

# Operation Manual

**IP Series network broadcasting system**

**IP-2600AP III**

**IP-2450AP III**

**IP-2300AP III**

**IP-2150AP III**

Network Power Amplifier



**Thinuna**

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## Welcome


A personal welcome to you from the management and employees of Thinuna global.

Thanks you for choosing our high quality product, we will always provide innovative, advanced, reliable products like before.


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

Welcome to Thinuna again, and thank you for becoming part of our worldwide extended family!


## Warning




**CAUTION**  
RISK OF ELECTRIC SHOCK  
DON'T OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.  
DO NOT REMOVE COVER (OR BACK).  
NO USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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.

**WARNING**

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

\* For the terminals marked with symbol of " " may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the used of ready-made leads or cords.  
 \*The apparatus shall not be exposed to dripping or splashing and that objects filled with liquids, such as vases, shall not be placed on apparatus.  
 \* The appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.  
 \* Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.  
 \* Increase the minimum distance of the prototype to the surrounding environment.  
 \* no naked flame sources, such as lighted candles, should be placed on the apparatus;  
 \* The use of apparatus in tropical climates.  
 \* The use of apparatus in moderate climates.

\* 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 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."

**Service Instructions**  
 \* Worded: "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."  
 \* Location: Instruction Manual.

**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.

## Installation Environment

Installation this system is not difficult and complex. But you still need to spend some time to read this manual and ensure the connection and installation is exact.

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.

- Avoid excessive heat, humidity, dust and vibration

Keep the unit away from locations where it is likely to be exposed to high temperatures or humidity-such as near radiators, stoves, etc. Also avoid locations which are subject to excessive dust accumulation, or to vibration that could cause mechanical damage.

- Avoid physical shocks

Strong physical shocks to the unit may cause damage. Handle the unit with care.

- Do not open the case or attempt repairs or modifications yourself

This product contains no user-serviceable parts. Refer all maintenance to qualified Thinuna service personnel. Opening the case and/or tampering with internal circuitry voids the warranty.

- Always power off before making connections

Always turn the AC mains OFF before connecting or disconnecting cables. This is important to prevent damage to the unit itself as well as other connected equipment.

- Handle cables carefully

Always plug and unplug cables (including the AC mains power cord) by gripping the connector, not the cord.

- Clear with a soft dry cloth

Never use solvents such as benzine or paint thinner to clean the unit. Wipe clean with a soft, dry cloth.

## Features :

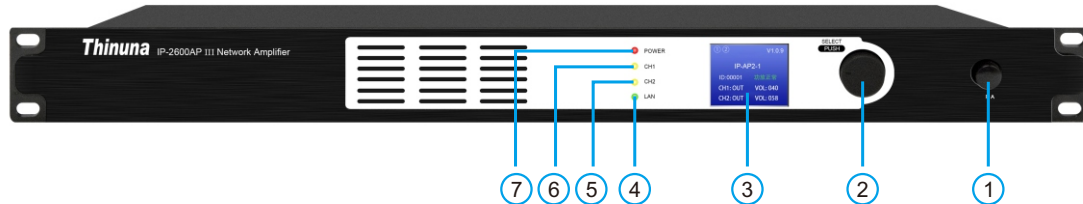
1. The network audio power amplifier is a constant voltage power amplifier with built-in 2 channels. It is also an audio terminal encoding and decoding device that can receive network audio sources, collect local RCA, MIC mixing input, and achieve functions such as controlling the output audio sources of different channels;
2. Comes with dual network ports, which can be accessed from any place with an Ethernet interface. It can play network audio and can accept access and control from servers and other IP network devices;
3. Network fault self-diagnosis, network and service status display;
4. Powerful network audio playback function, which can be used independently in the network, and can directly play network audio signals from IP network servers and IP network acquisition terminals;
5. Independent power supply, independent power design is adopted for the control board and power amplifier board, even if one fails, the normal use of the other will not be affected;
6. Strong cut function, when the fire signal is activated, it will automatically output 24V electric signal and three-wire strong cut signal to turn on the volume controller, no need for additional equipment;
7. 2-channel 600/450/300/150W independent power amplifier;
8. Special power amplifier detection function, the network can monitor the power amplifier status in real time;
9. With power amplifier backup function, the system can achieve switching Master/Slave Amplifiers automatically when one become fail.
10. With two local RCA, local MIC mixing input function;
11. No signal automatically into standby state, energy saving and environmental protection;
12. Provide complete overheating and overcurrent protection of the whole machine;
13. Work signal indicator, local volume control, color display screen;
14. Network parameters can be configured locally;

