTERY BACKUP

This unit can be worked even at the time when unexpected AC power failure with the emergency battery backup.

- SLIM DESIGN, COMPACT SIZE

Streamlined design fits in a compact 2RU space.

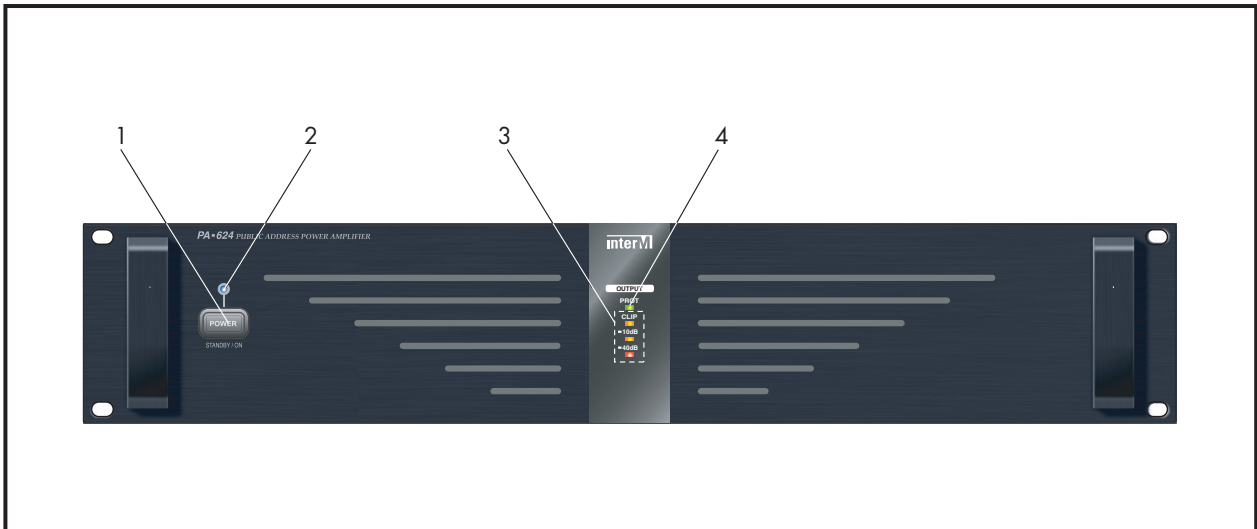
Accessories

One detachable AC power cord and XLR cord are provided for use with this product.

Operation

1. Please check the voltage before using AC power source, and then connect the power cord to the power distributor (PD-659) or directly to a plug receptacle. For DC use, it is compatible with DC 24V.
2. When using the power distributor (PD-659), please keep the power switch on. AC connection should be made with SWITCHED AC OUTLET of power distributor, for DC, the connection should be made with Switched DC OUTLET (AMP ONLY).
In this stage, all power source on the rack system can be controlled by the power distributor (PD-659) and controlling the system by remote-control and converting to DC battery source can be performed.
3. When the power switch is on, the unit starts to work with LED lighting up.
Please adjust proper volume level after checking the level meter on the front panel.
When using a separate power connection, the power switch does not affect to the status of switches on the other units.

Front Panel



1. POWER SWITCH

Pressing this switch turns the unit on, as indicated by the Power LED. Pressing it again turns the unit off.

* Note : When the unit turns off by pressing the POWER SWITCH, the device changes to standby mode that consumes a little power.

2. POWER LED

When the unit is powered on, the Power LED is lit.

3. OUTPUT LEVEL INDICATOR

These three LEDs indicate the amplifier's output status. The -40dB LED indicates the presence of audio signal at the amplifier's output. The -10dB LED indicates output at nominal operating range.

