



THE UNIVERSE OF INSTALLATION

PUBLIC ADDRESS AMPLIFIER

User's Manual



PA-20M/PA-20B PA-20HM/PA-20HB



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SEIKAKU TECHNICAL GROUP LIMITED

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TECHNICAL SPECIFICATIONS

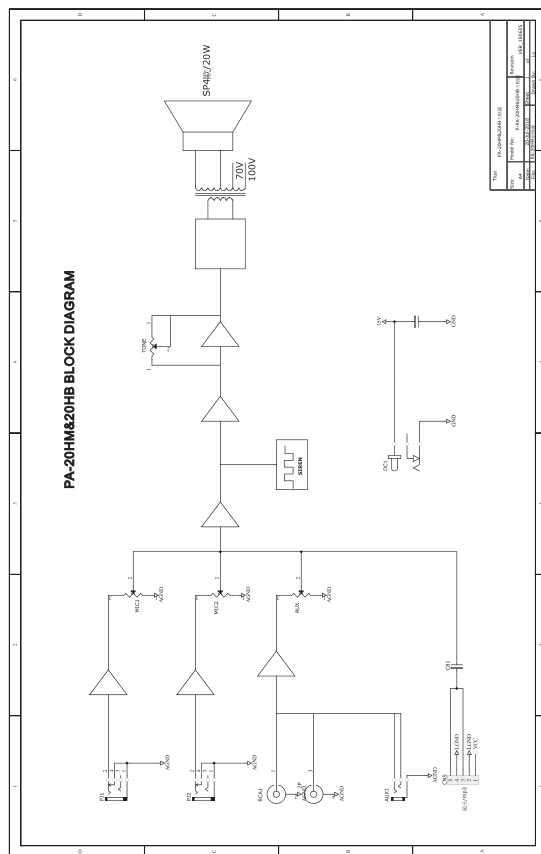
Output Power	DC12V-15V: 20W(4Ω)
Frequency response	100Hz-18KHz(±3dB)
Power supply	DC 12V-15V $\overline{\text{---}}$ 2A
Input/Sensitivity	MIC1~2(6.3 ϕ -jack) unbalanced -30dBu/1kHz AUX(RCA; 3.5 ϕ -jack) -6dB/1kHz
T.H.D. (1W)	0.1%
S/N Ratio	> 70dB
OUTPUT	70V/100V
Controls	4 volume controls, 1 tremble control.
BGM module	MP3 player or Bluetooth Player
Dimensions(WxDxH)	168x105x44mm
Weight	0.85kg

IMPORTANT!

Please read this manual carefully before operating this unit for the first time.

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BLOCK DIAGRAM



IMPORTANT SAFETY INSTRUCTIONS



The symbol is used to indicate that some hazardous live terminals are involved within this apparatus, even under the normal operating conditions.



The symbol is used in the service documentation to indicate that specific component shall be only replaced by the component specified in that Documentation for safety reasons.



Protective grounding terminal.



Direct Current/voltage



Alternating current/voltage.



Hazardous live terminal.

ON: Denotes the apparatus turns on.

OFF: Denotes the apparatus turns off, because of using the single pole switch, be sure to unplug the AC power to prevent any electric shock before you proceed your service.



If applicable: This symbol means the equipment is a Class II or double-insulated electrical appliance. It has been designed in such a way that it does not require a safety connection to electrical earth.

WARNING: Describes precautions that should be observed to prevent the danger of injury or death to the user.



Disposing of this product should not be placed in municipal waste and should be separate collection.

CAUTION: Describes precautions that should be observed to prevent danger of the apparatus.

WARNING

• Power Supply

Ensure the source voltage matches the voltage of the power supply before turning ON the apparatus.

Unplug this apparatus during lightning storms or when unused for long periods of time.

• External Connection

The external wiring connected to the output hazardous live terminals requires installation by an instructed person, or the use of ready-made leads or cords.

• Do not Remove any Cover

There are maybe some areas with high voltages inside, to reduce the risk of electric shock, do not remove any cover if the power supply is connected.

The cover should be removed by the qualified personnel only.

No user serviceable parts inside.

• Fuse

To prevent a fire, make sure to use fuses with specified standard (current, voltage, type). Do not use a different fuse or short circuit the fuse holder.

