## Summary

### I.   Introduction

This mixer amplifier is made with a switching power supply, 7 inputs pre-amplification section, 120W class D power amplification stage, a zone selection stage (6) with independent attenuation, a multiple sources module with FM Tuner, USB reader, micro SD card reader and Bluetooth. All integrated into a 2U enclosure that can be placed on a table or integrated into a 19 "rack.

This document is not legally binding, we reserve the right to modify descriptions and specifications without notice.

## II.    Specification

| | | |
|---|---|---|
| Input 1 (Mic1 / face avant) | Sensitivity | - 40dBu |
| | Type | Mono |
| | Connection | Jack 6.35mm female |
| | | |
| Input 2 (Mic2/Line2)<br>Input 3 (Mic3/Line3)<br>Input 4 (Mic4/Line4) | Sensitivity | - 36,5dBu / - 10dBu |
| | Type | Electronic symetric |
| | Connection | XLR female |
| | Alim fantôme | +48V (MIC) |
| | | |
| Input 5 (Line5)<br>Input 6 (Line6)<br>Input 7 (EMC / priority) | Sensitivity | 0dBu |
| | Type | Stereo |
| | Connection | 2 x RCA females |
| | | |
| Input 8 (Paging) | Type | Dedicated to PGM-1247-V2 console |
| | Connection | RJ45 female |
| | | |
| USB / micro SD (TF) reader | Type of files | MP3 / WAV / APE |
| | Max. size supported | 32 Go |
| Bluetooth 4.2 | Max. range | 10 m |
| | | |
| Output (Out) | Sensitivity | 0dBu |
| | Type | Stereo |
| | Connection | 2 x RCA females |
| | | |
| Outputs 100V | Level | 100V / 70V / 16Ω / 8Ω / 4Ω |
| | Power | 120 W |
| | Bandwidth | 100 - 16Khz |
| | Distortion | < 0.5% (@ 1Khz) |
| | Type | Transformers |
| | Connection | 2 points screws terminals |
| | | |
| Settings | Tone | Bass (+/-6dB) |
| | | Treble (+/-5dB) |
| | | |
| Power | Mains | 110V-265V AC 50Hz-60Hz |
| | Consumption 1/8 Pmax pink noise | 47W |
| | Battery | 24V DC |
| | Consumption 1/8 Pmax pink noise | 40W |
| | | |
| Temperature | Use | -10° / + 45°C |
| | Storage | -20° / + 75°C |
| | | |
| Dimensions (l x p x h) | 2U / rack 19'' | 438 x 405 x 88mm |
| Weight | | 9.5 Kg |

# III. Features

⟳ Front panel

In this part we will describe in detail the front panel and all available functionalities..
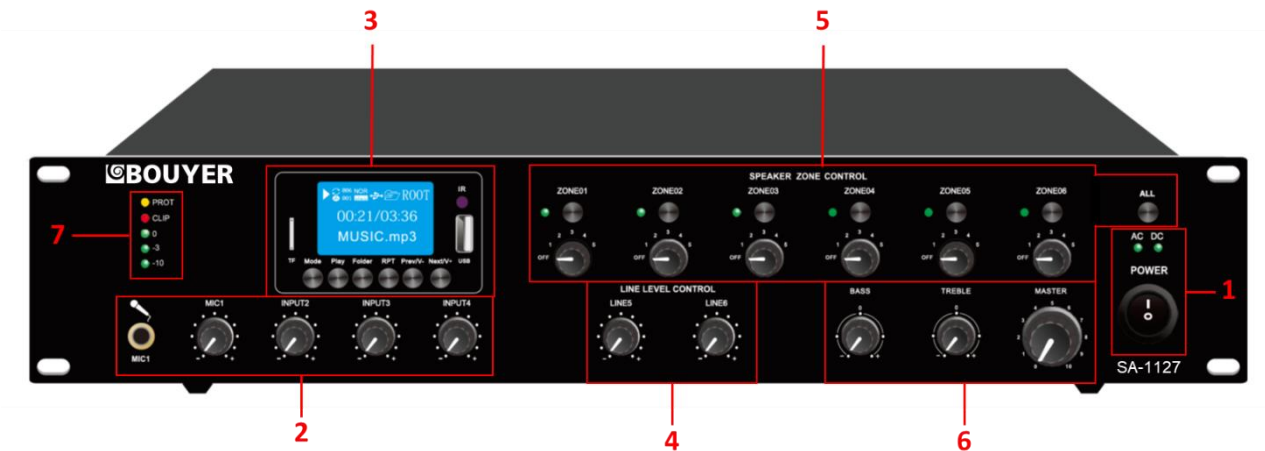


