



QX-60

Public Address Amplifier
USER'S MANUAL

▪

Amplificador de Megafonía
MANUAL DEL USUARIO

Rev.0

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1 Safety Instructions

Please read carefully the next safety instructions.

1. Keep these instructions for future reference
2. Locate the apparatus at places nearby power socket for quick power disconnection. Avoid places where the equipment can be an obstacle. Disconnect the AC power supply before cleaning the equipment.
3. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid shall be placed on the apparatus. Do not use any liquid or spray detergent on the equipment for cleaning purposes. This appliance should not be exposed to moisture.
4. Do not place any lit candles or similar objects on top of the apparatus.
5. Set up the equipment on a safe surface to avoid falls and damages.
6. The covering grill provides air convection. **DO NOT COVER THE GRILLS.** A gap of 5 cm should be left around the perimeter of the apparatus to allow correct ventilation.
7. The equipment shall never be opened. For safety reasons, please contact qualified personnel.
8. The apparatus should be connected to ground for protection.
9. Ask the technician to inspect the equipment if any of the next situations occur:
 - a) Cable or plug is damaged.
 - b) Liquid has penetrated inside of the equipment.
 - c) The equipment has been exposed to moisture.
 - d) The apparatus does not work correctly or does not work according to the user's manual.
 - e) The equipment has suffered a fall and has been damaged.
 - f) The appliance has clear signs of being damaged.
10. The wiring should be performed only by trained personnel. Disconnect all the audio inputs and outputs while performing connections or disconnect the equipment from the power supply. Please make sure to use the appropriate cables.

2 Functional Features

The QX60 systems are comprehensive, all-in-one mixer-amplifier solutions for commercial and industrial applications. These low-cost units provide all necessary features in a simple building-block format.

1. Three microphone with one line input with XLR and phantom power.
2. Two line inputs with ¼" jack connector and RCA jacks.
3. Acceptable wide range(up to 44dB) input level.
4. Priority input through noise gate.
5. Two layer priority for input audio sources.
6. USB MP3 Player,SD Card,FM Tuner.
7. Two bands tone controls.
8. Low distortion and low noise level.
9. Integrated audio source output.
10. Advanced protection system includes current limiting, overcurrent and thermal protection.
11. Desktop and 19-inches rack mountable type.
12. Compact size and lightweight.

3 Front Panel

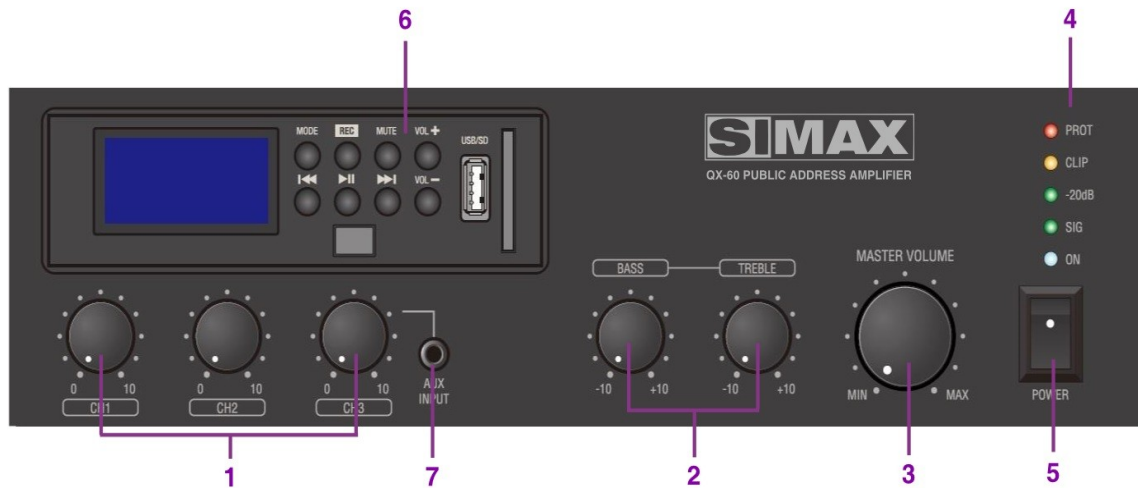


Illustration 1: QX-60 Front View

1. Input channel volumes.
2. Two bands tone controls (100Hz/10kHz)
3. Master volume control.
4. Protection, output level and power indicators.
5. Power switch.
6. MP3 Player, SD Card, FM Tuner.
7. Auxiliary input (idem CH3).

