



# PUBLIC ADDRESS SYSTEM

# OPERATION MANUAL

T-1S60  
T-1S120  
T-1S240

POWER AMPLIFIER



Please follow the instructions in this manual to obtain the optimum results from this unit. We also recommend that you keep this manual handy for future reference.

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# 1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

## Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety



### WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.



### CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.



## WARNING

### When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock.
- Be sure to replace the unit's terminal cover after connection completion. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
- Be sure to ground to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.
- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down, causing personal injury and/or property damage.

### When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest **ITC** dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit.
  - If water or any metallic object gets into the unit
  - If the unit falls, or the unit case breaks
  - If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  - If it is malfunctioning (no tone sounds.)
- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest **ITC** dealer.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

### CAUTION

#### When Installing the Unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.
- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.

#### When the Unit is in Use

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.
- Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.
- Contact your ITC dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

Due to product upgrades, while some of the features and specification in the user manual does not match the actual functions, sorry for any inconvenience and thanks for your kind understanding!

## 2. GENERAL DESCRIPTION

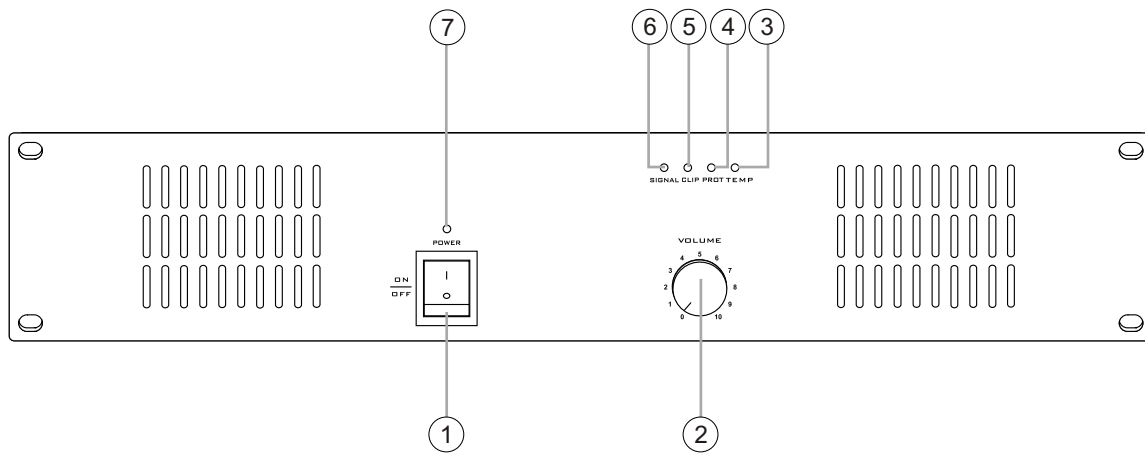
This range of power amplifiers are designed for general commercial and industrial public address applications. Rack mount design in 2U type, rated power ranges from 60W to 240W which provides a wide selection to meet different size sound system needs. Both balanced and unbalanced line inputs make it selectable for installer, balanced line output feeds to another power amplifier as well as secures the signal transmission is less noise and longer distance. 70V, 100V and 4-16ohmspeaker outputs are convenient for installation when selection different speaker matching. A master volume control is included. Complete protection includes clip, short circuit, high temp and overload. Indications for power, signal, clip, protection and temp.

## 3. FEATURES

1. Rack mount amplifier in 2U type
2. Rated power from 60W to 240W
3. 70V, 100V and 4~16ohm speaker outputs
4. solated transformer for human safety operation
5. Balanced XLR type line input and unbalanced 1/4 inch TRS phone jack line input
6. Balanced XLR type line output feeds to another power amplifier
7. Reliable protection of over heat, over load, clip & short circuit.
8. Indications for power, signal, clip, protection and temp
9. Excellent device of radiator cooling fanner that ensures working effectively.
10. GND/lift switch to have two options: earth line grounded or lifted

## 4. NOMENCLATURE AND FUNCTIONS

### 4.1 FRONT PANEL



#### 1. POWER SWITCH

On top of the opening Power, Press the end, power shut down

#### 2. VOLUME

Channel volume control

#### 3. TEMP

The protection indicator will be light on when the inside temperature is over 90°C, the output will be cut to protect the amplifier from damage. It will resume to work after cooling down

#### 4. PROT

The protection indicator will be light on when the constant output is 160% higher than the rated output, the output will be cut to protection the amplifier from damage. This indicator will be extinguished when amplifier is under normal working conditions.