Zone **(1)** is composed of:

- An on / off switch to turn the product on or off
- A green "AC" LED (mains power)
- A green "DC" LED (battery power)
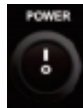
Zone **(2)** is composed of (left to right):

- Input "MIC1" (Microphone input in Jack 6.35mm with the 2nd highest priority level after the Input "EMC" which will be described later)
- A switch for adjusting the volume of the Input "MIC1"
- A switch for adjusting the volume of the Input "INPUT2"
- A switch for adjusting the volume of the Input "INPUT3"
- A switch for adjusting the volume of the Input "INPUT4"

Zone **(3)** is the embedded USB / FM / micro SD / Bluetooth player, composed of:

- A backlit screen
- Parameters / selection buttons (detailed in part V)
- An Input for micro SD card on the left
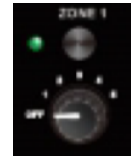- An Input for USB key on the right

Zone **(4)** is composed of (left to right):

- Volume switch for input ''LINE5''
- Volume switch for input ''LINE6''

Zone **(5)** is composed of (for all 6 zones available):

- A green LED indicating whether the area concerned is activated or not
- A zone selection button (top)
- A volume control switch (bottom)

Note: In addition, an "ALL" button allows you to directly select all 6 zones at once

Zone **(6)** is composed of (left to right):

- A bass control switch (BASS)
- A treble control switch (TREBLE)
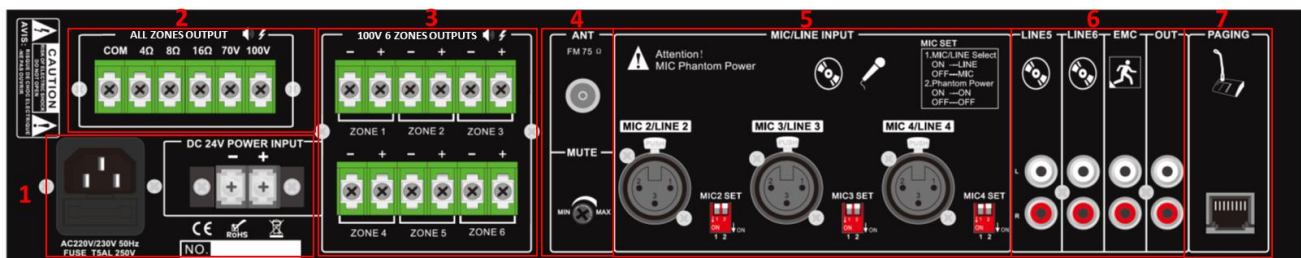- A general volume control switch (MASTER)

Zone **(7)** is composed of (top to bottom):

- A yellow LED when the product is in protection (PROT)
- A red LED when the audio signal is saturated on the input (CLIP)
- 3 green LEDs that light up depending on the signal level
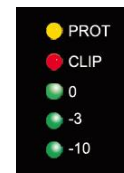
## Rear panel

In this part we will describe in detail the rear panel and all available features.
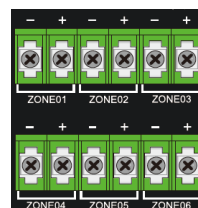
Zone **(1)** is composed of:

- A mains plug + fuse location
- 24V DC input for battery

Zone **(2)** is composed of 100V / 70V / 16Ω / 8Ω / 4Ω line output for all zones

Zone **(3)** is composed of 6 (100V) line outputs for 6 zones

Zone **(4)** is composed of:

- An FM antenna plug
- A switch to manage ''MIC1'' attenuation (front)

Zone **(5)** is composed of (for inputs 2 / 3 / 4):

- XLR female input
- A switch to select mic. or line level on the left and with or without phantom power on the right

Zone **(6)** is composed of (for inputs 5 / 6 / ''EMC'' and output ''OUT''):

- 2 x RCA females inputs

Note: ''EMC'' input has the highest priority in the system

Zone **(7)** is composed of RJ45 female input for PGM-1247-V2 paging console

(detailed later)

## IV. Installation and connections

**WARNING !**

The device must not be exposed to falling water and splashing water. The device must imperatively be connected to a power supply socket with earth conductor. Do not obstruct the ventilation openings.