4 Rear Panel

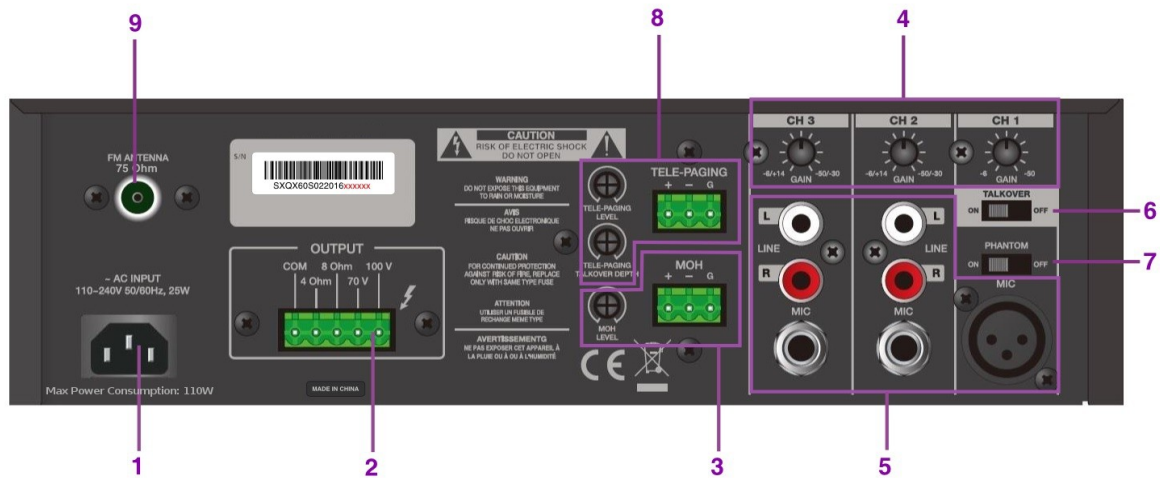


Illustration 2: QX-60 Rear View

1. AC power socket.
2. Speaker outputs connector (COM,4-ohm, 8-ohm, selectable 70V and 100V).
3. Integrated source output with associated gain control.
4. Gain controls for variable input level.
5. Signal input connectors. One balance source input with selectable priority. The rest of the inputs do not have priority, they are mixed.

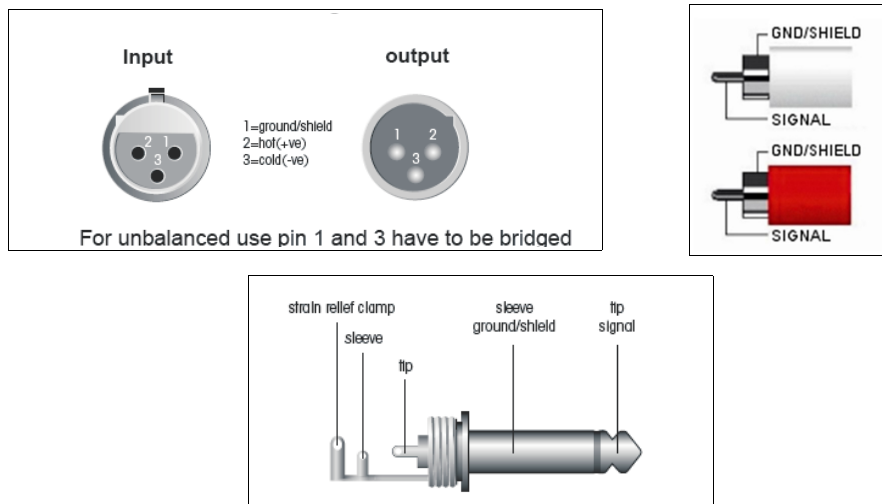
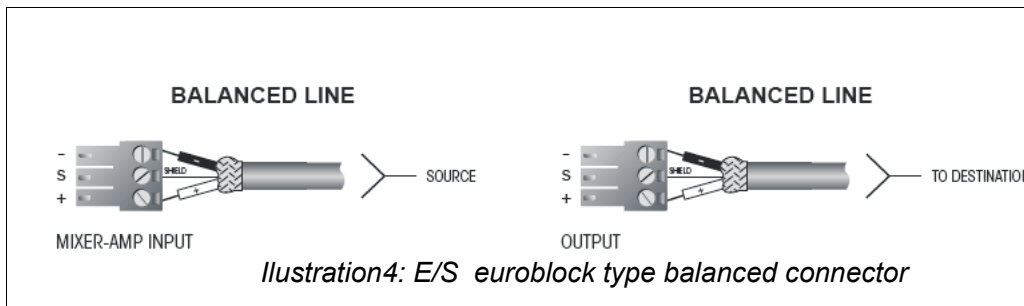


Illustration 3: Signal input

- 6. Phantom power switch.
- 7. Priority control switch.
- 8. Priority input through noise gate. Priority balanced audio input, with associated activation threshold control (see Illustration 4).



