

## **User's Manual**

## **Power Amplifier Network Module**

**IP-100XI** 



Thanks for your purchase of TOA products IP-1000 series.

Please read the manual carefully to ensure the machine operating in long time and fault-free.



Safety Precaution

## Chapter 1: safety precaution

Please abide by the warning and the relevant safety tips.

Please take this manual in convenient place after you reading the guide for future reference.

#### Warning

The sign means there is potential safety hazard, when operate wrong may result in death or serious injury.

The sign is used to remind the user that attached is the important operation and maintenance data.

(1) Avoid getting the device wet.

Do not make the machine wet or expose to rain water or other liquid contamination of the environment, or lead to fire or get an electric shock.

(2) Do not use unspecified voltage.

Using the marked voltage on the machine.

Using more than the logo of voltage could lead to fire or shock.

(3) Do not scratch the power cord.

Do not scratch the power cord or cut it.

Simultaneously, keep the power line far way from heated objects, put heavy things on it will lead to fires or electric shock.

#### Using machine

(1) In case of the anomalies

Please turn off the power supply immediately when finding the abnormal phenomena, please connect with the agency. If you continue to using the equipment, it is likely to catch on fire or resulted in electric shock.

•The smoke or smell of the machine.

•The inside of the machine is flooded by water or external intrusion.

•Machine falling or machine case damage.

•The power cord damage (wire core is exposed of broken, etc)

·Malfunction (e.g. no network connection, no sound etc.)

(2) Do not open the machine internal or modify the machine.

Do not external substance getting into the equipment.

Please do not put any metallic or inflammable objects into the machine, otherwise it may cause fires or electric shock.

(3) Please do not touch it during thundering

To avoid electric shock, please do not touch the machine and the plug during lightning, etc.

(4) Please do not place containers with liquid or small metal objects on the machine above.

If containers drop and liquid get into to the machine that will likely catch fires or cause electric shock. (5) Do not open the machine internal or modify the machine.

The machine internal contains high voltage parts, once open the cover or modify the machine, it may result in fires or cause shock. All the maintenance and other machine modification should be operated by professional personnel.

(6) Maintenance and the precautions for not using in a long time.

While maintenance, if the machine is not been used for 10 days or more, please turn off power supply switch for safety. If do not comply with this provision, it will likely cause electric shock or fires.

**Products Description** 

## **Chapter 2: Products Description**

#### 2.1Summary

#### 2.1Summary

IP-100XI is a power amplifier network module, which can be installed in the specific amplifier product to add in the network functions, it can receive broadcast from other terminals and servers and it supports system setting via browser.

Receiving broadcast

The IP power amplifier module can receive broadcast from other terminals and servers.

Timing program

Uploading every day sound source to the server, programming the broadcasting plan, the IP power amplifier module can broadcast the server configuration plan automatically.

Broadcasting IP When the amplifier module is connected to power but not the LAN cable, pressing the reset button guickly will automatically broadcasting the IP and subnet mask parameters information.

# System setting via browser User can set network and audio parameters, modify login password via browser to realize the customized configuration.

Amplifier protection and amplifier failure information feedback.
Power amplifier network module can receive input information of amplifier protection and failure, the server will be synchronized window display information of amplifier protection or fault.

#### Chapter 2: Products Description

2.2 Interface Description



①LAN: network interface

O STATUS: status indicator light

Online: the green light always be ON; Offline: the red light flash slowly; Receiving broadcast: the green light flash quickly; Updating firmware: both green and red light are flash quickly.

③RESET: pressing the key to restore factory defaults IP (or update firmware), broadcasting IP.

Status	Operation	
Restore IP address	Connect to power, pressing the key for 3 sec	
Enter into the update firmware	Press the key for 5 seconds, then connect	
page.	the power	
Proodcosting ID	Connect to power but not connecting LAN	
	cable, short pressing and releasing.	

 $\textcircled{(4)}{\mathsf{VOLUME}}$  knob: controls input volume.