### 1. Input Jack 6.35mm connection (front panel)

The use of a stereo jack allows a balanced signal to be connected to the "MIC1" input present in zone **(2)** on the front panel.

With Jack 6,35mm mono : T = hot point, S = ground (in this case of unbalanced connection, the output signal will be attenuated by 6dB).
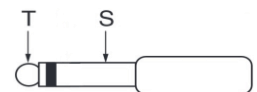
### 2. Power connection

Use the mains cable supplied with the product and plug it on the plug of the zone **(1)**.
If a 24V battery power supply is chosen, connect the battery to the 2-point input of the zone **(2)**.

### 3. Speakers' lines outputs connection

Connection must be made on zone **(2)** or **(3)** connectors.
Each of the outputs is accessible via a 2-point screw terminal block.

### 4. FM antenna connection

The connection is made on the FM antenna socket of zone **(4)**.
Screw the coaxial cable supplied with the product onto the socket.

### 5. XLR inputs connection

The connection is made on the female XLR sockets located on the rear panel in zone **(5)**.

| Pin number | Type |
|:---:|:---:|
| 1 | Ground |
| 2 | + |
| 3 | - |

To obtain line level, put switch 1 on the "ON" position downwards.
To obtain a microphone level, put switch 1 up.

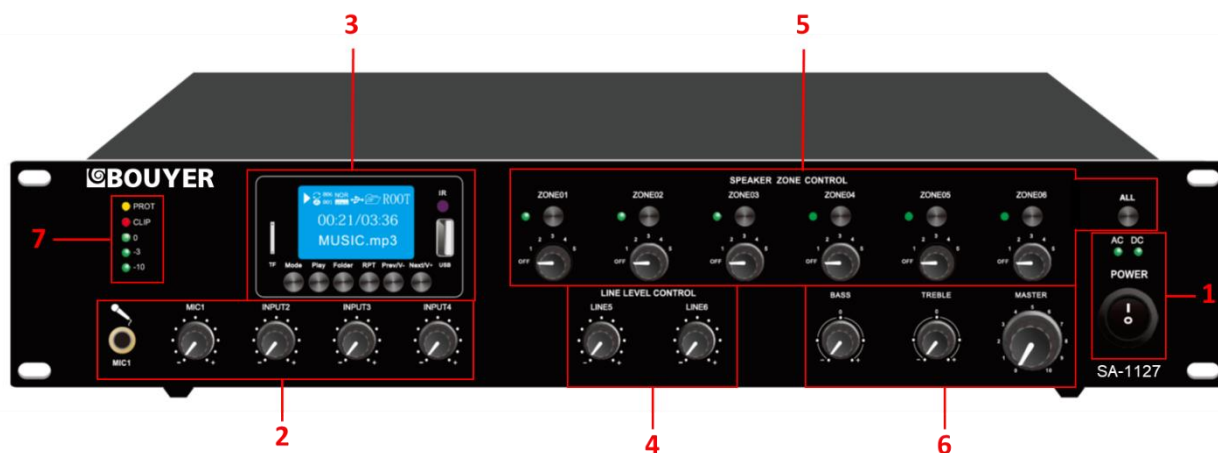If the console connected to the XLR socket accepts phantom power supply, put switch 2 on the "ON" position downwards.

### 6. RCA inputs connection

The connection is made on the female RCA sockets on the rear panel in zone **(6)**.

### 7. PGM-1247-V2 paging console connection

The connection is made on the RJ45 socket on the rear panel in zone **(7)**.

## V. Usage



To turn on the product, push the "POWER" switch in zone **(1)** upwards.

Depending on the power supply chosen, one of the LEDs above "POWER" will light up green. (If mains supply = "AC" LED / if 24V supply = "DC" LED)

As presented in part '' III. Features '', it is possible to select one or more zones using the upper zone buttons **(5)** on the front panel and to adjust their output volumes independently using the switches below each zones.