**Note: Only the power is different between different models, other functions are the same, please see the function parameters for details.**

## Accessory:

The product contains a separate AC power cord for powering the product.

## The Front Panel



### 1. PA (Power amplifier output switch)

When the power amplifier module is powered on, press this button to power off the power amplifier module; when the power amplifier module is powered off, press this button to power on the power amplifier module.

### 2. SELECT/PUSH (single button shuttle)

In general, press this button to select the volume, rotate it to the right to increase the volume, rotate it to the left to reduce the volume, press this button again to lock the volume after adjustment (or wait for 3S), and long press this button to enter the next interface.

### 3. LCD display

Display status information, parameters and other information of the power amplifier.

### 4. LAN network status indicator

When the local network is connected to the server normally, the indicator light is on.

### 5. CH2

Display the working status of channel 2. When the AUX2 channel is in the working state, the signal light is always on and normally displays; when the power amplifier is protected or the power is off, the indicator light is red.

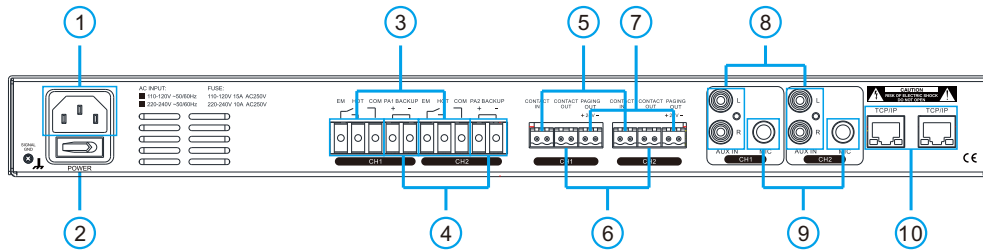
### 6. CH1

Display the working state of channel 1. When the AUX1 channel is in working state, the signal light is always on and normally displays; when the power amplifier is protected or the power is off, the indicator light is red.

### 7. POWER (power indicator light)

Used to indicate the power status of the device.

## The Rear Panel



### 1. AC power interface

AC 220v power supply.

### 2. Main power switch

Control the power supply of the entire device.

### 3. Strong cut volume control wiring terminal

Used to connect the speaker line with a three-wire volume controller. When a fire alarm linkage signal is triggered, it will automatically output a strong cut signal to turn on the volume controller.

### 4. Backup audio input interface

Used to connect to the backup power amplifier. When the main power amplifier is detected to work abnormally, it will automatically switch to the backup power amplifier. Please correctly connect the backup broadcast cable according to the label.

### 5. Fire dry contact trigger signal input

Linkage with fire signal.

### 6. Dry contact signal output

When a fire alarm linkage signal occurs, this port will have a set of dry contact signal output.

### 7. 24V power output

When a fire linkage signal occurs, this port will have a 24V DC output.

### 8. AUX1/AUX2 input

Please connect an external audio source to this input port, the channels are independent of each other

### 9. MIC1/MIC2

Local microphone input port, the channels are independent of each other.

### 10. 10M/100M dual network ports

Used to connect to a local area network, equivalent to a two-port switch (hub), it is recommended that customers use a standard network.