- 9. FM Antenna.

5 Speaker wiring.

5.1 Low impedance speaker connection. 4 Ω and 8 Ω

In order to connect conventional 4Ω and 8Ω speaker systems, connect positive terminal of the speaker (+) to 4Ω or 8Ω terminal. Connect the negative side (-) to COM terminal.

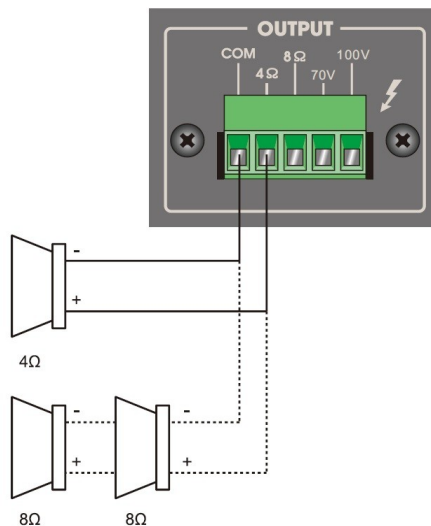
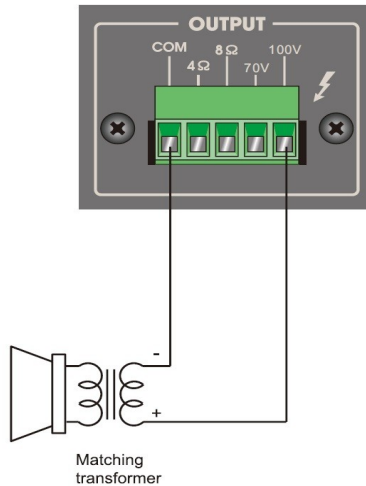


Illustration 5: Low Impedance 4Ω and 8Ω speaker connection

5.2 High impedance speaker connection. 70/100V

In order to parallel connect high impedance speaker systems (70/100V), connect the positive side of the speaker (+) to 70/100V terminal. Connect the negative side (-) to COM terminal.



*Illustration 6: High Impedance speaker connection
70/100V*

5.3 Incorrect speaker connection.

CAUTION: 70/100V output lines should never be used simultaneously with the low impedance output, otherwise the equipment could be seriously damaged.

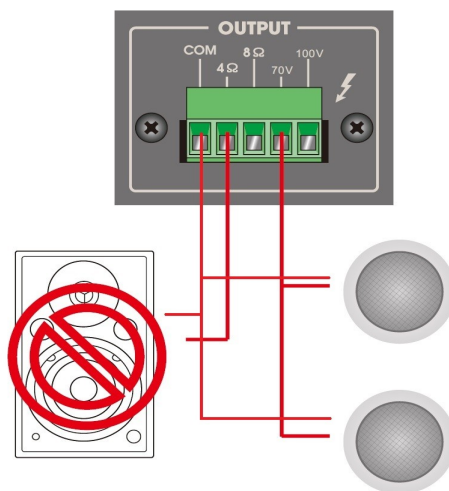


Illustration 7: Incorrect speaker connection

6 Operating Overview

1. Power On:

Power connection: 110 - 240V AC 50/60Hz. Press the ON/OFF switch on the front panel.

2. Phantom Power:

This unit allows phantom power for the first microphone input. To enable it you must activate the corresponding switch on the rear panel.

3. Gain control input:

To adjust the gain of the inputs, the QX series features a potentiometer per input channel, located on the rear panel. This potentiometer allows a dynamic range of 44dB.

4. Priority control:

Priority adjustment of the sources can be done by using the switch "Talkover" on the rear panel for channel 1. QX60 has three priority levels :

- (1) Priority input (Tele-Paging)
- (2) Notification tone and input 1: If several of these inputs are active, the signal will mix them.
- (3) No priority: All inputs without priority will enter mixed.