#### 5. CLIP

Clip lit when max wattage output & output signal distortion.

#### 6. SIGNAL

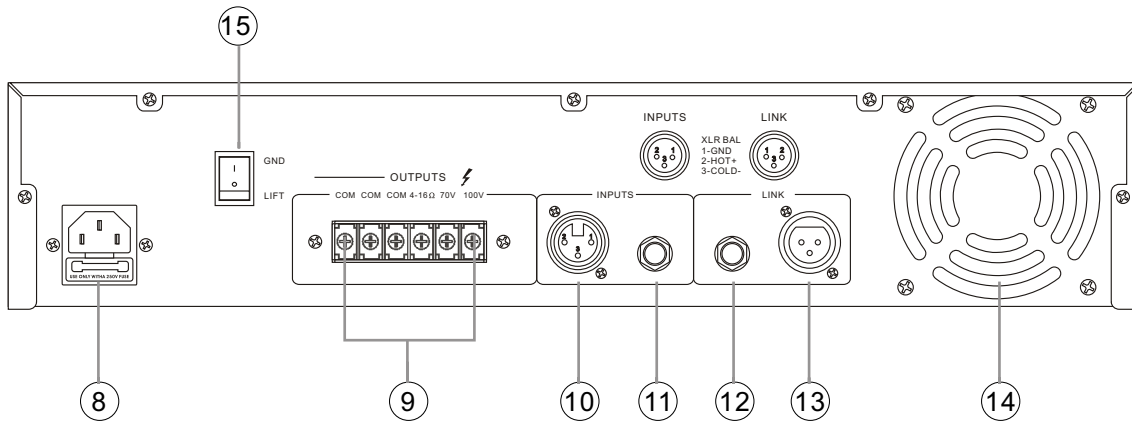
Signal indicator LED When lit input signal is detected.

#### 7. POWER

Power indicator LED

# NOMENCLATURE AND FUNCTIONS

## 4.2 REAR PANEL



**8. ~220-240V 50/60Hz POWER INPUT**

**9. COMMON SPEAKER OUTPUT**

Connectors for 4 ohms or 70V and 100V speaker

**10. LINE INPUT (XLR)**

Music signal input balance

**11. LINE INPUT (6.35TRS)**

Balanced or unbalanced input music signal (unbalanced input, use of non-equilibrium 6.35TRS jack)

**12. LINK OUTPUT (6.35TRS)**

Balanced or unbalanced output music signal (unbalanced output, use of non-equilibrium 6.35TRS jack)

**13. LINE CASCADE OUTPUT (CORLEONE SOCKET)**

XLR, output signal of power amplifier

**14. FAN**

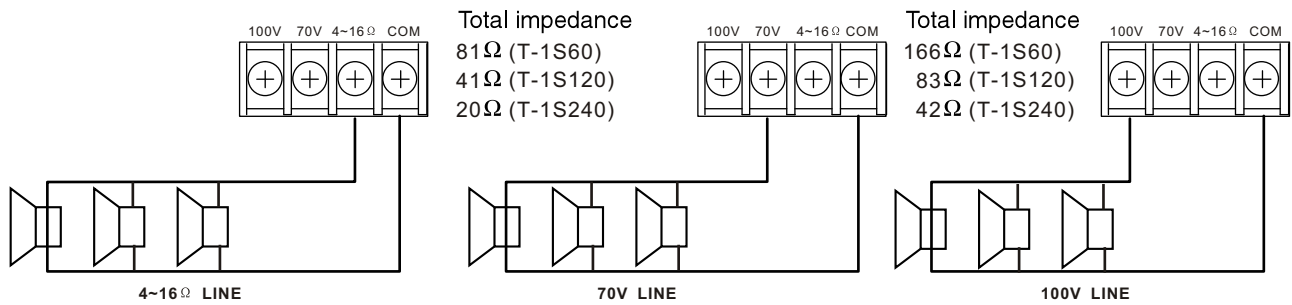
Equipment, exhaust vents, equipment work properly, you must wrap the hole can not have any object covered, to avoid overheating protection

