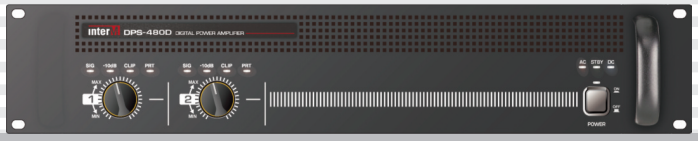
Operation Manual

Digital Power Amplifier

DPS-240D/360D/480D



* 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!





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 on une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.
Pour deconnecter completement l’appareil du reseau d’alimentation. deconnecter le cordon d’alimentation de la prise murale.
La prise du reseau d’alimentation doit demeurer aisement accessible.

WARNING

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

*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.
*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.
*Warning : To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
*This apparatus shall be connected to a mains socket outlet with a protective earthing connection.
*To completely disconnect this apparatus from the AC mains, disconnect the power supply cord plug from the AC receptacle.
*The mains plug of the power supply cord shall remain readily accessible.

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 DPS-240D/360D/480D 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

- HIGH-POWERED, HIGH-CAPACITY 2-CHANNEL CLASS-D POWER AMPLIFIER
High-Power, high performance Class-D Professional Amplifier has up to 240W/360W/480W 2CH power output.
* DPS-240D: 240W, DPS-360D: 360W, DPS-480D: 480W

- EMERGENCY POWER BACK UP (DC 24V) CAPABILITY
The unit operates on a DC 24V battery power supply for emergency back up without UPS.

- SMPS (SWITCHING MODE POWER SUPPLY) POWER SCHEME
High efficient, light weight SMPS power system is utilized.

- RATED OUTPUT POWER VIA DC BACKUP SUPPLY
Output power can be maintained as AC power when DC 24V power supplied.

- POWERFUL AND DETAILED SOUND QUALITY
High S/N ratio and Low THD reproduces powerful and detailed sound.

- COMPLETE PROTECTION CIRCUITS
Complete circuit protection is activated in case of amplifier overheating, output shorting, overload, over power and DC output.

- OPERATION INDICATOR LED
LED display to check the operating status (AC, STBY, DC, POWER, SIG, -10dB, CLIP, PRT)

- BALANCED INPUT
This connection is used to ensure the lowest noise operation which eliminates the common noise from the cable.

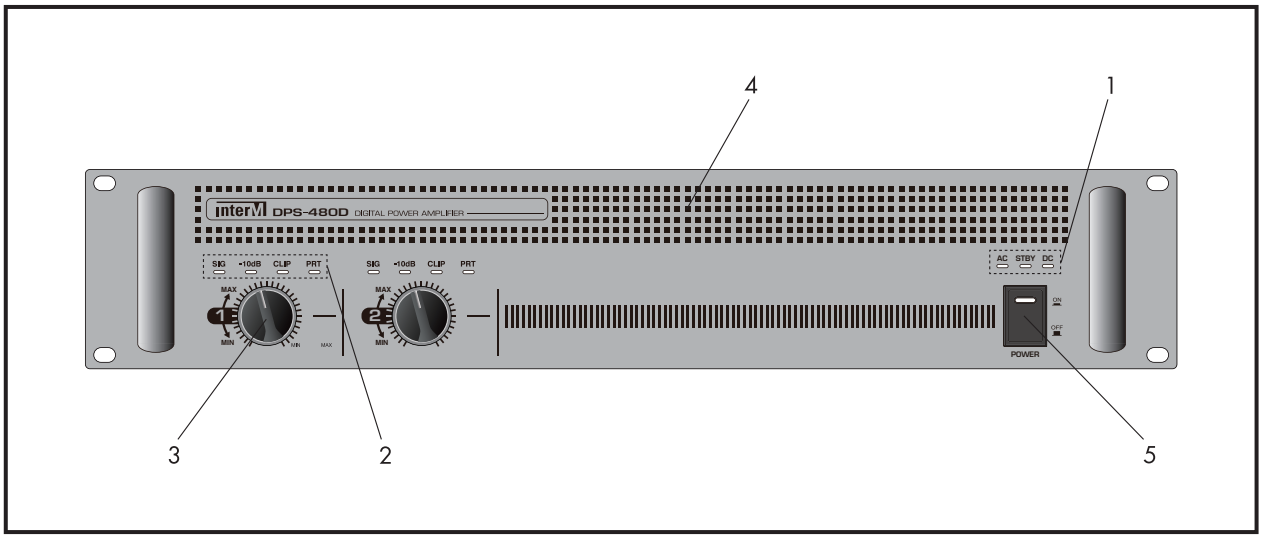
- REMOTE POWER ON/OFF
The remote power allows the amplifier to be turned on or off from a distance or other device via dry contact closure.