Before replacing the fuse, turn OFF the apparatus and disconnect the power source.

• Protective Grounding

Make sure to connect the protective grounding to prevent any electric shock before turning ON the apparatus.

Never cut off the internal or external protective grounding wire or disconnect the wiring of protective grounding terminal.

• Operating Conditions

This apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on this apparatus.

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Do not use this apparatus near water. Install in accordance with the manufacture-r's instructions. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not block any ventilation openings.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

- Read these instructions.
- Follow all instructions.
- Keep these instructions.
- Heed all warnings.
- Only use attachments/accessories specified by the manufacturer.

• Power Cord and Plug

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.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

• Cleaning

When the apparatus needs a cleaning, you can blow off dust from the apparatus with

a blower or clean with rag etc.

Don't use solvents such as benzol, alcohol, or other fluids with very strong volatility and flammability for cleaning the apparatus body. Clean only with dry cloth.

• Servicing

Refer all servicing to qualified personnel. 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.

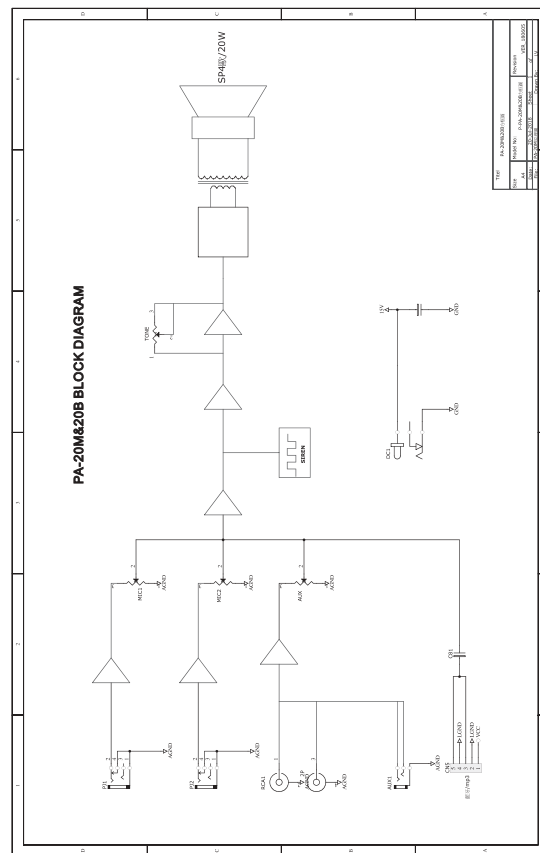
Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.

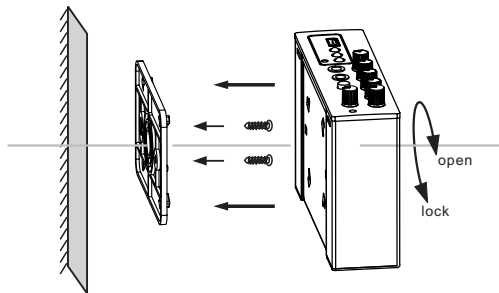
The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

BLOCK DIAGRAM



4. Wall-mounted installation



INTRODUCTION

The professional 20W public address amplifier series are designed for small hotels and super-markets. The series include the following models, PA-20M, PA-20B, PA-20HM, PA-20HB. They have good performance and supply the excellent quality of sound. Besides, users can operate easily. Please refer to the following table for these models with different back ground music modules.

Notes: letter "HM" means items with MP3 player and 70V/100V high voltage output;
"HB" means items with Bluetooth player

Features:

1. Output: RMS 20W.
2. 2 AUX (RCA 3.5 ϕ -jack) input.
3. Treble Bass Adjustments.
4. 2 input volume adjustments/master output volume adjustment.
5. 2 MIC (6.3mm) inputs
6. MP3 playing ; USB interface.
7. There are various modules like BT/MP3 for option.
8. Impedance output is 4Ω (PA-20M/PA-20B) 70V/100V output (only for PA-20HM/PA-20HB)
9. Power supply: DC 12V-15V $\approx$ 2A.
10. Master adjustments.