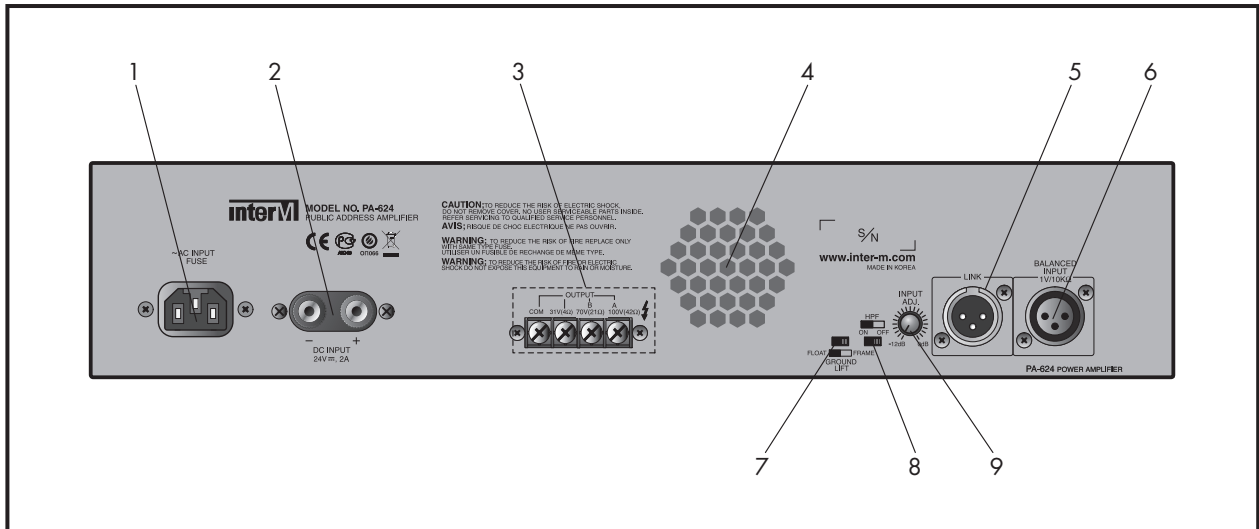
The red CLIP LED indicates an excessive output level. Do not operate the unit with the CLIP LED is illuminated continuously.

4. PROTECTION INDICATOR

When overloaded, the short of speaker, or overheating are occurred, the unit switches to the protection mode and the protection LED lights up.

- Once the unit is in Protection mode, it automatically checks the state of the unit. When it does not find a problem, it automatically restores the unit back to normal mode.
- When PROT LED is on, please check the status of input, output and whether or not there are the shortages in the speaker, or if the unit is overloaded.
- To cancel the protection mode, please remove the cause of the problem when the unit is off. When restarting the unit, it returns to normal mode.

Rear Panel



1. AC POWER INPUT

Connect the supplied standard AC input cable here.

2. DC INPUT TERMINALS

This is the input terminal for the DC 24V use, please do not forget to check the voltage and polarity (+), (-) before connecting.

3. SPEAKER OUTPUT TERMINALS

These terminals are used to connect speakers to the unit. You may select 4Ω, 70V or 100V. Make certain the combined impedance of the speakers is equal to or higher than the rated output impedance of the amplifier.

MODEL	EC & Associated, JAPAN Version				USA/CANADA & Associated Version			
PA-612	COM	4Ω/22V	41Ω/70V	83Ω/100V	COM	4Ω/22V	41Ω/70V	N/A
PA-624	COM	4Ω/31V	21Ω/70V	42Ω/100V	COM	4Ω/31V	21Ω/70V	N/A

* In Western Hemisphere(North America, South America and Caribbean), the jack has only 3 terminals because there is no 100V output.

4. FAN VENTS (PA-624 ONLY)

It is the fan vents located on the front that lower the temperature inside by taking in air. When temperature reaches a certain level, the speed of the fan gets faster.

Please make certain the vents are not blocked when installing.

5. LINK JACK

The link jack is used for transferring the same input signal to other equipment.

6. INPUT JACK

This is the terminal that receives the signal from the other units such as a pre-amplifier. Please use a balanced XLR connector with input sensitivity 1V(0dB).

7. GROUND LIFT SWITCH

This switch provides connection or disconnection of the amplifier's ground to AC "earth" ground, to prevent noise from ground loops. Under most circumstances, this switch should be set to FRAME position.

8. HIGH-PASS FILTER SWITCH

The 400Hz high pass filter is controlled on or off by the switch(-3dB : 400Hz).