- PRIORITY INPUT
PGM is interrupted and over ridden by the Priority input, when a contact closure is received on the Priority input terminal. This is Ideal for Emergency message broadcasting applications.

Contents and Accessories

1. **AC power cord x 1EA**
2. **6P Terminal Block x 1EA**
3. **2P Terminal Block (AC Remote power) x 1EA**
4. **8P Terminal Block x 1EA**
5. **Screw for Rack Mount x 4EA**
6. **Washer x 4EA**
7. **Operation manual x 1EA**

Front Panel



1. AC, STBY, DC LED

When Power switch is on, AC or DC LED will illuminate depending on input Power source. When Power switch is off, STBY LED will turned on. During operation of DC, amplifier is keep going to work even if the switch of power is turned off.

	Power SW	Power LED	AC LED	STBY LED	DC LED
AC/DC	SW ON	ON	ON	OFF	OFF
	SW OFF	OFF	OFF	ON	OFF
AC only	SW ON	ON	ON	OFF	OFF
	SW OFF	OFF	OFF	ON	OFF
DC only	SW ON	ON	OFF	OFF	ON
	SW OFF	ON	OFF	OFF	ON

2. OUTPUT LEVEL INDICATOR (1CH, 2CH, 3CH, 4CH)

Indicator display of unit's output level status.

SIG(-30dB) LED: Green, -10dB LED: Green, CLIP LED: Orange, PRT LED: Red

※ Note: If CLIP LED is lit, sound output is distorted. Reduce the volume level.

※ Note: For the DPS-720S, if the protection circuit is activated and PRT LED is turned on, turn off the power and turn it on again.

3. VOLUME CONTROL

Volume adjustments are made. Turn clockwise to increase the volume level.

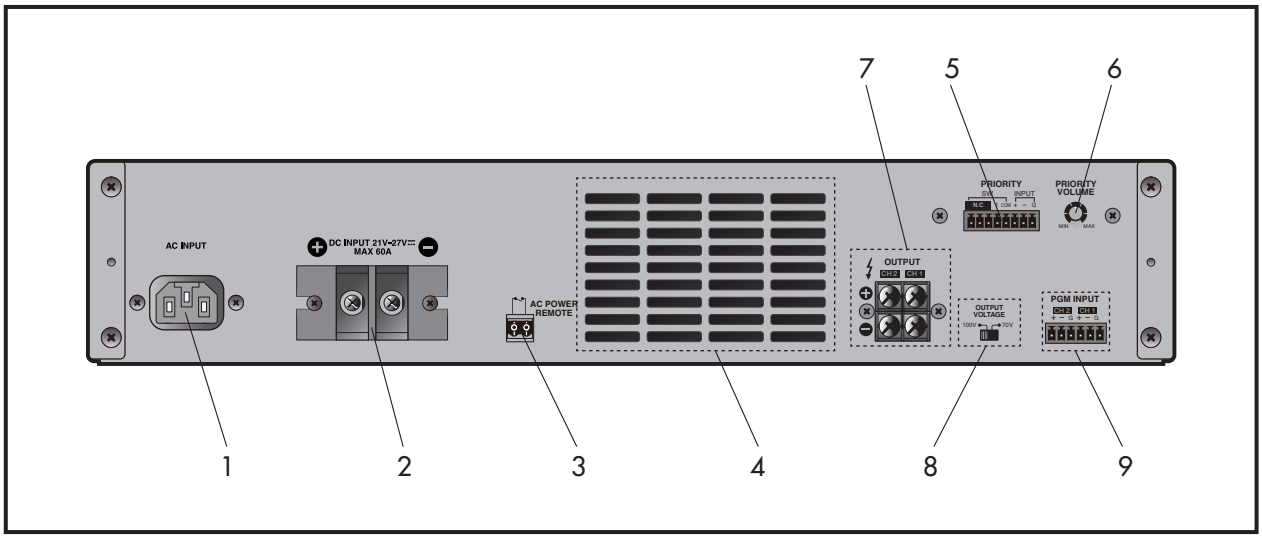
4. AIR VENTS

The air circulation passage to prevent overheating of the device, please do not obstruct the flow as air flows from front to back.

