



PUBLIC ADDRESS SYSTEM

OPERATION MANUAL

TI-120Z/240Z/350Z/500Z HIGH EFFICIENCY MIXER 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

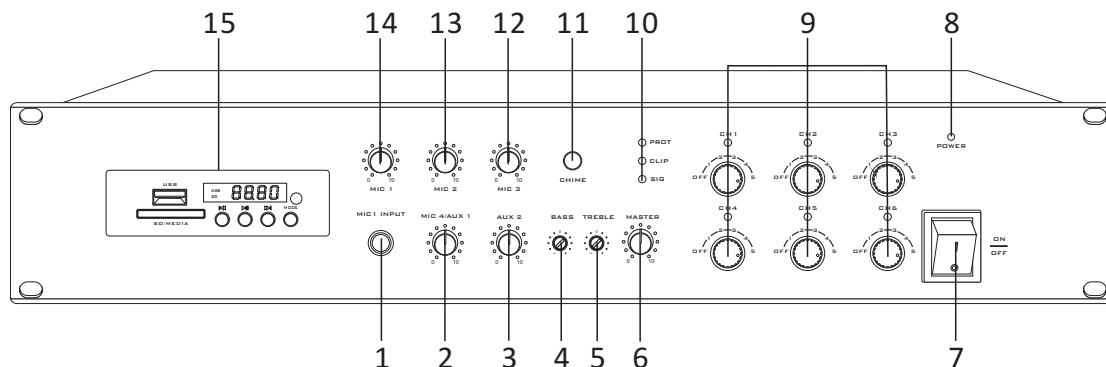
This product is a six-zone mixer digital power amplifier with Bluetooth radio, which has high performance switching power supply + class D power amplifier chip. It adopts 2U cabinet design, with high efficiency, light weight and beautiful appearance.

3. FEATURES

1. MP3 decoding module supports automatic switching of USB/SD/Bluetooth/FM playback. Configure MP3 remote control; Support power-off memory, MIC recording function.
2. Support 1 channel EMC input, 2 channel AUX inputs, 4 channel MIC inputs.
3. Each input has independent volume adjustment with treble, bass and volume control.
4. The equipment is equipped with level indication, overload and protection indicator. And it has good short circuit, overload and overheat protection.
5. With mute function, microphone input, microphone has priority over line input; MIC1 takes precedence over other audio input. EMC takes precedence over all audio inputs.
6. Channel priority function: EMC>MIC1>MIC2/MIC3/MIC4/AUX1/AUX2/MP3.
7. Support 6-zone function.. Each zone can be independent volume control. It automatically opens all zones when EMC signal input. And it automatically restore the original zones status when there is no EMC signal.
8. Adopt advanced high-efficiency power amplifier circuit. The speaker is constant voltage output: 70V, 100V, fixed impedance output: 4-16Ω. The rated output power is 120W, 240W, 350W, 500W.
9. Input AC power. Power supply: 160W, 300W, 500W, 650W.
10. With forced air-cooling from the rear, it turns at a constant speed when power-on and speeds up as the temperature rises, meeting long-term work.
11. With 2U cabinet design, the internal switching power supply plus class D power amplifier combination, it has higher efficiency, light weight, beautiful appearance.

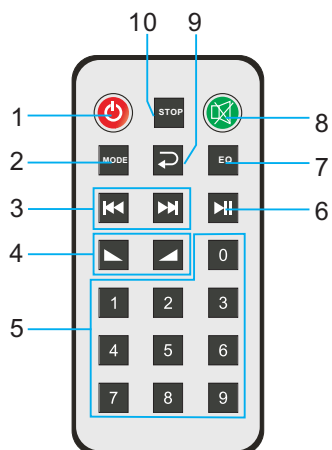
4. NOMENCLATURE AND FUNCTIONS

4.1 FRONT PANEL



1. MIC1 unbalanced input socket;
2. MIC4/AUX1 volume control knob;
3. AUX2 volume control knob;
4. BASS-bass adjustment potentiometer;
5. TREBLE-treble adjustment potentiometer;
6. MASTER-master volume control;
7. Power switch;
8. Power indicator light;
9. Independent 6-zone volume control gear switch and indicator light;
10. PROT/CLIP/SIG status indicator;
11. Bell trigger button;
12. MIC3 volume control knob;
13. MIC2 volume control knob;
14. MIC1 volume control knob;
15. Built-in MP3 player module.