9. LEVEL ADJUST VOLUME

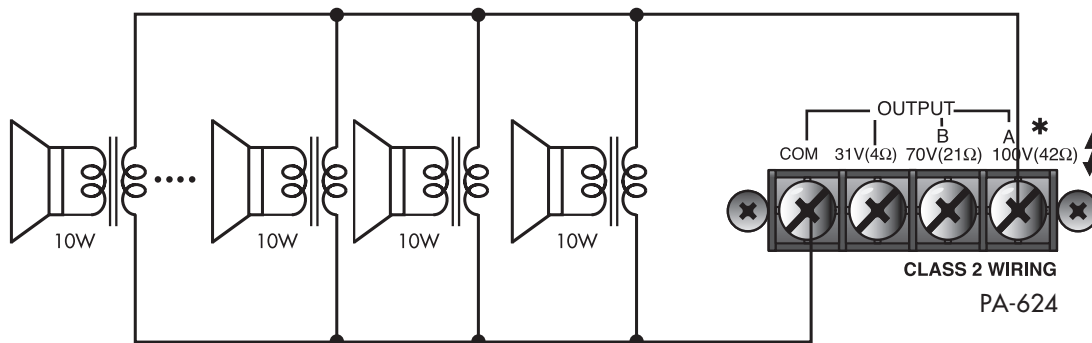
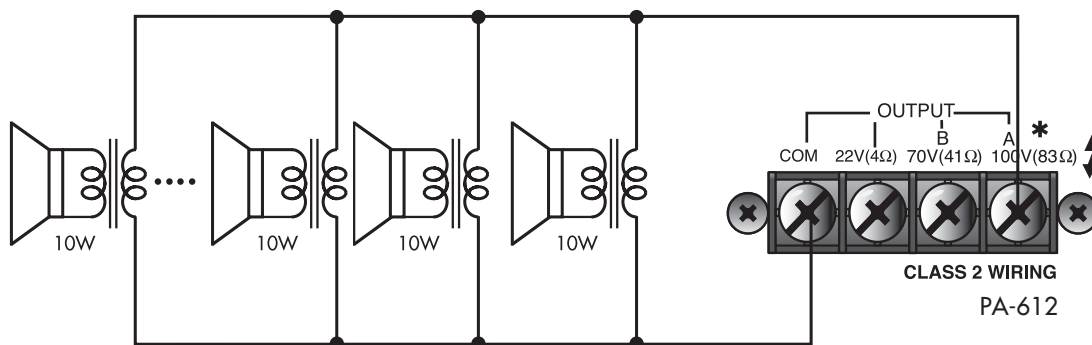
This knob provides continuous control of the amplifier's output level, from -12dB to 0dB. Turning the knob clockwise increases the level, and turning it counter-clockwise decreases the level.

Connecting Speakers

Before connecting speakers, disconnect the AC power cable. Note the proper connecting terminals as shown below. Make certain that the total impedance is not less than the rated impedance indicated.