A general volume "MASTER" is also available in zone **(6)**.

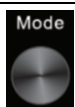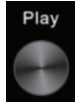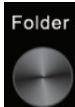To adjust the volume of each input independently, turn the corresponding switches in zones **(2)** and **(4)**.

To adjust the bass and treble levels, turn the switches in zone **(6)**.

To use zone **(3)** integrated USB / FM / micro SD / Bluetooth reader, refer to the following table.

| Touche | Mode utilisé | | |
|---|---|---|---|
| | Tuner FM | USB / micro SD | Bluetooth |
| **Mode** | One short press, a new mode is activated :  USB / micro SD / FM / Bluetooth<br><br>**To connect to Bluetooth, search for ''Ulisse'' / code to connect = 1234** | | |
| **Play** | 1 short press = save frequency in the memorized list<br>1 long press = delete frequency from the memorized list | 1 short press = playback in progress paused<br>1 new short press = restart reading | |
| **Folder** | 1 short press = frequency - 0.1 | Each time you press, a new folder on the USB or micro SD key is activated | Equalizer choice :<br>- NOR = normal<br>- ROCK / POP /CLAS /JAZZ<br>- CONU = Vocal |
| **RPT** | 1 short press = frequency + 0.1<br>1 long press> 3s = automatic scan of all frequencies.<br>The player stores the stations (01, 02 ...). | Each time you press, playback mode changes:<br>- N = Normal<br>- F = Repeat Folder<br>- A = Repeat All<br>- 1 = Repeat Track<br>- R = Random reading | |
| **Prev/V-** | 1 short press = previous saved station<br>1 long press and hold > 2s = volume - | 1 short press = previous track<br>1 long press and hold> 2s = volume - | |
| **Next/V+** | 1 short press = next saved station<br>1 long press and hold > 2s = volume + (30 max.) | 1 short press = next track<br>1 long press and hold > 2s = volume + (30 max.) | |

To use the remote control associated with the embedded player, refer to the following table:

| Touche | Mode used | | |
|---|---|---|---|
| | **Tuner FM** | **USB** | **Bluetooth** |
| ⏻ | Turn on/off the module | | |
| MODE | Each time you press, a new mode is activated: USB / micro SD / FM / Bluetooth | | |
| 🔇 | 1 short press mute the sound | | |
| ▶❚❚ | 1 short press saves the selected frequency in the stored list<br><br>1 long press deletes the displayed frequency from the stored list | 1 short press = playback in progress paused<br><br>1 new short press = restart reading | |
| ⏮ | 1 short press = previous saved station | 1 short press = previous track | |
| ⏭ | 1 short press = next saved station | 1 short press = next track | |

| | | |
|---|---|---|
| (EQ) | 1 short press decrements the displayed frequency by 0.1 (-0.1) | Allows to choose the equalizer for modes USB / micro SD / Bluetooth :<br>- NOR = normal / ROCK / POP / CLAS / JAZZ / CONU = vocal |
| (VOL-) | 1 short press decreases the volume | |
| (VOL+) | 1 short press increases the volume | |
| (RPT) | 1 short press increases the displayed frequency by 0.1 (+0.1) | Each time you press, playback mode changes:<br>- N = Normal<br>- F = Repeat Folder<br>- A = Repeat All<br>- 1 = Repeat Track<br>- R = Random reading |
| (U/SD) | 1 short press starts the automatic FM scan; the entire frequency band is scanned. The player stores the station in the form 01, 02,… | |
| 0..9 | To select the desired station:<br><br>- press 1 then 2 to select program 12<br>- press 1057 to select 105.7Mhz | To directly select the desired track:<br>- press 1 then 2 to select track 12 of the folder currently playing |

