

MUSP SERIES

All-In-One Public Broadcasting Power Amplifiers



User's Manual

- ❗ Read this manual carefully before using this product for the first time. This manual includes important instructions about installation, operation and safety precautions
- ❗ We will assume no responsibility if you do not comply with these instructions and meet troubles
- ❗ The output voltage can reach up to 180 volts, all installations and operations must be referred to qualified personnel who has been specially trained.
- ❗ Not suitable for household
- ❗ Do not remove the ground terminal of the power cord

1. Location

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

2. Ventilation

The unit has ventilation slots on the side and bottom panels. Do not block these vents.

3. Avoid physical shocks

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

4. Do not open the case or attempt repairs or modifications yourself

This product contains no user-serviceable parts. Refer all repair or maintenance to qualified engineer.

5. Always power off before making connections

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

6. Clean with a soft dry cloth

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

7. Always use the correct power supply

Make sure that the power supply voltage specified on the rear panel matches your local AC mains supply. Also make sure that the AC mains supply can deliver more than enough current to handle all equipment used in your system.

8. Must be connected correctly

Although this unit have goodly protect functions to avoid damage because of short or overload, we should be turn away short or overload for system chronically turning normally.

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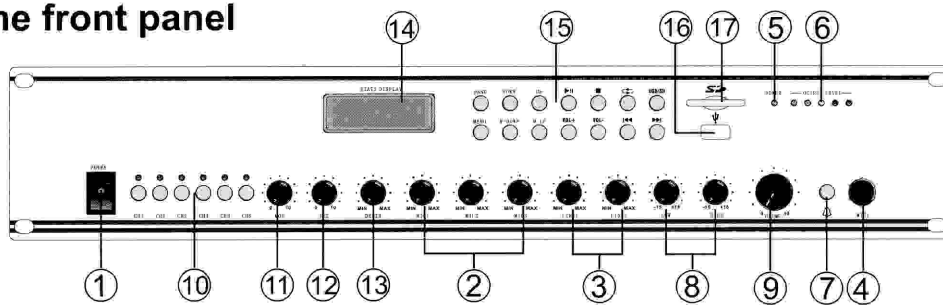
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We reserve the right to make any modification for this products to improve them without prior notice.

FEATURES:

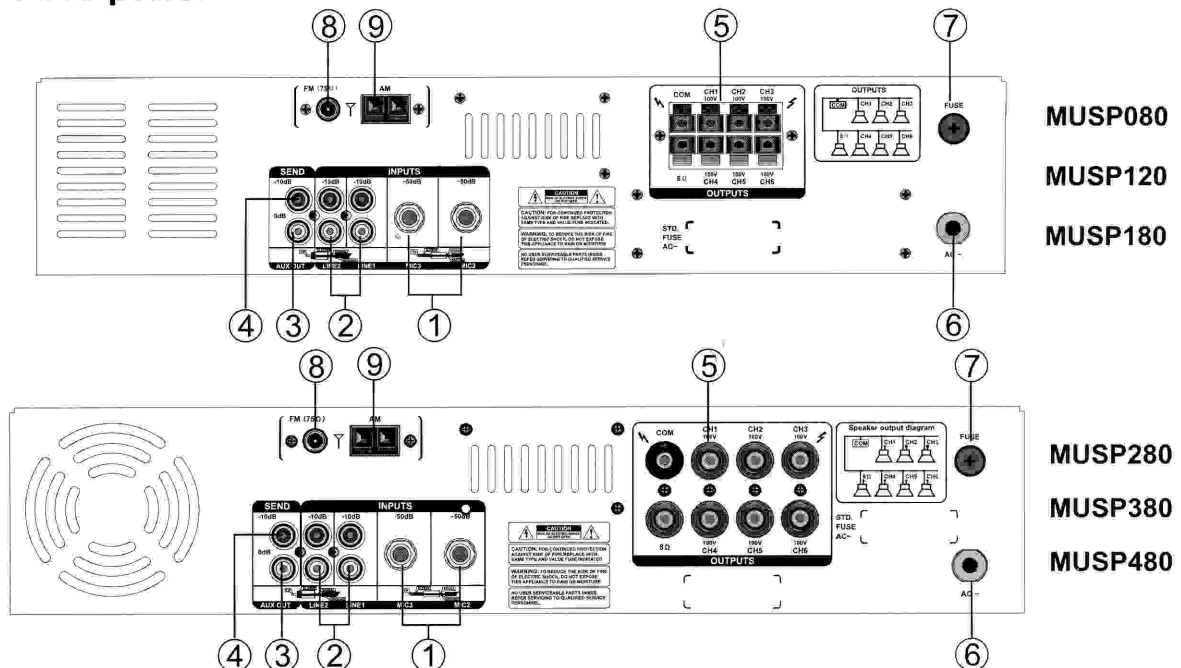
- 3 microphone inputs, and one is first with mute function.
- 2 stereo line inputs, they can be linked to all kinds of sources as CD, radio, tape player etc.
- Built in FM/AM digital radio
- Built in MP3 player with USB or SD port
- The level of microphones or lines can be adjusted separately.
- Three microphones have echo functions
- Built in monitor speaker, monitor volume adjust.
- Hi-Low frequency equalizer, output level control, ring generator.
- The unit provides one line output for recording or linking to other amplifier.
- The power output mode is stable voltage 100V(120V)rms.
- Output power can be distributed to 6 sections.
- Output level indicator.