4.2 Remote control



1. Power switch
2. Mode
3. Previous/next
4. Volume increase/decrease
5. 0~9 number button
6. Play/pause
7. Sound effect control
8. Mute
9. Cycle play button
10. Pause

Normal usage distance of remote control:

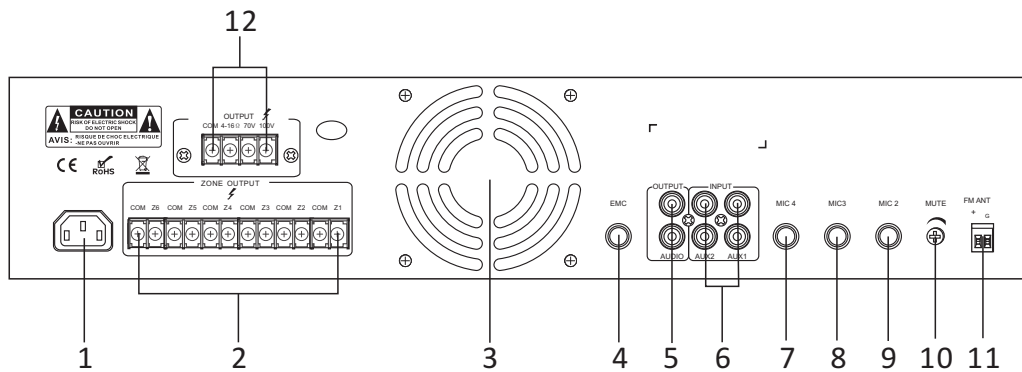
Remote control distance: 8 meter, angle: level ± 35 , vertical ± 15 .

Remote control usage attention:

1. When install battery, please mind electrode.
2. Please let remote control aim right with window of host machine.
3. When found remote distance get short and insensitive, please change battery.
4. Please take out battery when don't use it for a long time.
5. Take it easy in case of falling.

4. NOMENCLATURE AND FUNCTIONS

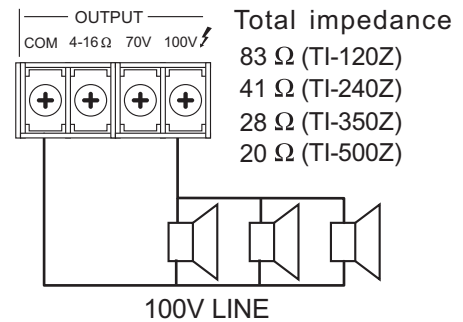
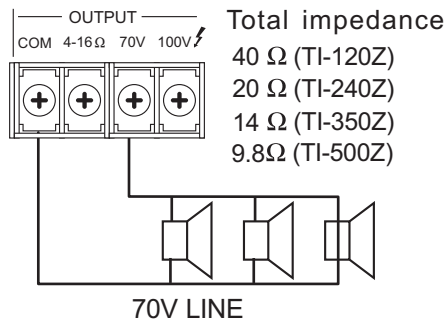
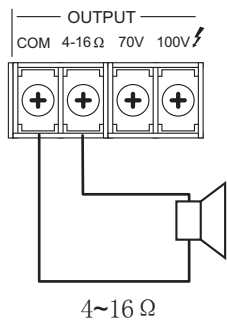
4.3 REAR PANEL



1. AC power input socket;
2. 6-zone output ports;
3. Cooling fan;
4. EMC input port;
5. Line output interface is used to connect the line input interface of other equipment;
6. Two line input interfaces are used to connect the line output interface of other equipment;
7. MIC4 unbalanced input port;
8. MIC3 unbalanced input port;
9. MIC2 unbalanced input port;
10. MUTE- mute control;
11. FM antenna access port;
12. 100V/70V/4-16Ω speaker output port.