**15. GROUND LIFTER**

Earth line ground or lift switch. Enable the switch to "GND" position when one unit is used, disable the switch "LIFT" when several units are used to avoid noise caused by several earth line grounded.

## 5. CONNECTIONS

### SPEAKER CONNECTIONS



#### Notes

- Both the 4~16Ω and 70V/100 V terminals cannot be used at the same time.
- Impedances indicated in the figures represent the total speaker system (load) impedances.

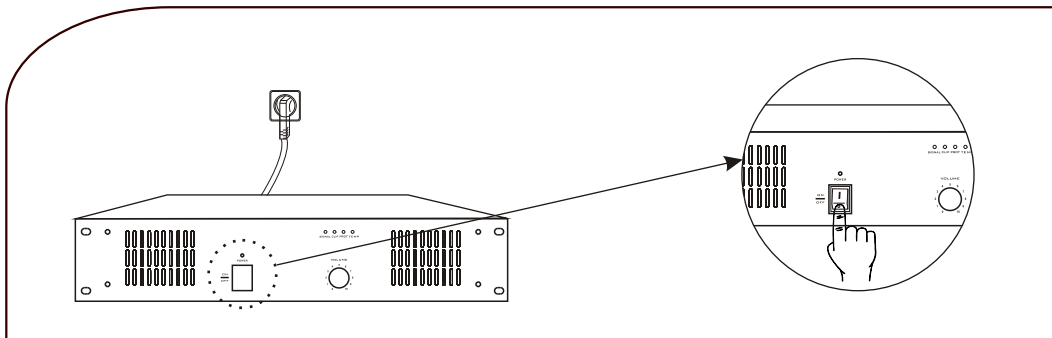
### WARNING

Be sure to attach the supplied terminal cover after connection completion. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.



## 6. OPERATION GUIDANCE

### 6.1 POWER SWITCH & POWER INDICATOR

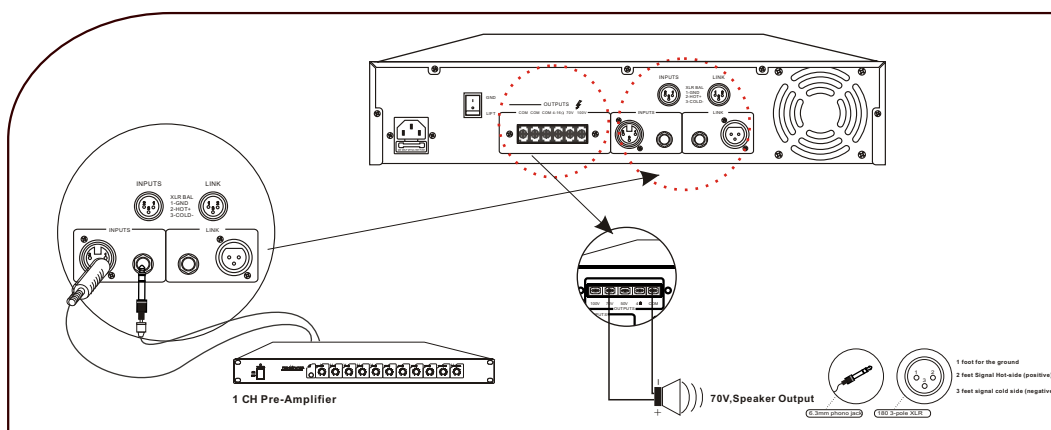


Picture 1.1

Electricity power on when power switch is at “ON” position and power indicator light in blue.  
Electricity power off when power switch is at “OFF” position and power indicator extinguished.