● The front panel



1. Power switch
2. Controls for adjusting MIC input level
3. Controls for adjusting LINE input level
4. MIC1 input connector (this MIC has priority with mute function)
5. Power on indicator
6. Output level indicator
7. Button for prompting
8. Controls for adjusting HI & LOW frequency of the equalizer
9. This control adjusts the final output level
10. Buttons and LEDs for distributing.
11. Controls for adjusting the monitor's volume
12. This unit have echo functions for microphones, this knob adjusts the effect's delays.
13. Controls for adjusting echo depth.
14. This unit is a multi-functional machine, built in one FM/AM digital radio, one MP3 player with USB/SD port, except normally 3 microphones and 2 line inputs. This LCD shows the status of the Radio/MP3 player.
15. Key boards for operating the Radio/MP3 player.
16. USB port, plug a U-disk filled mp3 songs from computer.
17. SD card port, operate it as USB port.

● Rear panel



1. Connectors for MIC2 and MIC3 input
2. RCA connectors for 2 stereo line inputs
3. Line output
4. Record output
5. Power output(8Ω CH1 CH2 CH3 CH4 CH5 CH6)
6. Power cord
7. Fuse holder
8. Connectors for FM antenna.
9. Connectors for AM antenna.

● Installations and operations

Connection to the mains supply

Before connecting the amplifier to the mains socket, always make certain that:

1. The electric system and mains socket have an adequate grounding, compatible with the safety norms (if you're uncertain, consult specialized personnel);
2. The mains voltage corresponds to that shown on the rear of the unit (an allowance of up to +/-10% is accepted);
3. The on/off switch is in the OFF position.

Make sure the amplifier is also off before disconnecting the power cord from the mains socket.

Switch on and off

In your reinforcement system, always switch on the amplifier after all the other equipment and always switch it off before anything else, if possible with the gain controls set at minimum: this will avoid annoying and sometimes dangerous signal peaks.

Audio connections

Remember to always connect and disconnect other units with amplifier switch off.

Let the signals from sources as CD player, tape player and radio etc. into the input sockets via audio cable with shield. This unit can accept at the same time 2 stereo line inputs, adopt RCA connector. Link microphone you will need to microphone input (this unit has 3 microphone inputs, MIC1 is first with mute function located at the front panel, MIC2 and MIC3 are located at the rear panel, they are all TRS phone jacks).

Please use only professional low impedance microphone with output level at -35dB~-60dB

This unit is a multi-functional machine, built in one FM/AM digital radio, one MP3 player, you can use directly radio/MP3 player in the unit as a signal sources without any other sources.

Load connections

There are two power output modes for this series, one is 8~16 ohms and the other is stable voltage 100V(120V). The stable voltage mode is usually used for public broadcasting, they are easy for load linking, less power consume and suitable for long distance transmission. Be careful to check the load impedance and load type to avoid damage of load or amplifier.

The load can be made up of many sound boxes which are stable voltage type with 120V input voltage, these sound boxes is usually linked in parallel, the total power of these parallel boxes should be less than the total output power of the unit, and have enough surplus.

The line output of the unit can be used for linking to another power amplifier.

CHECK AND MEASURE FOR LOAD

The load must be checked and measured at the first time, because of long distance from the power amplifier to the load, because of load complicated connecting and section controlling. In the public broadcasting systems the bad cable using and mistaken connecting will always occur, such as load short circuit, load part short circuit and indirect short circuit between output cables of two amplifiers.

1. Measure the DC impedance of the end terminal of the load by multi-meter, you may determine roughly if the load has been short circuit.