5. OPERATION ILLUSTRATION

1. Connect the speakers:



1. Before connecting the speakers, please make sure that the equipment is powered off. In the case of power on, may have the risk of electric shock.
2. It is not possible to use 4~16Ω / 70V / 100V terminals at the same time.
3. Please make sure there are no applied load to the speaker cables.
4. During the installation of speakers, please make sure that the sum of the rated input power of the speakers to be connected is less than rated power of equipment.



WARNING:

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

2. Connect external devices:

- ① Please ensure that the equipment and all equipment will be connected are powered off.
- ② Using the corresponding cable to connect this equipment and other external equipment.

3. Connect the power line and turn it on:

- ① Please make sure that the power switch of equipment and its connected equipment are turned off (in the OFF position).
- ② Turn the volume knob to the left
- ③ Connect the supplied power line to the AC IN interface
- ④ Plug the power line into the applicable socket
- ⑤ Turn on the connected equipment (CD player, etc.), and then turn on the equipment.



Note:

1. Before powering on, please check and make sure there is no problem with the cable and connection.
2. When you turn off the system, turn off the equipment, and then turn off the connected equipment.

5. OPERATION ILLUSTRATION

4. Microphone using:

1. Turning the volume knob to the left, Connect the microphone and microphone input interface.
2. Turning the volume knob in the right position.
3. Facing the microphone and Speak loudly, turn the volume knob to the right, until the output signal no longer distortion. If input is high but output is low voice, and then increase the volume by using the volume knob. If the speaker volume is very high, then reduce the volume by using the volume knob.

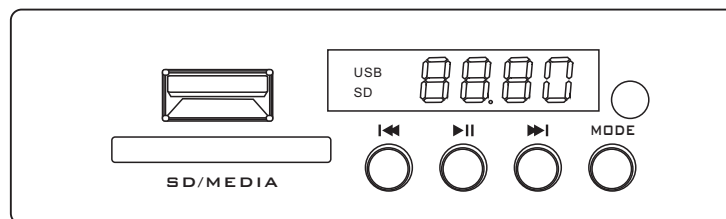
5. Shutdown the system:

1. Turning the volume knob to the left until the minimum position.
2. Turning off the panel power switch of the professional power amplifier, at Off. In turn shutoff processor equipment and audio source equipment.

Note:

1. Turn off the power switch, Please wait about 5 seconds before turning on again. Continuous rapid turning on and off the power switch, it will lead to equipment failure.
2. Even the switch is in the off status, there will be a little current in equipment. If it won't use the equipment in a long time, please unplug the power cord from the wall AC socket.

6. Built-in MP3 player operation method:



- ① USB and SD card interface with functions of "priority to automatically play audio".
- ② "MODE" button: press the "MODE": choose radio, bluetooth or audio playback.
- ③ "⏮" button: If press quickly, it is last song; Long press is the volume decrease.
- ④ "⏸" button: When playing music, press one time quickly is pause, press again is play.
- ⑤ "⏭" button: If press quickly, it is next song; Long press is the volume increase.

Note:

1. When using the built-in MP3 player buttons, please pay attention the strength when control, avoid excessive force to cause damage of MP3 player button.
2. When insert SD card or USB interface, Please insert in a right way, avoid the wrong way or too hard to cause the damage of the SD card or USB interface.

7. Mobile phone bluetooth operation method:

- ① Press the “MODE” button on the MP3 player to select the setting to Bluetooth mode.
- ② Go to your phone’s settings and find the Bluetooth related settings.
- ③ Click the Bluetooth switch to turn Bluetooth on. If it is already on, you can ignore it.
The setup interface may vary slightly depending on the phone system.
- ④ It should be noted that after the phone is turned on, the search for the Bluetooth paired phone must be set to be detected by all devices, otherwise the search pairing may not be completed.
- ⑤ After searching for the PA-02086 device, click on the searched PA-02086 device, the connection will be automatically connected, and after the pairing is completed, the mobile music will be played normally.