HIGH IMPEDANCE SPEAKER INSTALLATION

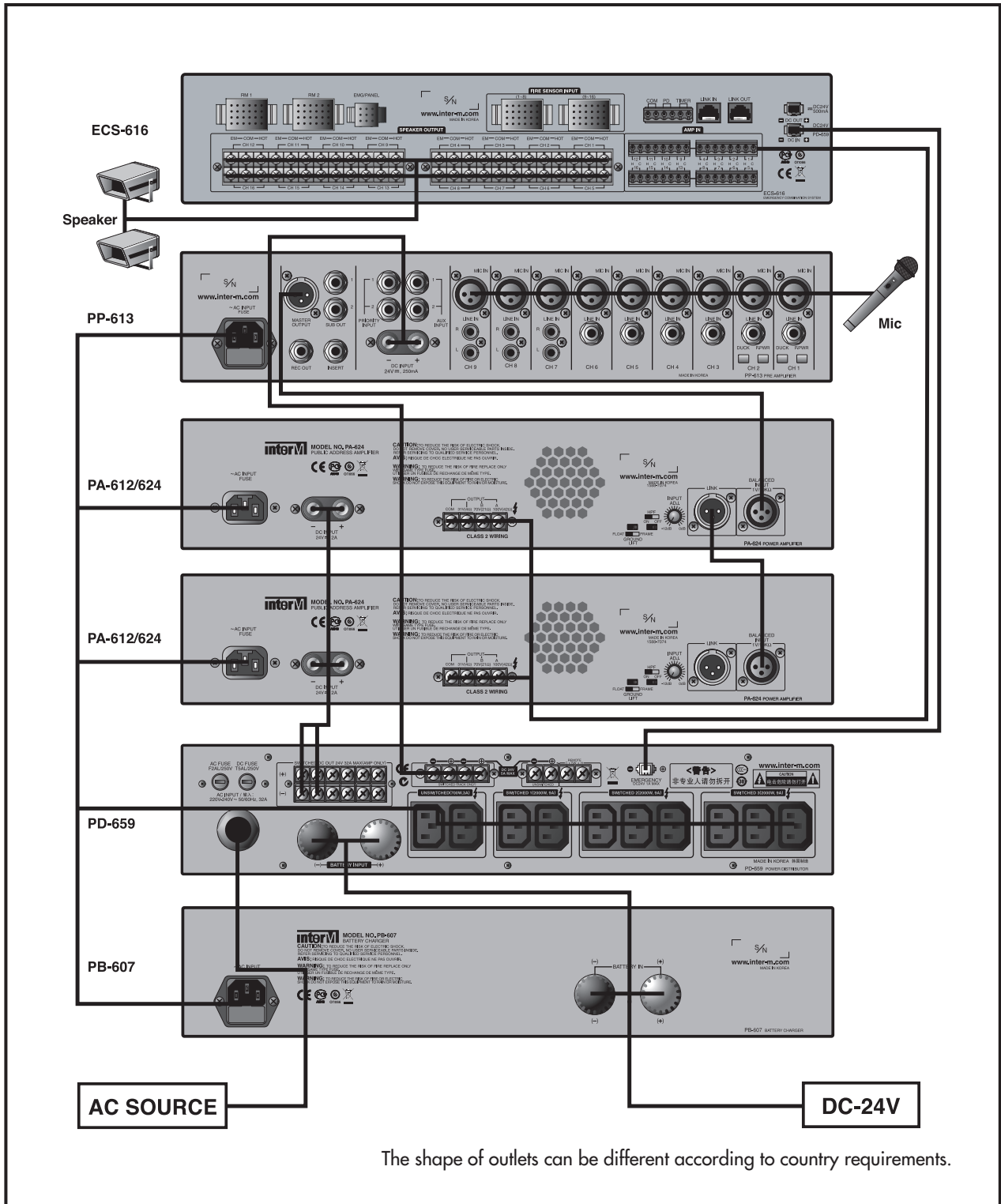
- Please set up the unit according to the diagram below, be aware and monitor the voltage and impedance of output terminal.
- Until the sum of the output up to 120W(PA-612) or 240W(PA-624), High impedance speakers can be connected.



- Please do NOT load over 120W(PA-612) or 240W(PA-624) in total.
- Please do NOT use 4Ω output and High impedance at the same time.
- Please check wires not to short-circuit.