**i** Notice:  
Please make sure amplifier operation is under well power supplied status. Please contact professional technician from distributor for any repairment.

### 6.2 PHONE JACK LINE INPUT AND XLR LINE INPUT

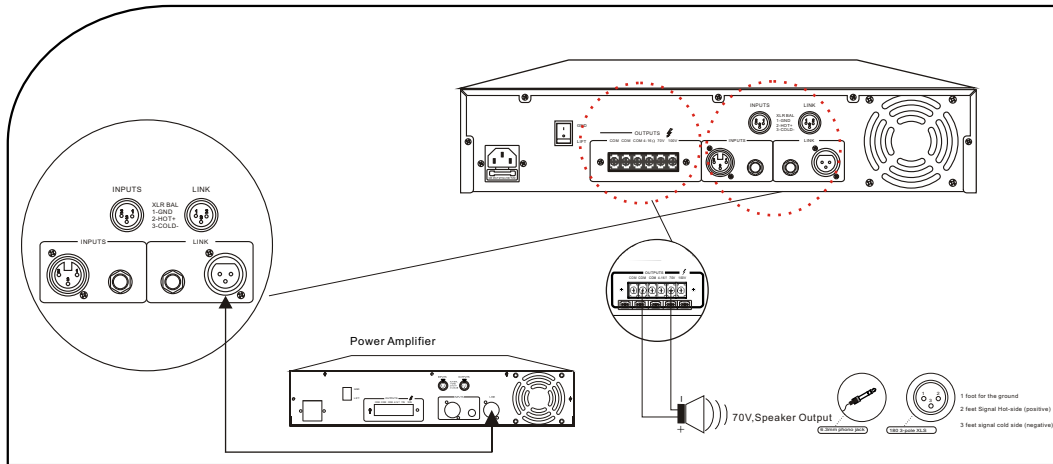


Picture 1.2

Both phone jack and XLR inputs are balanced. Both are one of your options for line signal inputs from pre amplifier or mixer. The line output volume level is controlled by front panel knobs

**i** Notice:  
please minimum the volume knob to "MIN" position when line input is operated to avoid electricity shock to the amplifier.

## 6.3 XLR LINE OUTPUT

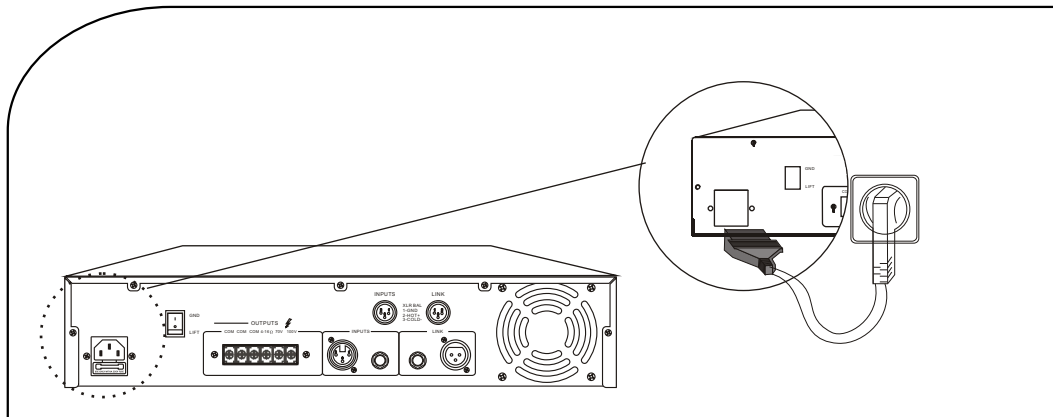


Picture 1.3

The XLR input is balanced. The line output could link another amplifier for more loudspeaker connection. The line output volume level is controlled by front panel knobs.