5. POWER SWITCH

Push on/off switch. When Power switch is on, BLUE LED will illuminate.

Rear Panel



1. AC INPUT

Connect the power cable which is supplied with the unit. Do not bend, pull, twist, heat and cut by force. It may cause electric shock.

2. DC INPUT

This is emergency DC terminal (DC 24V). When something happens to AC power, DC power automatically operates. Input provides power to the device regardless of power switch.

※ Please check voltage and +, - polarity.

3. AC POWER REMOTE

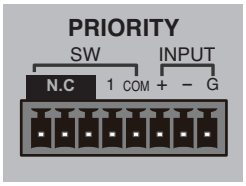
This terminal allows the amplifier to be turned on or off from a distance or other device.

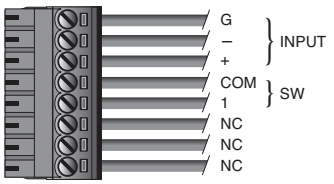
4. AIR VENTS

Air circulation vents to prevent the device from overheating. Please be careful not to block the front/back of the vents.

5. PRIORITY INPUT AND CONTACT CLOSURE

Each amplifier module has 2 audio inputs. The PGM input and PRIORITY input. PGM input is interrupted and over ridden by the PRIORITY input when a contact closure is received on the PRI select terminal. This is Ideal for Emergency message broadcasting applications. Please refer to the following picture about the suitable cables.





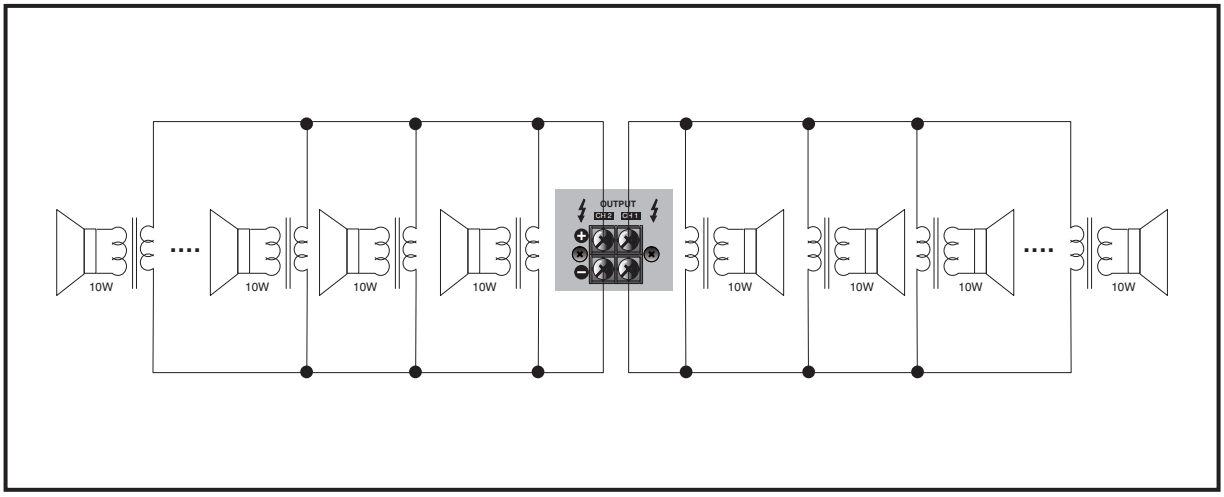
6. PRIORITY VOLUME CONTROL

It is a volume control of PRIORITY INPUT signal. This control can adjust PRIORITY INPUT signal used as emergency broadcasting. Turn clockwise to turn the signal level and counterclockwise to lower the signal level.

※ It is mainly for priority broadcasting so, don't make the VOLUME level too low.

7. OUTPUT TERMINAL

Speaker Output Terminal. Before connecting speakers to the unit, be sure to disconnect the AC power cable. Make certain that the total impedance is not less than the rated impedance indicated.