⑤Internal interface: the aiagram as follows:



#### Chapter 2: Products Description

2.2 Interface description

Interface	Remarks	Description		
	+24V	Power input, nominal input DC24V/150mA,the maximum range		
		DC15~30V		
J2	GND	Reference to the power input		
	GNDA	eference to the audio signal		
	SIG_AMP	Amplifier audio signal input,1Vrms/600Ω, imbalance.		
	GND	Reference to the control signal		
		Amplifier mute control output: triode collector open circuit output,		
	MUTE_OUT	broadcast open is for low level, broadcast close is for high resistance.		
2		The max electric current: 10mA, the max withstand voltage: DC24V.		
33	PROTECT_IN	Amplifier protection detection input: MCU input, low level effectively,		
		open circuit voltage:3.3V, 10K resistance up to 3.3V.		
	FAULT_IN	Amplifier fault detection input: MCU input, low level effectively, open		
		circuit voltage:3.3V, 10K resistance up to 3.3V.		
3.3V		3.3V interface of power indicator light		
J4	POWER_LED	The interface of power indicator light		
	STATUS_LED	Status light interface, offline is for light OFF, login is for light ON.		
	SIGNAL_LED	The interface of signal indicator light		

#### Amplifier failure and protection

PROTECT and GND can receive amplifier protection information and it will send to the server.

Server will pop up a page and display the amplifier protection information after the amplifier protection signal well received.

#### Amplifier failure detection

FAULT\_IN and GND can receive amplifier failure detection signal and it will send to the server.

After receiving the amplifier protection information, the server will pop up a page and display the amplifier failure detection information.

#### Mute control

MUTE\_OUT and GND can output the mute signal to other modules or terminals.

The power amplifier network module output the mute control signal in the broadcasting, no mute control signal output in free status.

Wiring

## Chapter 3: Wiring

3.1 Wiring Diagram

#### 3.1 Wiring diagram



J4 interface: reserved interface.

## Chapter 3: Wiring

3.2 Installation Description

#### **3.2 Installation Description**

Using screws to fix IP amplifier module in the slot, as the following picture.



3.3 Reference Size

## 3.3 Reference size(unit: mm)



System setting by browser

4.1 Entering into browser

#### 4.1 Entering into browser

Step 1: Please input IP address of the power amplifier network module (factory defaults is 192.168.1.101), then press Enter.

🗿 м	icroso	oft Inte	ernet Exp	lorer							
File	Edit	View	Favorites	Tools	Help						
G	Back	• 6	- 🗙	2 (	1	Search	Kavorites	💽 Media	Ø	2.	
Addre	ess 🚺	192.16	8.1.101								

Step 2: Please input the user name and password in the login window of the Web page (the defaults is admin).

Windows Security	×
Warning: This sent in an insect connection).	server is requesting that your username and password be ure manner (basic authentication without a secure
	admin
	OK Cancel

Note: there is different letter of the user name and password.

Step 3: It can enter into the Web page after pressed the Enter.

	Networ	k PA System
MENU		
<u>Status</u>		
Network	IP Address:	192. 168. 1. 101
Audio	Subnet Mask:	255. 255. 255. 0
Alarm	Default Gateway:	192. 168. 1. 1
Web Management	MAC Address:	00-05-F9-04-56-E9
Reboot	DNS Server	102 168 1 1 102 168 1 1
Restore	DNO SEIVEI.	152. 100. 1. 1, 152. 100. 1. 1
Upgrade		
System log		

4.2 Network parameters

#### 4.2 Network parameters

Network PA System	Network parameters
	Device ID: 1
MENU	IP Address: 192 . 168 . 1 . 101
Status	Device Port: 2046 (Default:2046)
Network	Subnet Mask:     255     .     255     .     0
Audio	Default Gateway: 192 . 168 . 1 . 1 (Optional)
Alarm	DNS server1: 192 . 168 . 1 . 1 (Optional)
Web Management	DNS server2: 192 . 168 . 1 . 1 (Optional)
Restore	System Server: 192 . 168 . 1 . 13
Upgrade	System Server Port: 2048 (Default:2048)
System log	Language: English -
	HandShake Interval: 30s 🔹
	Save Default

Device number	Identify the unique number of the speaker and it cannot be repeated with		
	other terminals or hosts.		
IP address	IP address of amplifier module		
Dovice port	The defaults port number is 2046, please do not modify it if not in specially		
Device poir	situation.		
Subnet mask	Please setting subnet mask(the defaults to :255.255.255.0)		
Defaults gateway	The gateway of the amplifier module (the defaults is :192.168.1.1)		
DNS Server 1	The IP of preferred domain interpreter in the interface unit's network.		
DNS Server 2	The IP of standby domain interpreter in the unit's network.		
System server	IP address of IP broadcast server		
System conver port	The defaults sever number is 2048, please don't modify it if not in specially		
System server port	situation.		
	The Web page of the amplifier's application segment procedure		
Language	(Firmware) is support for switchover of English and Chinese, but the Web		
	page of bottom segment procedure (BIOS) isn't support for switchover of		
	English and Chinese.		
Handshake interval	Setting the interval time between the amplifier and the server.		