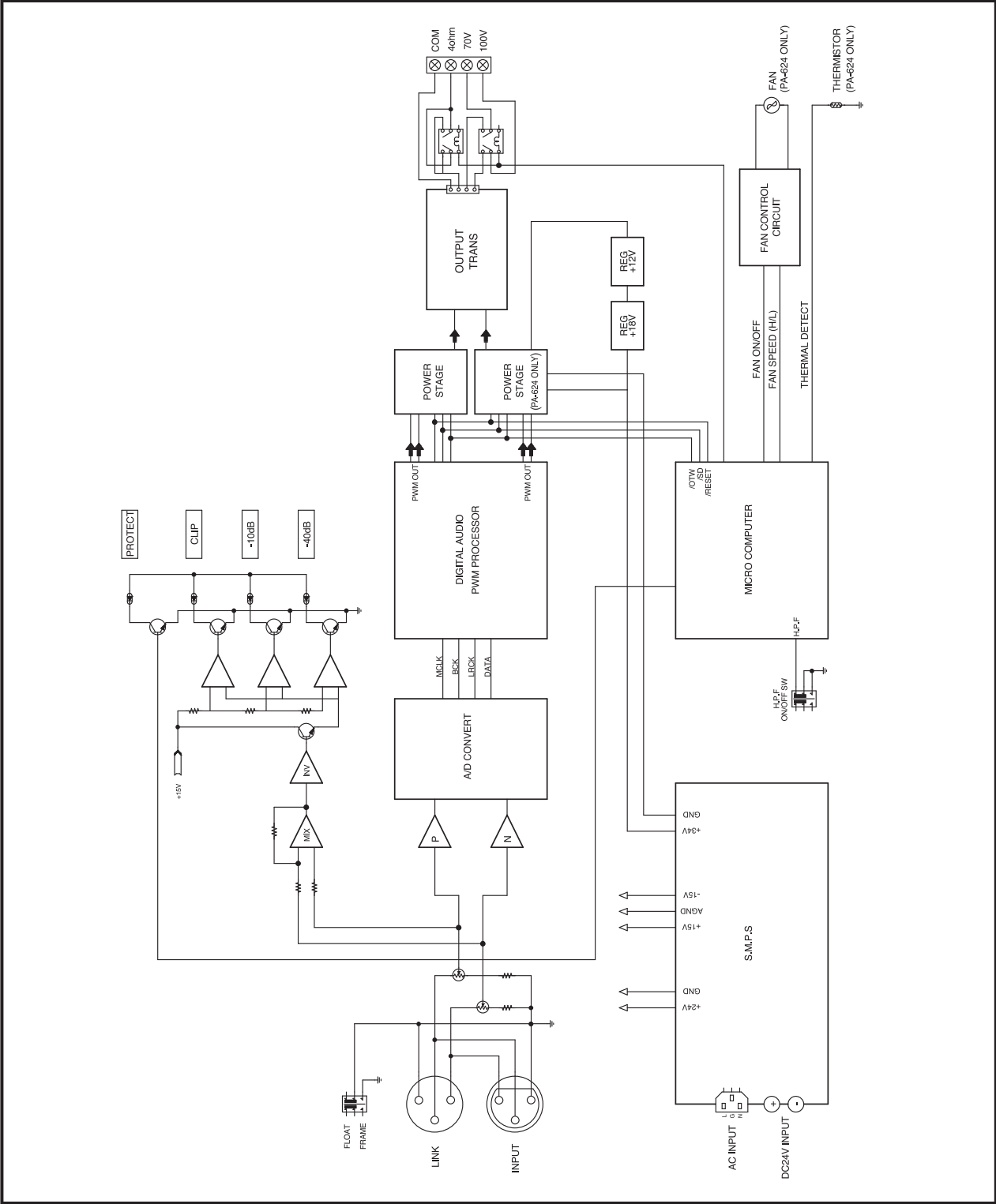
- * In Western Hemisphere(North America, South America and Caribbean), the jack has only 3 terminals because there is no 100V output.
- * "Class 2 Wiring" means that TERMINALS provided the audio output power exceeds 10W per channel under normal operating conditions or the apparatus is intended to be installed or interconnected in the field by a SKILLED PERSON.

Applications



The shape of outlets can be different according to country requirements.

Block Diagram



Specifications

	PA-612	PA-624
Rated Output Power	120W	240W
Frequency Response	100Hz ~ 18kHz	
T.H.D (RMS output power, 1kHz, 20kHz LPF)	Less than 1%	
High Pass Filter (400Hz)	-3dB	
S/N (20kHz LPF, A-WTD)	Better than 80dB	
Input Sensitivity/Impedance	1V/10k BAL	
Output Voltage/Impedance		
EC/JAPAN	4Ω/22V, 41Ω/70V, 83Ω/100V	4Ω/31V, 21Ω/70V, 42Ω/100V
USA/CANADA	4Ω/22V, 41Ω/70V	4Ω/31V, 21Ω/70V
Operation Temperature	-10°C ~ +40°C	
Power Source	100 - 120VAC or 220 - 240VAC; 50/60Hz	
Power Consumption	40W(1/8 power)	65W(1/8 power)
Weight (SET)	8.9kg/19.6lb	
Dimensions (SET)	482(W)×88(H)×380(D)mm/19(W)×3.5(H)×15(D)in	

* Specifications and design subject to change without notice.

Service

Procedures

Take steps to insure the problem is not related to operator error or other products within the system. Information provided in the troubleshooting portion of this manual may help with this process. 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.

NOTE

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Inter-M, Ltd. (Korea) began operations in 1983.

Since then, Inter-M has grown to become one of the largest manufacturers of professional audio and commercial sound electronics equipment in the world.

Inter-M has gained worldwide recognition for its own branded products, as well as private label manufacturing of electronics sold under other names (OEM).

The company is no longer just a Korean company, but rather a global company that is truly international in scope, with factories and offices in Korea and China, and sales and marketing operations located in Japan, Europe, and the U.S.A.

With more than 850 employees around the globe, Inter-M is well-poised for further growth and expansion.

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September 2008 122680