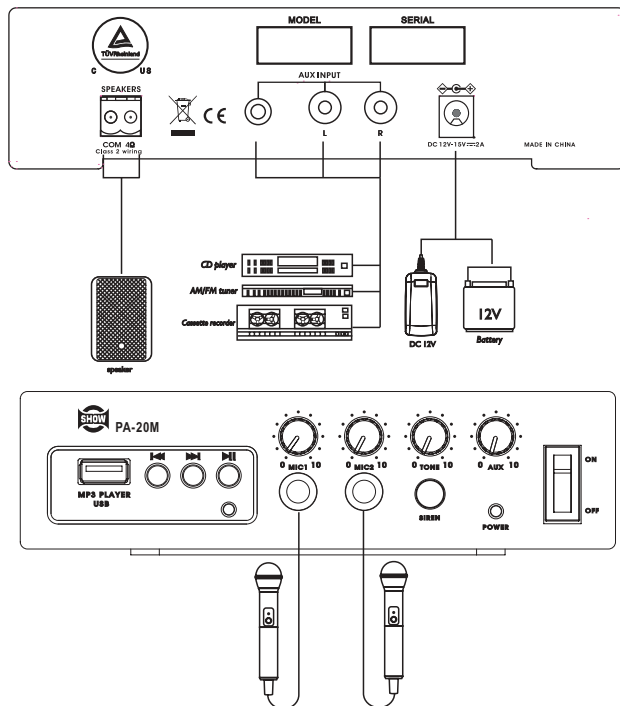
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

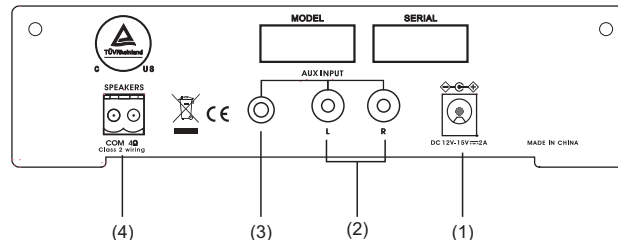
This product for professional use. It can be used in following electromagnetic environment: residential, commercial and light industrial, urban outdoors. It is not intended for rack mounting. Under the EM disturbance, the ratio of signal-noise may be changed above 3dB.

CONNECTION DESCRIPTION

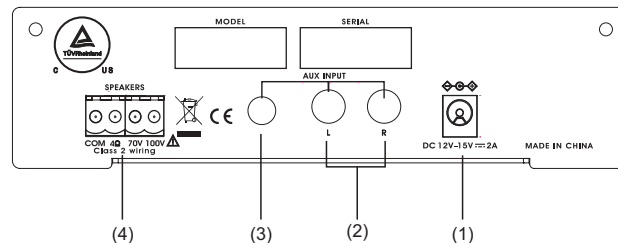


3. REAR PANEL(PA-20M/20B/PA-20HM/20HB)

(PA-20M/20B)

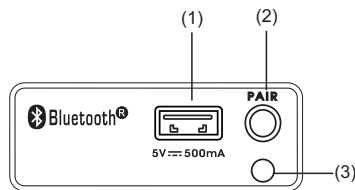


(PA-20HM/20HB)



- (1) . DC input port DC12V-15V
Note: Do not input AC power.Max Input DC12V-15V .
- (2) . RCA jacks-AUX input ports.
- (3) . $\varnothing 3.5$ mm stereo jack-AUX input port.
- (4) . 20W output Speaker port, for 4Ω speaker,(PA-20M/PA-20B)
PA-20HM/PA-20HB 70V/100V output

2. Bluetooth



(1) USB Port

It only supports 5V power charge, not for audio transmission.

(2) PAIR

Long press this button for 5 seconds to make BT4.0 available for pairing to a nearby Bluetooth device or removing connected device.

(3) Status Light: This LED indicates the PA-20B's Bluetooth pairing status:

Flashing slowly (approximately twice every 2 seconds): BT4.0 is not paired to a Bluetooth device.

Flashing quickly (approximately twice per second): BT4.0 can be paired to a Bluetooth device.

Solidly lit: BT4.0 is paired to a Bluetooth device.

See Operation to learn how to pair/unpair a Bluetooth device to/from PA-20B/PA-20HB.

Operation

You can play audio from an audio device that sends its signal over a Bluetooth connection (e.g., smartphones, tablet computers, etc.). BT4.0 uses Bluetooth CSR 4.0 and has range of up to 30 feet (10 meters).