4.3 Audio parameters

#### 4.3 Audio parameters

sampling rate

volume

Broadcast output

Network PA System	Audio parameters	
	Encoding format:	PCM
	Line input volume:	0 -
Statue	Broadcast sampling rate:	22050Hz
Network	Broadcast output volume:	11 👻
Audio		
Alarm		Save Default
Web Management		
Reboot		
Restore		
<u>Upgrade</u> System log		
System log		
	Broadcast coding, PCM m	leans no data be compressed, ADPCM means
Coding mode	packed data (low network	data value), display according to the server
	configuration.	
Line input volume	Reserved	
Broadcasting	Amplifier sampling rate in	broadcasting(8000Hz,22050Hz).

Amplifier output volume in broadcasting(0~15).

4.4 WEB management

#### 4.4 WEB management

You can modify the account number and password of the login Web page in the Web management parameters.

Network PA System	Modify the Web password		
	Old user name:	admin	
MENU	Old Password:		
Status	New user name:		
Network	New password:		
Audio	Confirm password:		
Alarm			
Web Management		Save Clear	
Reboot			
Restore			
Upgrade System log			
System log			

4.5 Restarting device

#### 4.5 Restarting device

User can click "restart device" to restart the device.

Network PA System	Reboot
MENU	Click the reboot button, the device will reboot.
Status	
Network	
Audio	
Alarm	
Web Management	
Reboot	
Restore	
Upgrade	
System log	

4.6 Resetting to defaults

#### 4.6 Resetting to defaults

Resetting defaults: all the parameters will reset to defaults.

Network PA System	Restore
MENU	Click the Restore Factory Settings button, the device will return all settings to the factory
<u>Status</u>	default state.
Network	
Audio	
Alarm	
Web Management	
Reboot	
Restore	
Upgrade	
System log	

4.7 Firmware upgrade

#### 4.7 Firmware upgrade

Clicking into the firmware upgrade mode to enter the firmware upgrade interface.

Network PA System	Upgrade	
	Firmware Version:	Firmware_[Normal]_V1. 4_160824
MENU	BIOS Version:	BootLdr_[Normal]_V3.0_160824
<u>Status</u>		
Network		Enters firmware upgrade mode
Audio		
Alarm		
Web Management		
Reboot		
Restore		
Upgrade		
System log		

Click browse in the upgrade firmware interface, please select the correct upgrade files, click on "upgrade", it will automatically restart after completed the upgrade.

4.8 System log

#### 4.8 System log

It can browse the amplifier module log in the Web page, click "delete all logs" can delete all the logs in the Web page.

Network PA System	C , I		
	System L	og	
	Index	The Log Content	
	1	08-30 15:26:00	Receive broadcasting: 234.0.0.2 : 0
MENU	2	08-30 15:26:00	Receive broadcasting: 234.0.0.2 : 0
<u>Status</u>	3	08-30 15:27:00	Logining: 192.168.1.13 : 2048
Network	4	08-30 15:28:00	Soft reset
Audio	5	08-30 15:28:00	Reboot
Alarm	6	08-30 15:28:00	Net status change 1
Web Management	7	08-30 15:28:00	Logining: 192.168.1.13 : 2048
Reboot	8	08-30 15:42:00	Net status change 0
Restore	9	03-04 00:00:00	Reboot
Upgrade	10	03-04 00:00:00	Net status change 1
System log	1 2 3 4	<u>5 6 7 8 9 10 11 12 1</u>	<u>3 14 15 16</u>
		Refresh	Clear All The Log

Appendix

## Chapter 5: Appendix

5.1 Specification

Model	IP-100XI		
Power	DC24V		
Current consumption	<85mA		
Relay NC contact	Control voltage≤DC30V,control electric current≤500mA.		
Relay COM contact	Control voltage≤DC30V,control electric current≤500mA.		
Relay NO contact	Control voltage≤DC30V,control electric current≤500mA.		
Network I/F	10BASE-T/100BASE-TX,automatic determination		
Network protocol	rk protocol TCP,UDP,ARP,ICMP,IGMP		
Working temperature	0°C~+40°C		
Working humidity	Lower than 90%RH (No dew point)		

## 5.1.1 Power amplifier network module IP-100XI