**i** Notice: please minimum the volume knob to "MIN" position when line output is operated to avoid electricity shock to the amplifier.

## 6.4 POWER SUPPLY INPUT

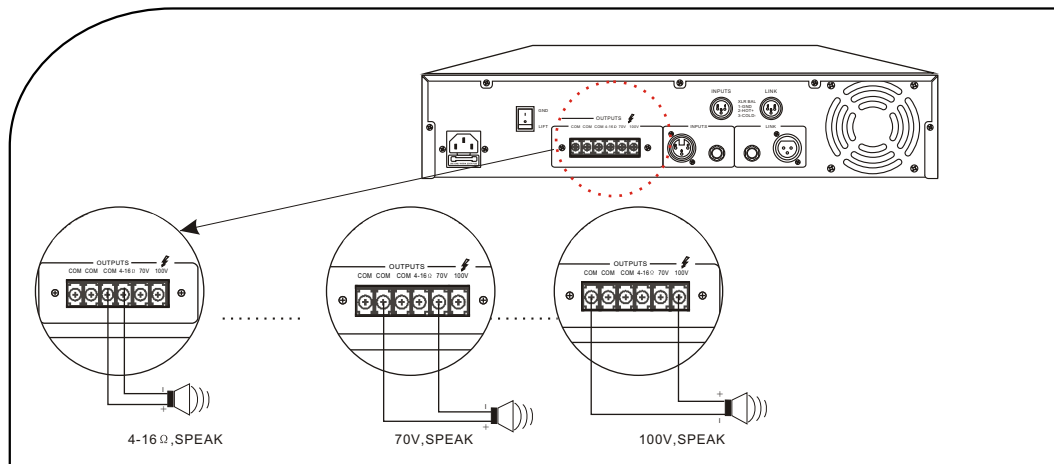


Picture 1.4

Power electricity to supply power to this amplifier. Please make sure suitable AC voltage inputs by guidance of this equipments silk printing and specifications. Take off the power cord when non-use

**i** Notice: Please input only suitable AC voltage to avoid any burn and damage to the amplifier.

## 6.5 SPEAKER OUTPUTS 4~16 Ω & 70V & 100V



Picture 1.5

High impedance and low impedance both speaker output for different application use. Only choose one of the positive end from 4~16 Ω & 70V & 100V, then connect the negative end "COM" and one the positive end to the speaker's according ends. High impedance speaker output only for high impedance speaker connection and low impedance speaker output only for low impedance speaker connection. Speaker total power output shall be no higher than 80% percent of the amplifier rated power output.

**i** Notice:  
 No mixing connected the positive and negative ends between the amplifier and loudspeaker.  
 Never allowed to use more than one output among 4~16 Ω/70V/100V.  
 Speaker continuous power output never higher than 80% of the amplifier rated power output.  
 Never connect high impedance output to low impedance speaker nor connect low impedance output to high impedance speaker.  
 Please cover the speaker output ends after wiring to avoid any touch. The speaker output are high voltage, never touch by human body to avoid electricity shock.