8. FM module radio function description:

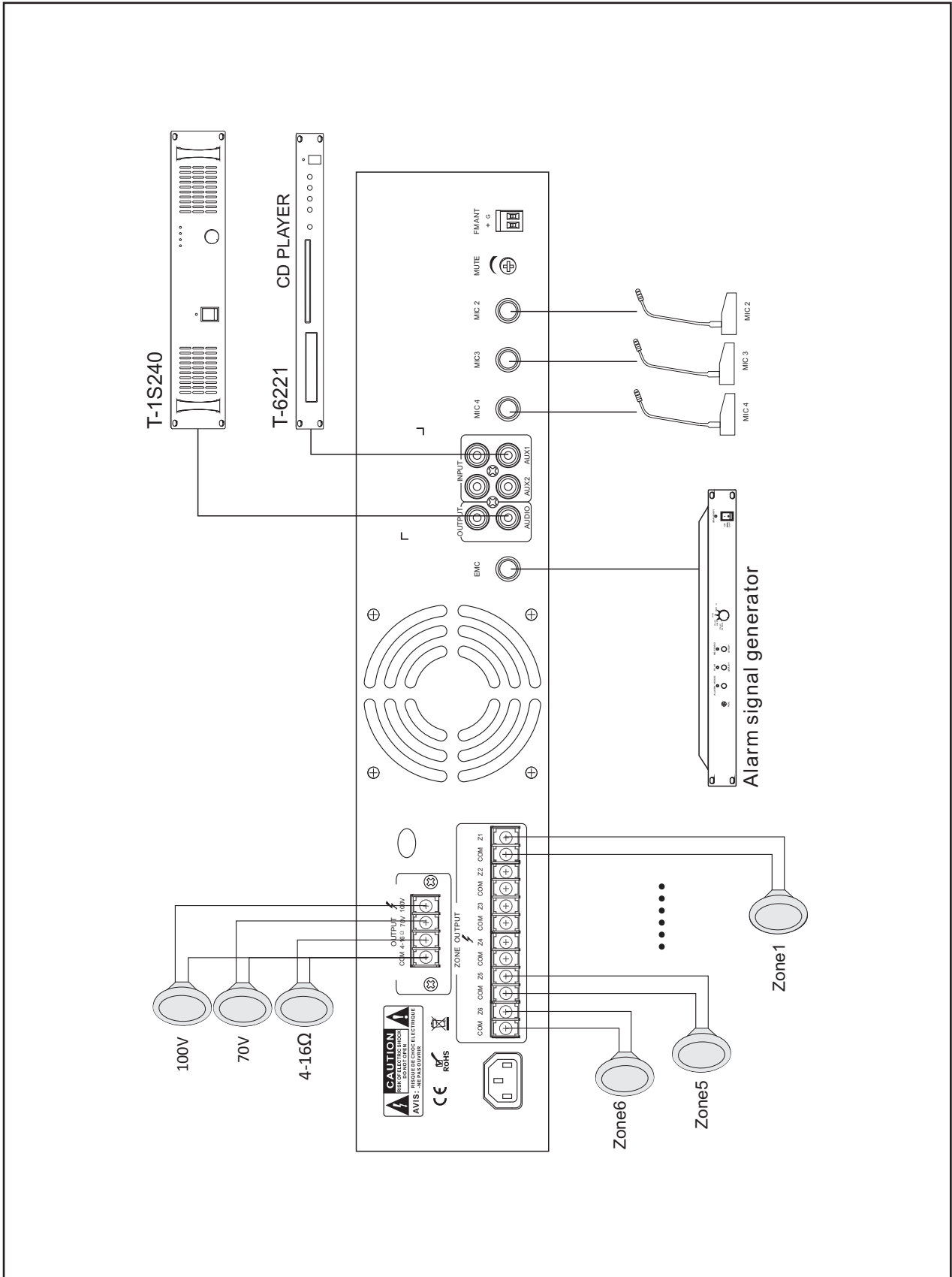
First, connect the antenna that is packaged with the product to the “ANT” port on the rear panel of the machine through the Phoenix terminal. The other end of the antenna is placed in an open space, such as a window. And then set the working mode of the MP3 module on the machine to FM. Mode. Automatically search for the station by pressing the play/pause button on the machine panel or on the remote control and automatically save it. After the standby is automatically searched, you can press the previous or next button on the machine panel or the remote control to select the station you like to listen to. (Note: The machine has a power-off memory function, in which the FM frequency range is: 87.50-108.00MHz).