※ Caution:

1. Make sure that the total impedance does not equal or less than the rated impedance.

Speaker Output	Speaker Impedance
240W	100V / 41.6Ω
	70V / 20.4Ω
360W	100V / 27.7Ω
	70V / 13.6Ω
480W	100V / 20.8Ω
	70V / 10.2Ω

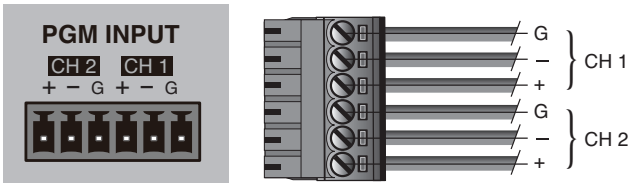
2. Do not connects a speaker has lower impedance than rated impedance, it may cause the problem to unit.
3. Do not put the speaker cable close to input signal cable.

8. OUTPUT VOLTAGE SELECTOR SWITCH

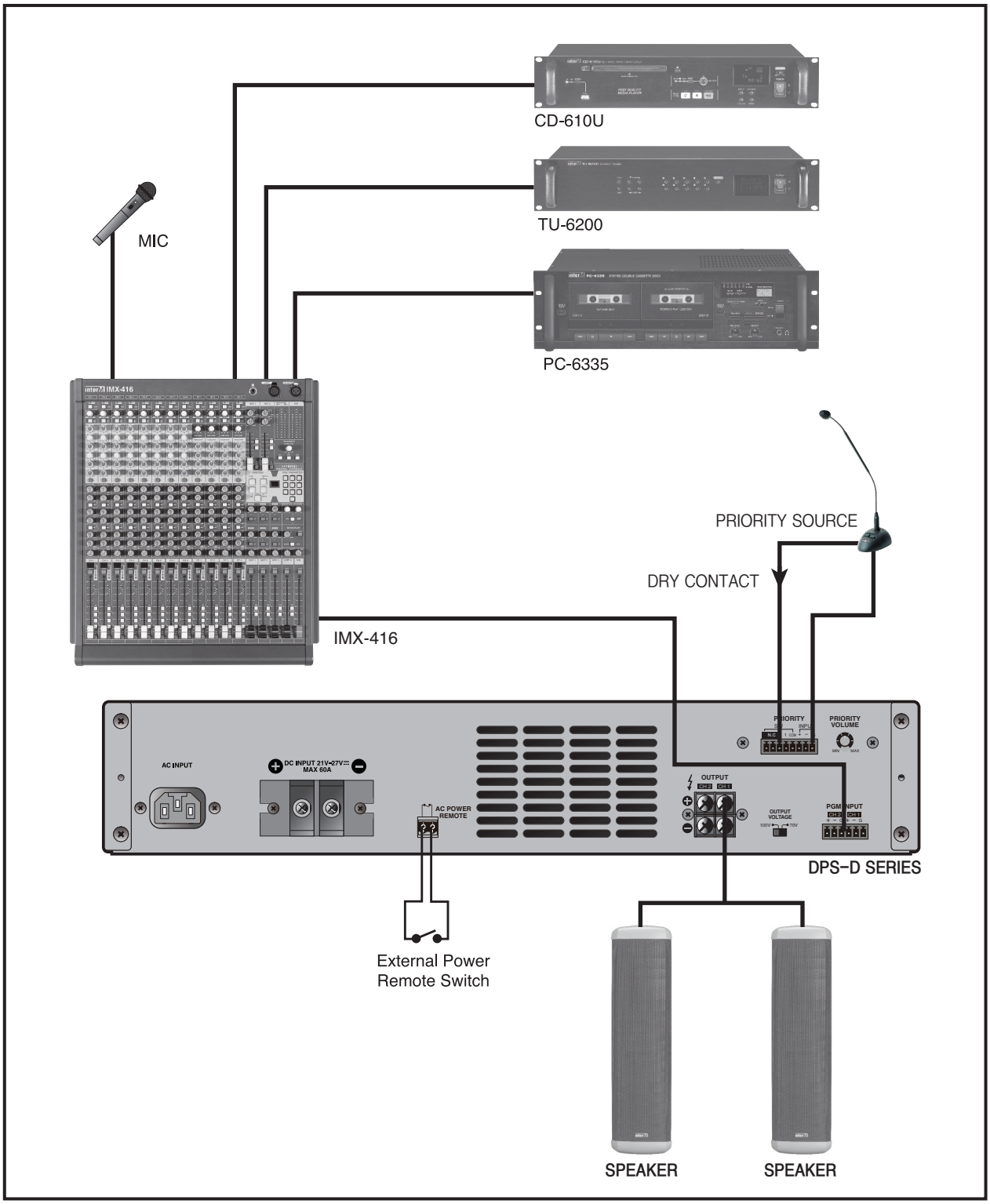
This two-position switch is used to select a output voltage. (100V / 70V)