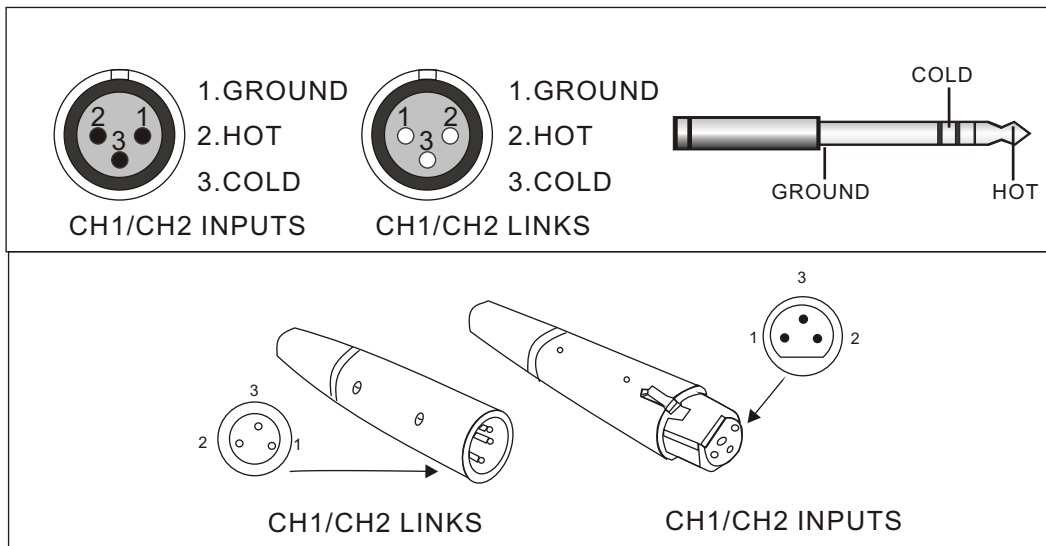
## 7. MACHINE OPERATION

### MIC INPUT CHANNEL 1~3

This is a special connector which will accept 3-conductor XLR.

These inputs are suitable to receive signal from microphones level devices.

MIC JACK (XLR JACK)	LINE JACK (TRS PHONE JACK)
Pin 1:GROUND	Sleeve:GROUND
Pin 2:HOT(+)	Tip:HOT(+)
Pin 3:COLD(-)	Ring:COLD(-)



### OPERATION ATTENTION

It indicate signal distortion when the panel's CLIP LED is lighting red and it may caused by:

1. If there is excess signal input, the power LED will light, in this case, please turn signal to the minimum.
2. There is overload output if the LED is not lighting, please check the input circuit.

When you start the machine, it will run into auto-checking condition, its protection LED (yellow) will shine 3 seconds. If the protection time is too long, please check the machine or contact with our distribution of your local place.