2. Check when the unit is on

Turn left all potentiometer knobs at the front panel to the minimum position, then turn the source (as CD) on and let it output signal. Turn this unit power on, then rotate the corresponding level knob to 3 o'clock after the buzzer chirps several times and the relay acts. At this time you should feel the output power signal will be right level and excellent tone quality. You may observe the unit status and feel the wind from the vents, if the unit will not protect itself within one hour and also no too hot wind (above 50 C) from vents, and thus we think the load is good. If the unit immediately go into protection (the buzzer always chirps and no signal output) or the wind temperature rise quickly, it means a load trouble has occurred. You should put a current meter into the output load circuit to measure the output current. By comparing the output current with the rated output current as followed, you may determine the load status. You will use this power amplifier again after you getting rid of all load trouble .

OPERATIONS

Rotate all knobs of the potentiometers at the front panel to full closed, turn the unit on, now the power indicator is on. After the buzzer chirps several times and the relay acts, turn right the knob of the corresponding potentiometer, you also can adjust the five-band equalizer and adjust the control of the total output level until the output level is just fit for you. Remember that you should reduce the input signal level when the last one of the level indicator is always on, if not, the unit will be overloading and the output power signal will be clipping.

Play MP3

Copy some mp3 songs from computer by U-disk, plug U-disk in USB port at the front panel, power on the unit. The unit LCD will shows "PLAYER? or BAND?", Press the button "▶||"; if you use SD card, plug SD card in SD port, when the unit shows "PLAYER? or BAND?", Press "▶||", when two media exits you need select one by "USB/SD". When MP3 playing, you can operate all other functions you need.

▶|| Play or pause **VOL-** Volume decrease **VOL+** Volume increase ■ Stop

▶▶ Next song ◀◀ Previous song ↻ Normal, repeat one song or repeat all

Set radio

Power on the unit, the unit LCD shows " PLAYER? BAND? ", press "BAND" button, the unit enter radio mode. Press the button "BAND" for a long time, LCD shows "Auto Scan Start...", Means radio scan status. Long press "UP", auto scan start, the scan frequency will be increase by 0.5MHz per step, until it get a valid receive, press "MEMO" for saving, then the unit will go on, when all scan finished, long press "MEMO" for scanning exit.

(Note: While the scan stop, but get a invalid receive, you must long press "UP" for going on and no exit). This unit can save 20 receives for every of AM or FM band.

Radio play

Power on the unit, the unit LCD shows “PLAY? BAND?”, Press “BAND”, it will enter FM radio mode, you can use “M-DOWN” or “M-UP” to select a saved radio station for playing. Press “DOWN” or “UP” to fine adjust the frequency you selected. Press “BAND” to switch from AM band to FM band.

SPECIFICATIONS

| Model | | MUSP080 | MUSP120 | MUSP180 | MUSP280 | MUSP380 | MUSP480 |
|----------------------|------------|--|-----------|-----------|--------------|-----------|-----------|
| | | Parameter | | | | | |
| Rated output power | | 80W | 120W | 180W | 280W | 380W | 480W |
| Output | | 8 ohms or distribution out | | | | | |
| Five-band equalizer | | 250Hz, 500Hz, 1KHz, 4KHz,8KHz +/- 12dB | | | | | |
| Frequency Response | Low-cut | 130Hz~22KHz +/-2dB | | | | | |
| | No low-cut | 60Hz~22KHz +/-2dB | | | | | |
| THD (1KHz) | | ≤0.5% | | | | | |
| S/N Ratio | MIC1~3 | <-108dB Equivalent input noise | | | | | |
| | LINE1,2 | >88dB | | | | | |
| Inputs | MIC1~3 | -50dB 600ohms unbalanced | | | | | |
| | LINE1,2 | -10dB 10Kohms unbalanced | | | | | |
| MIC1 mute adjust | | -30dB | | | | | |
| Line(Record) output | | 0dB(-10dB) unbalanced at 600ohms load | | | | | |
| Rated output current | | 0.9A@70V | 1.4A@70V | 2.2A@70V | 3.6A@70V | 5.0A@70V | 6.5A@70V |
| | | 0.6A@100V | 1.0A@100V | 1.5A@100V | 2.5A@100V | 3.5A@100V | 4.5A@100V |
| Power supply | | AC 200V~230V 50~60Hz | | | | | |
| Power consume | | 110VA | 180VA | 260VA | 440VA | 590VA | 720VA |
| Net weights(Kg) | | 9.0 | 10.0 | 11.5 | 14.3 | 15.5 | 17.0 |
| Dimensions(WxDxH) | | 480x322x88mm | | | 480x365x88mm | | |