To use PGM-1247-V2 dedicated console, connect its RJ45 `` COM 01 '' output (shown below in zone **(2)**) with an RJ45 cable to the RJ45 input `` Paging '' at the back of the mixer amplifier in zone **(7)**.
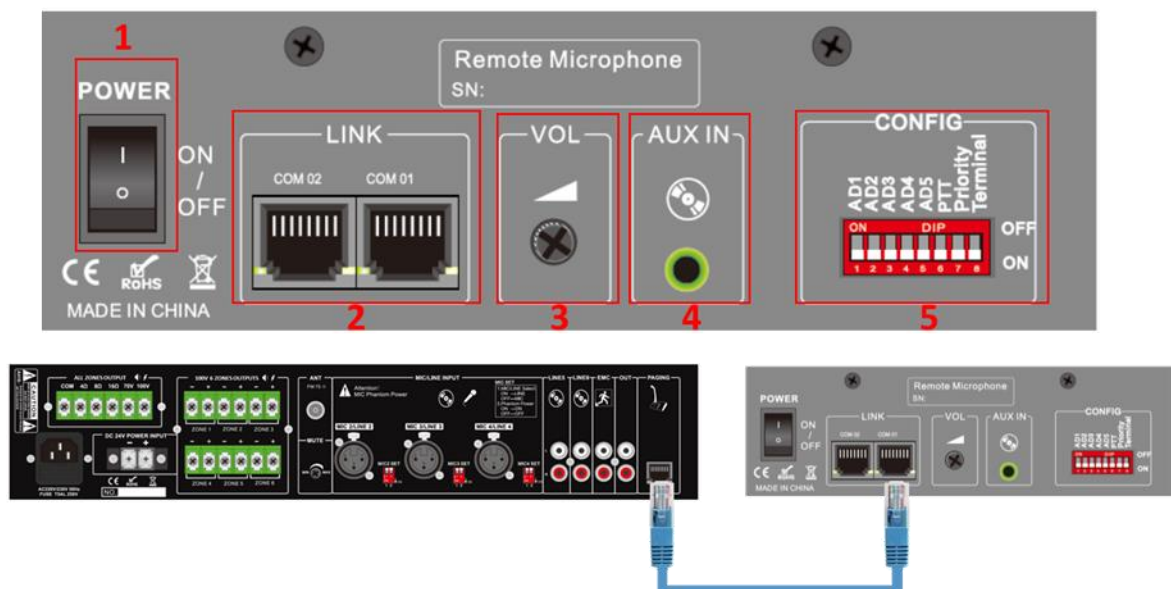


It is possible to connect up to 10 consoles as indicated below (maximum wiring distance between the first and the last console = 300 meters):

The first console must be connected to the mixer amplifier as explained previously.

The 2nd console must be connected to the "COM 02" port of console n ° 1 (and on its side to its Input RJ45 "COM 01"). If it is the last console connected in BUS mode, switch 8 ''Terminal'' must be ''ON'' (down position).

Each console must then be configured via the zone switches **(5)** on the rear panel seen previously so that they are recognized by the system.

Here is an example of configuration for 10 consoles with first console with highest priority / to change console with highest priority, switch on the console you want, switch 7 ''ON''

| | Switch1 | Switch2 | Switch3 | Switch4 | Switch5 | Switch6 | Switch7 (priority) | Switch8 (last) |
|---|---|---|---|---|---|---|---|---|
| Console 1 / priority 1 | ON | | | | | | ON | |
| Console 2 / priority 2 | ON | ON | | | | | | |
| Console 3 / priority 2 | ON | ON | ON | | | | | |
| Console 4 / priority 2 | ON | ON | ON | ON | | | | |
| Console 5 / priority 2 | ON | ON | ON | ON | ON | | | |
| Console 6 / priority 2 | | ON | ON | ON | ON | | | |
| Console 7 / priority 2 | ON | | ON | ON | ON | | | |
| Console 8 / priority 2 | ON | ON | | ON | ON | | | |
| Console 9 / priority 2 | ON | ON | ON | | ON | | | |
| Console 10 / priority 2 | | | | | | | | ON |

To note: console 10 being in this example the last console in BUS, this is why switch 8 must be ''ON''. Only one console can have higher priority on the others. Switches are ''ON'' when they are down.

Once connected, switch ''POWER'' of zone **(1)** upwards on ''ON''.