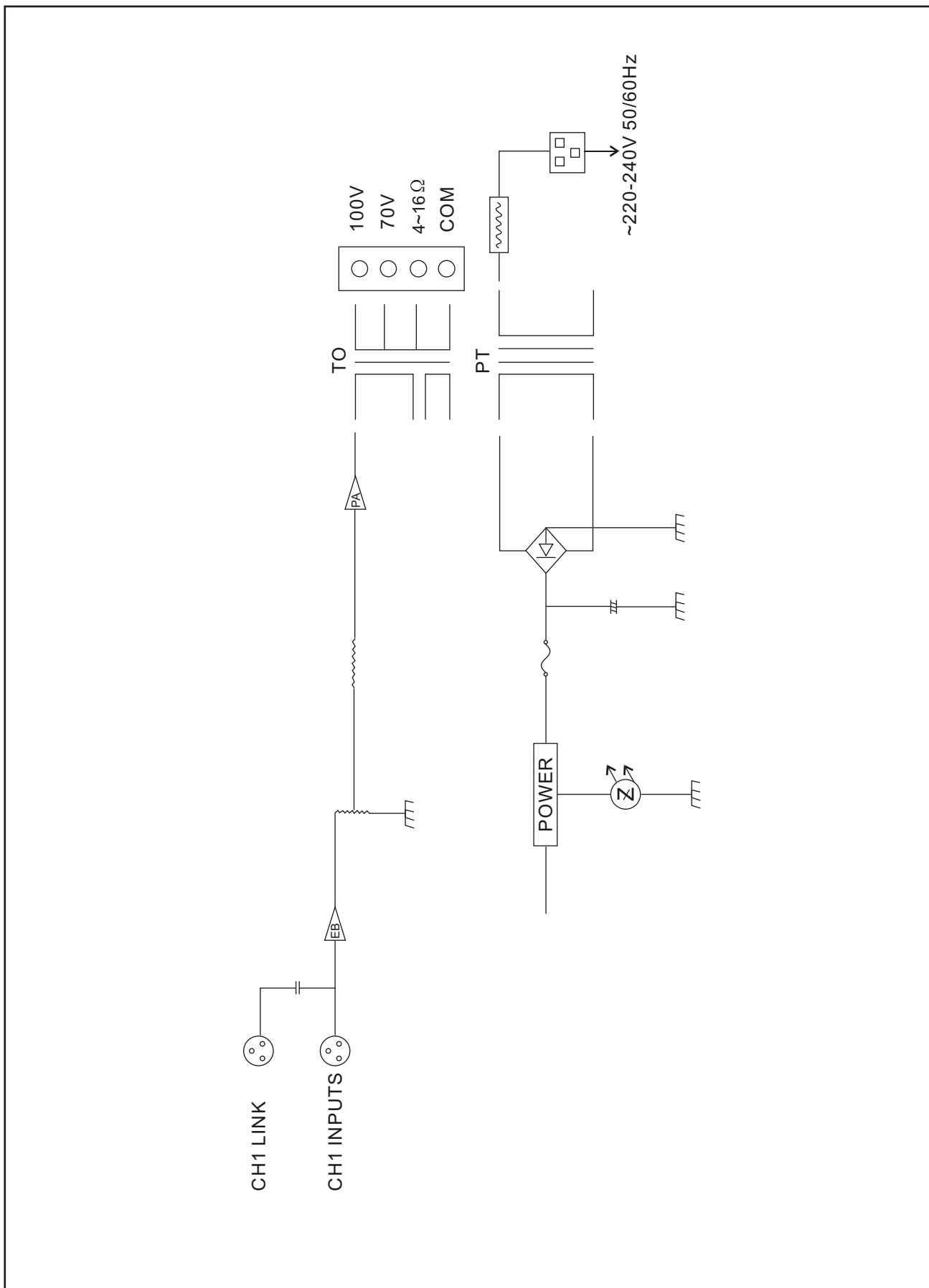
Do not open and close the machine frequently. Restart should be after 10 seconds  
Power supply should match up to the machine. The machine outfit with ground line, so please plug on the connected-ground wire-net  
As formidable shock or impact on machine such as (thunder shock, halfway signal pause, excess rated signal input or other interference), the machine will auto-check and restart automatically.

Please switch off the switch till there is no noise if there is a badly power abnormality or interference.

Contact with our local distributions if machine is failure to work.