Once you "pair" your Bluetooth device with BT4.0, they are "connected" wirelessly. You can play audio on your Bluetooth device, and it will be sent out of BT4.0's SPEAKERS output.

Important:

BT4.0 will not receive audio from a phone call. While using it, we recommend disabling your cellular connection, if possible.

Do not use BT4.0 near a microwave oven, which can interfere with the reception.

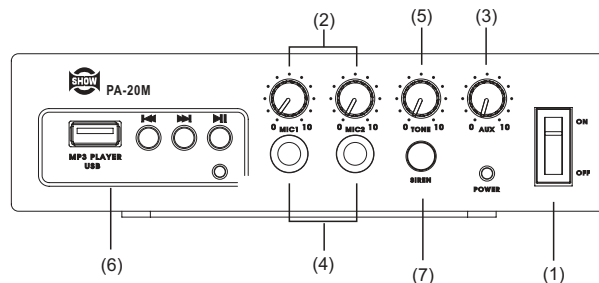
While PA-20B/PA-20HB is paired with a Bluetooth device, other Bluetooth devices cannot pair to it.

You must unpair ("disconnect") the current Bluetooth device from BT4.0 to make it available others.

CONTROL ELEMENTS

Take PA-20M/PA-20HM for an example

1. FRONT PANEL



(1) POWER LIGHT

It lights up when switching power on, and it goes out when switching power off.

(2) MIC 1-2 VOL knobs

The MIC1 jack is controlled by the MIC1 knob. And the MIC2 jack is controlled by the MIC2 knob.

(3) AUX / INPUT knob

AUX knob can control the below parts:

φ 3.5mm AUX INPUT jack

2 RCA jacks

(4) MIC1-2 INPUTS

Apply 6.3mm unbalanced MIC jack. They are connected to microphones.

(5) EQ TONE

Those knobs are used to adjust the TONE.

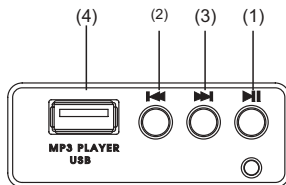
(6) MP3 MODULE

Play MP3 files through USB port

(7) SIREN SWITCH

The alarm will sound when press in the switch and it will stop when the switch pop-up

2.MP3(with USB)

**(1) PLAY/PAUSE****PLAY:**

If the module connected to USB memory, it will play automatically after plug in power

In standby state, the module will play the inserted device automatically

In pause state, press the PLAY/PAUSE key to play

PAUSE:

In play state, press the PLAY/PAUSE key to pause

(2) PRE

In play state, press PRE key back to previous track and starting playing

Long press this key for 2 seconds to decrease the volume

(3) NEXT

In play state, press NEXT key go to next track and starting playing

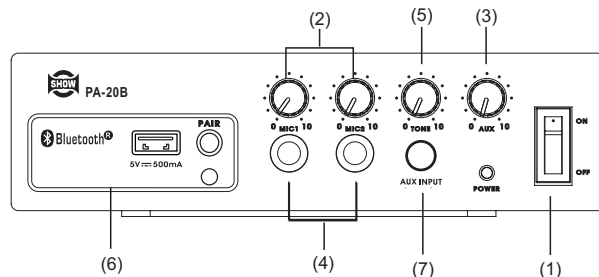
Long press this key for 2 seconds to increase the volume

(4) USB port

It is used for connecting USB memory

CONTROL ELEMENTS

Take PA-20B/PA-20HB for an example

I. FRONT PANEL**(1) POWER LIGHT**

It lights up when switching power on, and it goes out when switching power off.

(2) MIC I-2 VOL knobs

The MIC1 jack is controlled by the MIC1 knob. And the MIC2 jack is controlled by the MIC2 knob

(3) AUX / INPUT knob

AUX knob can control the below parts:

2 ϕ 3.5mm AUX INPUT jacks

2 RCA jacks

(4) MIC I-2 INPUTS

Apply 6.3mm unbalanced MIC jack. They are connected to microphones.

(5) EQ TONE

Those knobs are used to adjust the TONE

(6) BT MODULE

This module can connect phone, PC and pad via bluetooth to play audio files

(7) AUX INPUT

ϕ 3.5mm stereo jack-AUX input port.