## Function Parameters:

Model	IP-2600AP III	IP-2450AP III	IP-2300AP III	IP-2150AP III
Rated power	600W x 2	450Wx2	300Wx2	150Wx2
Network interface	Rj45, 10M/100Mdual network port, network port comes with upgrade function			
Support protocols	TCP,UDP,IGMP,ICMP,ARP			
Audio format	PCM(uncompressed format),ADPCM,MP3			
Number of channels	2-CH line input, 2-CH local microphone input 2-CH network input			
Standby	No signal 3 minutes automatic standby			
Restart recovery time of power and network disconnection	< 1s			
Network delay	File playback: less than 50ms, real-time speech: less than 100ms, With automatic caching function			
Transmission rate	10/100Mbps			
Audio mode	Network data packet, local analog input			
Frequency response	15Hz~20KHz			
THD	≤0.3%			
SNR	> 75dB			
Local audio input interface	RCA input, local MIC			
Line input level	1V RCA			
Strong cut output	DC24V and three-wire system			
Operating temperature	-20°C ~ +60°C			
Working humidity	10%~90%			
Power consumption	≤40W(without load)			
Input power supply	AC220V/50Hz			
Dimensions	482(W)x44(H)x360(D)mm			



## Common problems and solutions for power amplifier failure:

Number	Failure phenomenon	Reason	Solution
01	Power amplifier shutdown	A: The power amplifier switch knob is not turned on	Press the switch on the front panel of the device to supply power to the amplifier to make the amplifier enter the normal state.
		B: The fuse blew out	Open the cover to replace the fuse in the power module. Please replace it with a fuse of the same specification.(This operation should be carried out by personnel with maintenance qualification)
02	Power amplifier failure	A : Overload (the total power of the speaker is incorrect)	Connect all speakers correctly to ensure that the total power of the speakers does not exceed the rated power of the amplifier. At the same time, when the speaker cable is too long, the loss caused by the line needs to be considered.
		B: Speaker line short circuit	Turn off the power of the amplifier and check the speaker line to ensure that the speaker is properly connected and there is no short circuit.
		C: The temperature inside the case is too high	Observe whether the fan in the case works normally, turn off the power amplifier, and wait for the temperature in the case to decrease before turning on the amplifier.
03	Other problems	Check the cause of the power amplifier failure; If it is always under protection state, please contact Thinuna directly or a local after-sales service organization certified by Thinuna.	

## Equipment parameter adjustment:

### 1. Adjust the channel volume

Rotate the knob, the cursor appears on the volume of the corresponding channel, press the knob, the volume value turns red, turn the knob to the right to increase the volume, and to the left to decrease the volume. After modifying, press the knob again (Or wait for 3S) to save the settings.

## 2. Set the IP address

Long press the SELECT /PUSH (single button shuttle) knob to enter the IP setting interface of the device. Rotate the knob to stop the cursor to the parameter that needs to be changed. Press the knob, the parameter font will turn red, turn the knob to the right, increase the parameter value, and rotate to the left to decrease the parameter value. Tap again to complete the parameter change. In the IP setting interface, press and hold the knob again to enter other parameter settings.

- **IP address setting interface parameter description:**

- 
- IP : Device IP address, not repeatable;
- MK : Subnet mask;
- GW : Default gateway;
- ID : The device is uniquely coded and cannot be repeated;
- SAVE : Save configuration ;
- SP : Server IP address setting;
- PROT : Server login port settings
- DHCP : Obtain an IP address automatically. After checking, the device will automatically obtain an IP address.

After setting, rotate the cursor to "SAVE" , short press the knob, the font of "SAVE" will change from white to red. Turn the knob to switch SAVE to YES and press the knob to confirm the save. The device restarts automatically.

## 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.

### 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 110VAC or 220VAC.

### Optional accessory

This product do not have others optional accessory.

### 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 Thinuna directly or the authorized distributor for your specific country or region.

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