9. PGM INPUT TERMINAL

Terminal block connector accepts the source input. Please refer to the following picture about the suitable cables.

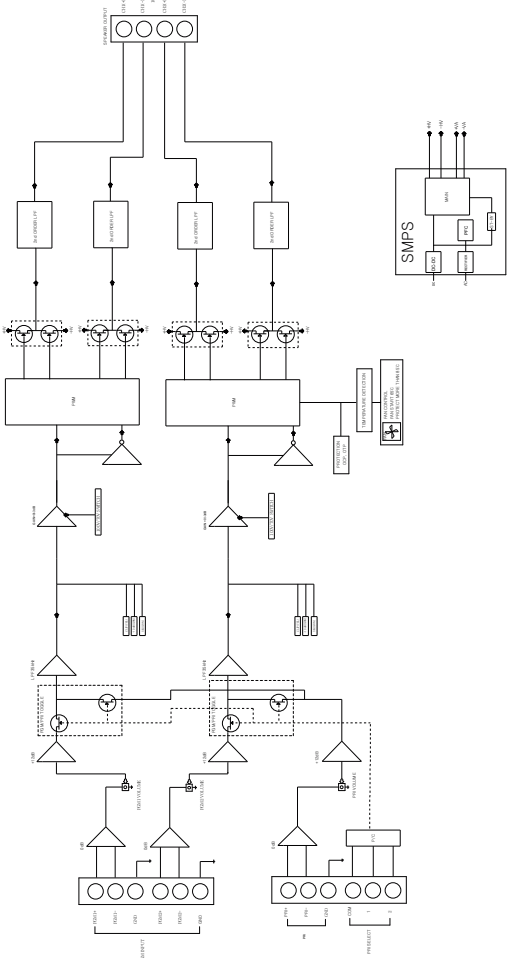


Applications

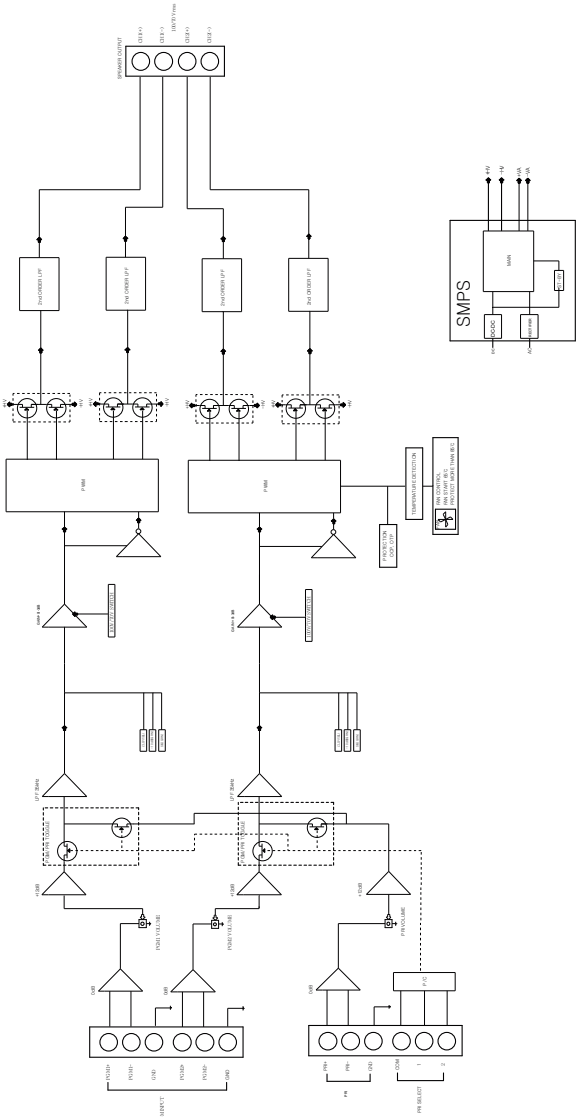


Block Diagram

DPS–240D



DPS–360D/480D



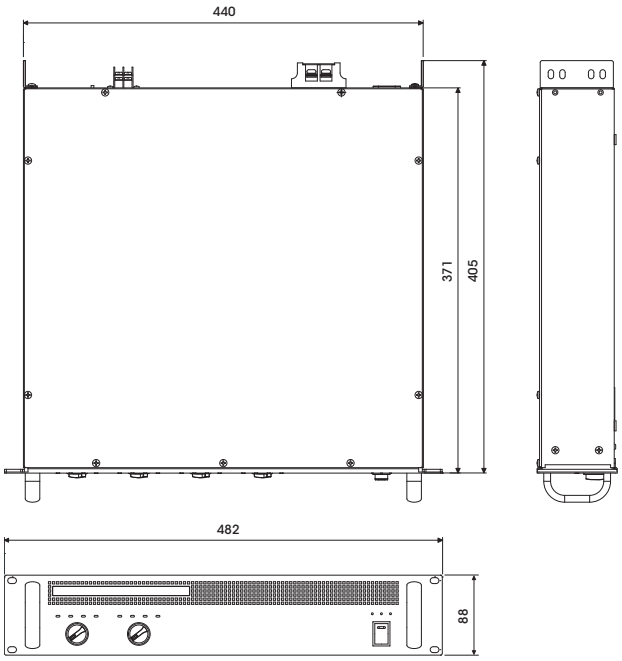
Specifications

	DPS-240D	DPS-360D	DPS-480D
Rated Output Power	240W × 2	360W × 2	480W × 2
Output Level/Impedance	100V/41.6Ω	100V/27.7Ω	100V/20.8Ω
	70V/20.42Ω	70V/13.6Ω	70V/10.2Ω
Input Sensitivity	1V/10kΩ		
THD (AES17, 1/8 Power)	Less than 0.5%		
S/N (20kHz LPF)	Better than 100dB		
Frequency Response (1W, ±3dB)	60Hz~20kHz		
Operating Temperature	-10℃~40℃		