6. TROUBLESHOOTING

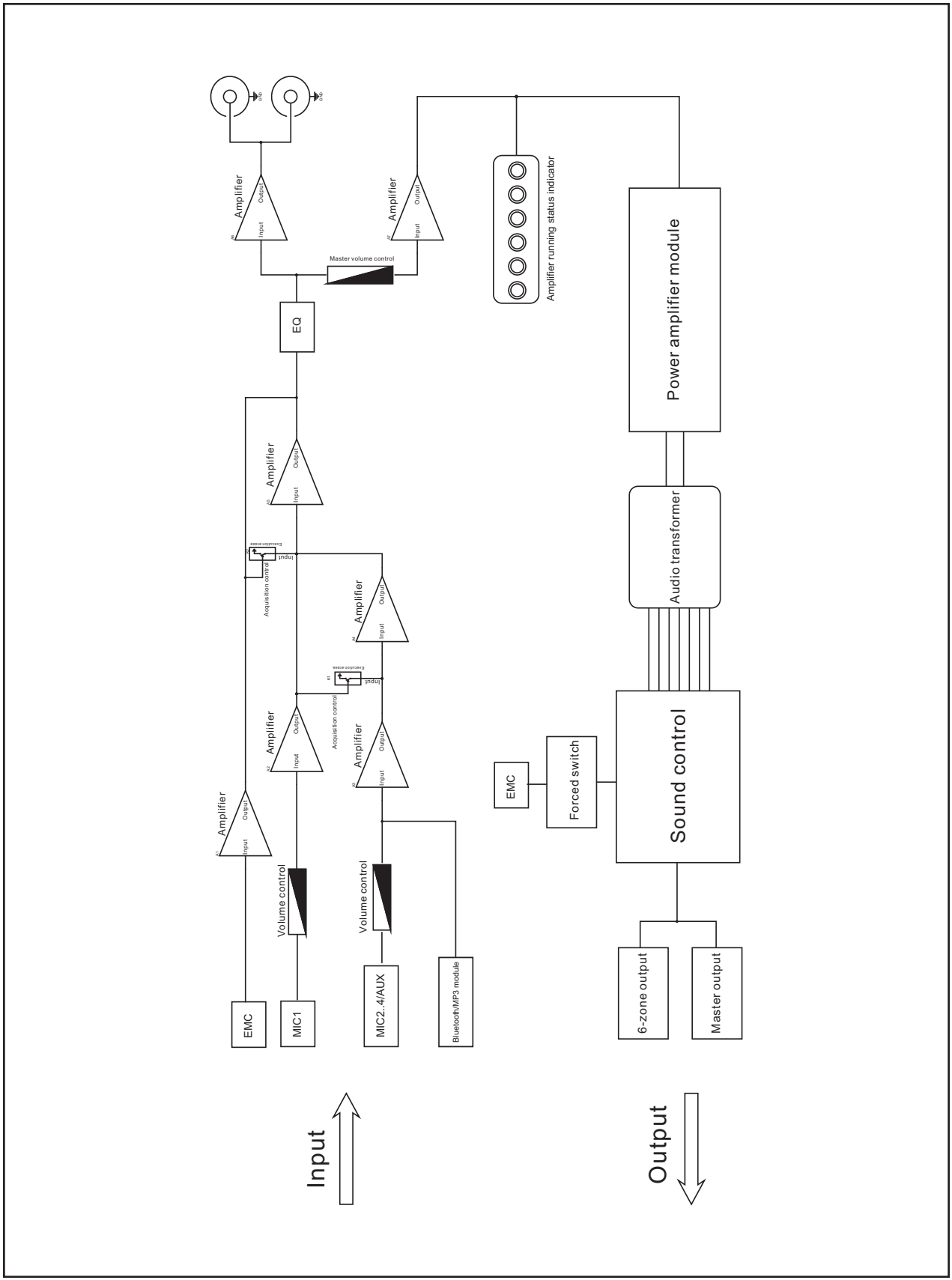
Failure phenomena	Failure cause
1. Power switch is not opened	<ol style="list-style-type: none">1. Power line is cut off2. The protection function of the equipment is not activated
2. All lines are connected, but there is no sound.	<ol style="list-style-type: none">1. The power switch is not opened or the power plug is bad contacted.2. The fuse is burnt3. The volume knob is not opened or turned down to a extra low level4. There is no audio signal input5. There is short-circuit in the speaker line.
3. The sound suddenly disappears in normal status.	<ol style="list-style-type: none">1. The equipment is in very high temperature to make it into protection status.2. The connection wire is bad contact.
4. Low sound	The equipment is set to be low impedance connection, but the speakers connected is with high impedance.
5. Sound is distorted	The input level of Mic or external equipment is too high