To adjust the console volume (potentiometer in zone **(3)** above), follow the instructions below:

1) Test the Console by selecting a zone (to which speakers are connected) using the zone buttons **(3)** on the front panel below

2) Press the `` CALL '' button **(4)** on the front panel below to trigger the chime and be able to speak (this allows you to adjust the volume of the microphone in parallel according to the sound level received in the speakers / this level is adjustable via the potentiometer **(3)** on the rear panel)

To speak in one or more zones from the console, you must:

1) Select the desired zone(s) with zone buttons **(3)** or all zones with the button **(5)**
2) The LEDs of the selected zones then blinks in green (if LEDs are staying in green permanently , it means zone(s) are busy)
3) Press the "CALL" button, the chime will trigger and then you can speak (the ring on the microphone head also lights up in red)
4) Press the "CALL" button again to stop the broadcast

**To note:** If you prefer to maintain ''CALL'' button to speak and release it to end speaking then you can activate ''PTT'' = ''Push To Talk'' switch on console rear, zone **(5)**.



A 3.5mm Jack "AUX IN" input is also available on the rear panel **(4)**. It allows you to broadcast a pre-recorded message, for example via an external audio device such as a Smartphone. The operation for broadcasting is the same as the one seen previously for speaking in one or more zones.

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You must :

1) Select the desired zone(s) with zone buttons **(3)** or all zones with button **(5)**
2) The LEDs of selected zones then blink in green
3) Press the "CALL" button, the chime will trigger. Then you can start your pre-recorded message
4) Press the "CALL" button again to stop the broadcast

LEDs in zone **(2)** on the front of the console indicate:

- Green LED "POWER" on = Console powered on
- Green LED "SEND" on = Console broadcasting
- Green LED "BUSY" on = Input "EMC" of the mixer amplifier or Input "MIC1" are broadcasting

Below are some examples of the compatibility of our products on the different inputs available:

| Input | Compatible product | Level | Connectivity |
|---|---|---|---|
| 2 / 3 / 4 | PGM-1000 | Mic. / phantom power ON (no need for batteries) | XLR female / XLR male (sold with PGM-1000) |
| 2 / 3 / 4 | GM-1052 | Mic. / phantom power ON | DIN female / XLR male (GZ-140) |
| 2 / 3 / 4 | HF range | Mic. / line | XLR female / XLR male |
| 5/6 | GE-4267 | | RCA male / XLR male |
| RJ45 | PGM-1247-V2 | | RJ45 male / RJ45 male |

# VI.   Preventive measures

 Please make sure to read carefully all following instructions

1- Take a look at all the warnings. Don't remove the security tags on the device or other information.
2- Use the device only for indicated applications, and in an appropriate way.
3- The use of this device is not recommended above 2000 meters above sea level.
4- Don't obstruct aeration openings with some objects.
5- Respect a minimal distance around the device to ensure enough aeration.
6- Don't expose the device to rain or moisture (except if the device is conceived for outdoor use – in this case, you must respect the instructions which come with it).
7- If your device doesn't work anymore, and if water or other objects enter inside, turn it off directly and unplug it. This device must be repaired by a qualified person.

**Devices plugged on mains power**

8- Turn off the device before touching any conductive parts inside it.
9- Don't switch the device on-off several times in a row : you risk to reduce the longevity of its intern components.
10- Replace the fuse only by a fuse with the same type and the same caliber.
11- Warning, a power plug has three spindles, including a protection ground spindle. The third spindle ensures safety. Check if the protection ground spindle provided enters in the electrical outlet, otherwise, consult an electrician to replace the obsolete outlet.

**Warnings symbols**

| | |
|---|---|
|  | Protection ground spindle |
|  | Ground spindle |
|  | Direct current or continuous voltage |
| ∼ | Alternating current or Alternating voltage |
|  | Dangerous voltage by touch, risk of electrification, even electrocution |
|  | Read carefully the joined document |
|  | Warning, hot surfaces, don't touch during operation, risk of burns |

 **Devices which are excessive thermal energy sources**
Warning, hot surfaces, don't touch during operation, risk of burns

 **Audio devices such as loudspeakers**
High sound pressure, risk of hearing damage, do not listen at high volume levels for extended periods (greater than 90 dB).

 **Product's disposal**
At the end of product's life, if it is installed on the French territory (DOM-TOM included), please contact BOUYER to organize its destruction according to the WEEE directive. Otherwise, please follow country's local regulations to install the product.

**BOUYER INDUSTRIE**                                                                                                 **11**

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