# 9. BLOCK DIAGRAM

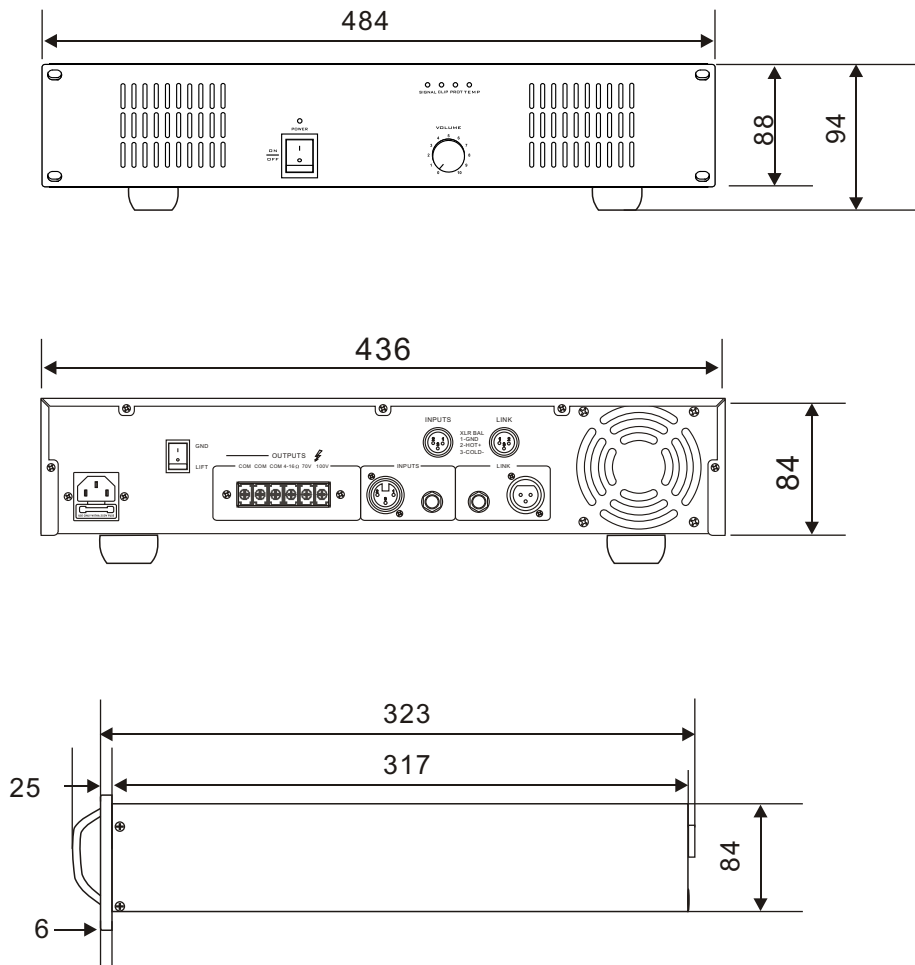


## 10. SPECIFICATIONS

POWER AMLIFIER			
MODEL	T-1S60	T-1S120	T-1S240
RATED POWER OUTPUT	60W	120W	240W
SPEAKER OUTPUTS	4~16 $\Omega$ , 70V/100V		
INPUT SENSITIVITY	775mV/0dB		
FREQUENCY RESPONSE	50Hz~18KHz		
S/N RATIO	Better than 105dB		
T.H.D	Less than 1% at 1KHz, 1/3 rated power		
CONTROLS	Power switch, volume control		
INDICATORS	Power, clipping , Signal , protect and high		
PROTECTION	AC fuse, short-circuit , clipping and high temperature		
POWER REQUIREMENTS	~220-240V 50/60Hz (Specific voltage and frequency values to the machine to prevail in kind.)		
POWER CONSUMPTION	120W	220W	440W
DIMENSION(mm)	484X353X88		
NET WEIGHT	6.9Kg	9.3Kg	13.2Kg
GROSS WEIGHT	9.1Kg	10.7Kg	14.6Kg

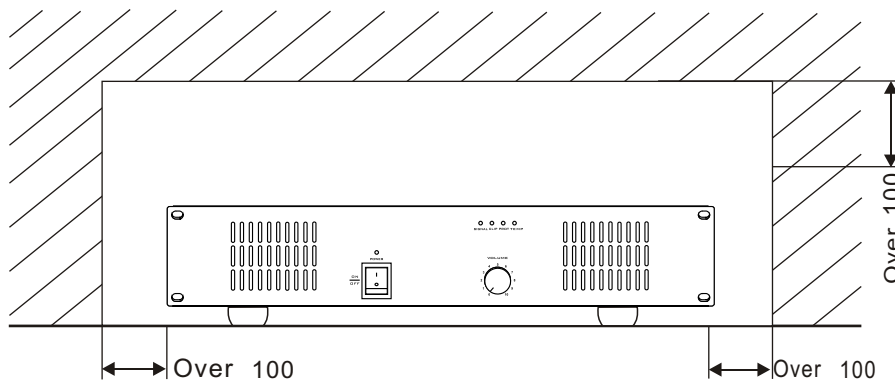
# 11. DIMENSIONAL DIAGRAM

UNIT :mm



Keep the unit's all sides over 10 cm away from objects that may obstruct air flow to prevent the unit's internal temperature rise.

UNIT :mm





# PUBLIC ADDRESS SYSTEM