7. APPLICATIONS

REAR PANEL CONNECTIONS



8. BLOCK DIAGRAM

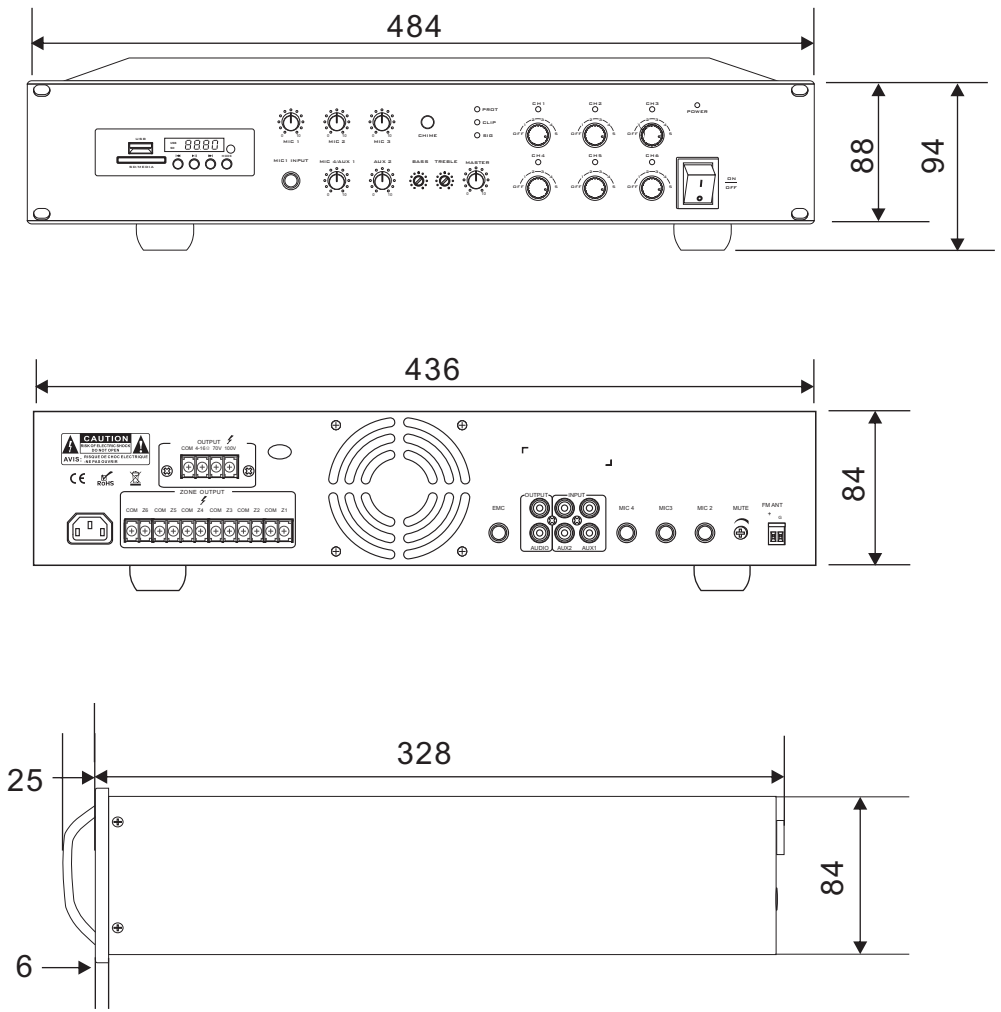


9. SPECIFICATIONS

Model	TI-120Z	TI-240Z	TI-350Z	TI-500Z
Rated Power	120W	240W	350W	500W
Output	4-16Ω/70V/100V			
Input Sensitivity	MIC:5mV±1mV AUX: 350mV±20mV EMC/TEL: 775mV			
Pre-output	AUDIO OUT: 1V			
Tone	Low frequency: ±10dB at 100Hz; High frequency: ±10dB at 10KHz			
Frequency Response	MIC: 80Hz~16KHz (±3dB) LINE: 20Hz~20KHz (±3dB)			
SNR	MIC: ≥65dB; Music: ≥70dB			
THD	THD+N≤0. 1%			
Indicator light	Power Indicator			
Short circuit mode	Short circuit, no voltage			
Cooling method	Air-cooled			
Protection method	Over temperature / short circuit			