Power Source	AC 120V, 60Hz, 220-240V, 50/60Hz, DC 24V		
Power Consumption	130W	250W	
Weight (Set)	7.4kg/16.3lb	8.25kg/18.2lb	8.23kg/18.14
Dimensions (Set)	482(W) × 88(H) × 371(D)mm 18.9(W) x 3.4(H) x 14.6(D)in	482(W) × 88(H) × 424(D)mm 18.9(W) x 3.4(H) x 16.7(D)in	

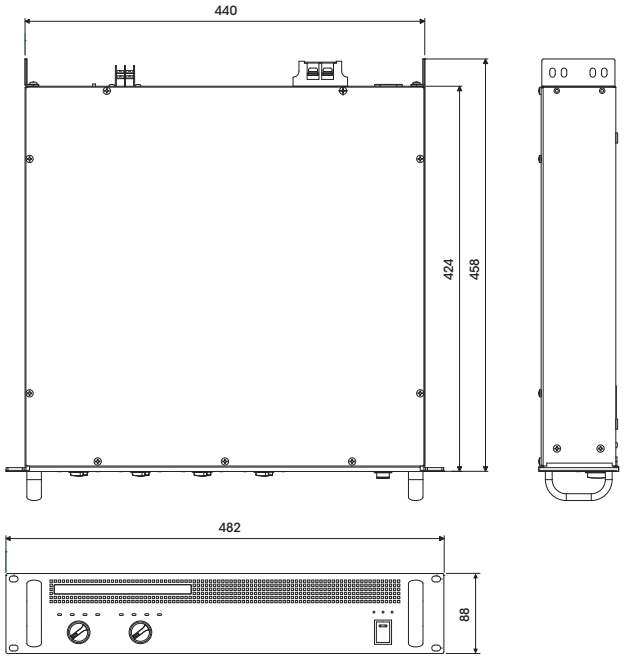
* Design and specification are subject to be changed for the improvement of product quality without pre notice.

※ DIMENSIONS

DPS-240D



DPS-360D/480D



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
Products supplied through legitimate 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.

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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