Operating Temperature	+5℃~+40℃			
Store Temperature	-20℃~+70℃			
Relative humidity	<95%(No condensation)			
Power Supply	<input type="checkbox"/> ~110V 50Hz <input type="checkbox"/> ~110V 60Hz <input type="checkbox"/> ~120V 50Hz <input type="checkbox"/> ~120V 60Hz <input type="checkbox"/> ~220V 50Hz <input type="checkbox"/> ~220V 60Hz <input type="checkbox"/> ~230V 50Hz <input type="checkbox"/> ~230V 60Hz <input type="checkbox"/> ~240V 50Hz <input type="checkbox"/> ~240V 60Hz			
Power Consumption	160W	300W	500W	650W
Weight	7.2Kg	8Kg	9Kg	9.9Kg
Dimension	484×353×88mm			

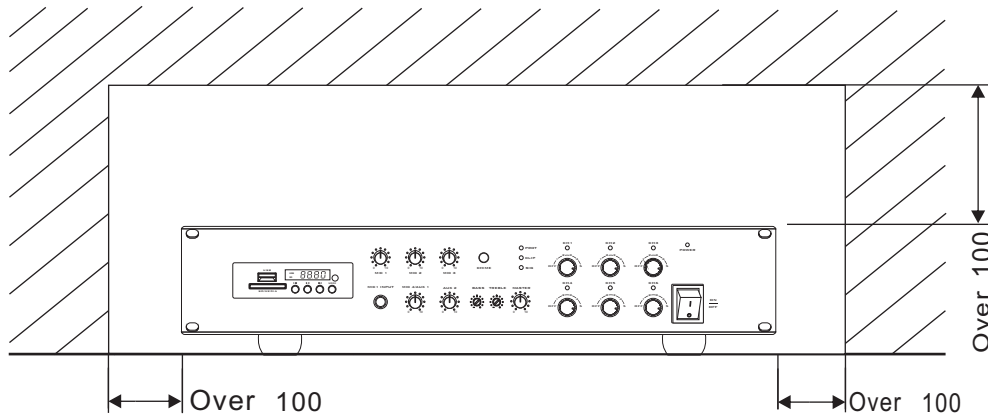
10. DIMENSIONAL DIAGRAM

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