Input	Priority
1	2 (selectable)
2	3 No priority
3	3 No priority
Tele-Paging	1

Table 1: Input priorities

7 Media Module

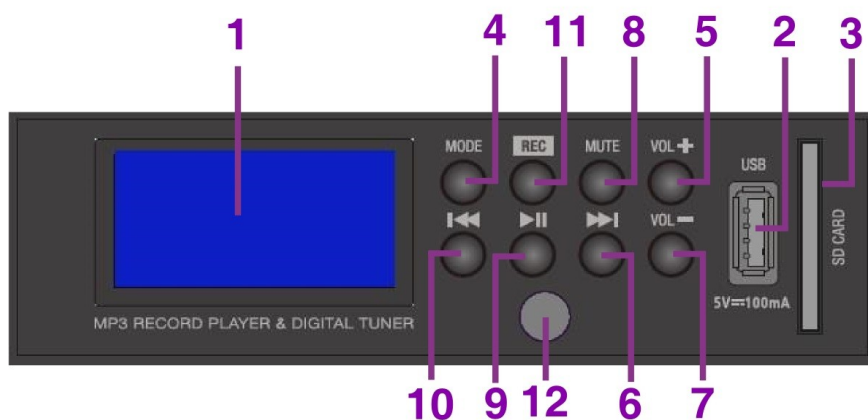


Ilustración 8: MP3 record player and digital tuner

1. LCD Display
2. USB
3. SD Card Slot
4. Mode
5. Vol+ (The volume increase)
6. Automatic or manual tuning up/ track search up
7. Vol- (The volume decrease)
8. Mute
9. Play/ Pause
10. Automatic or manual tuning down/ track search down
11. Record
12. IR communication

8 Block Diagram

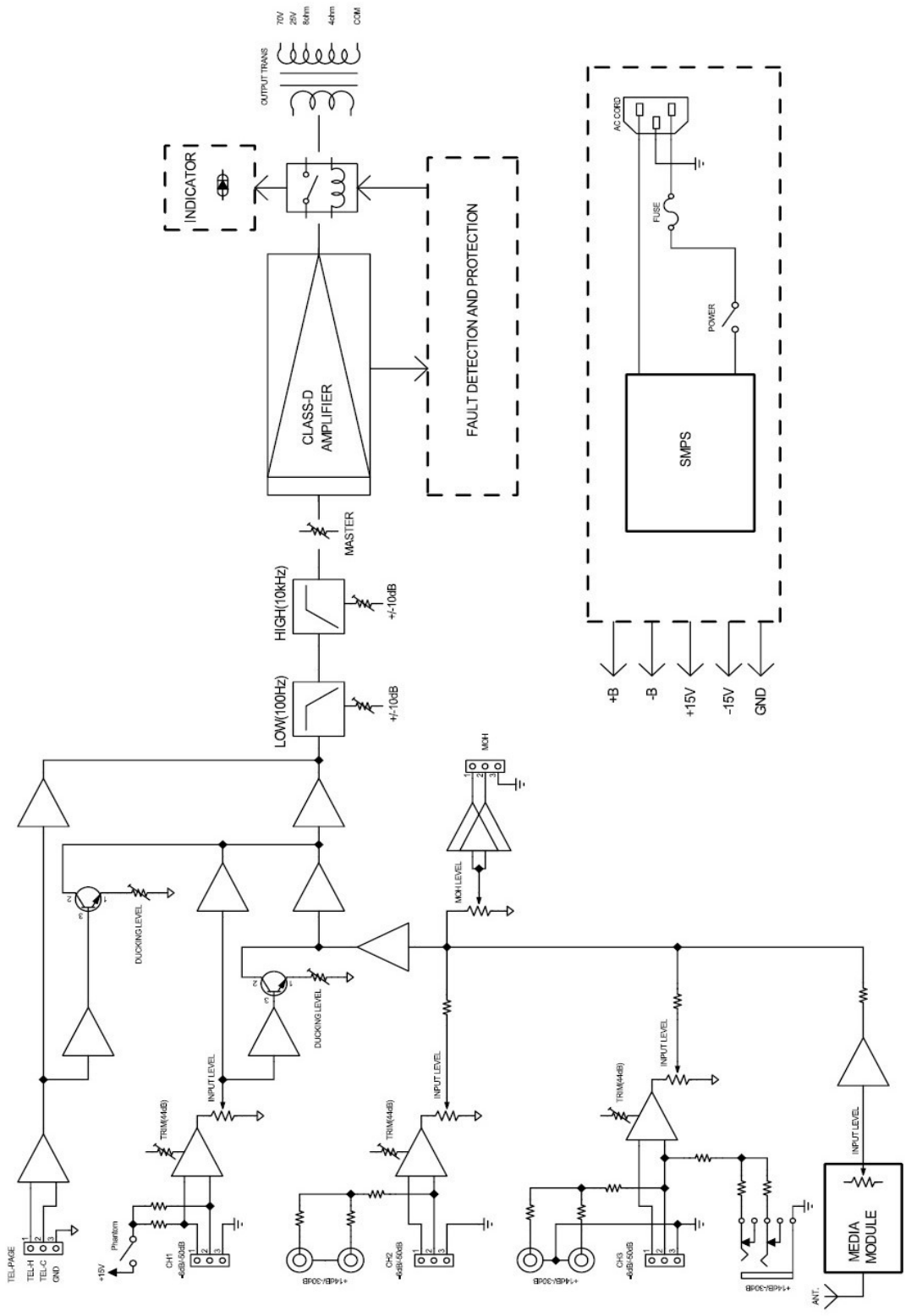


Illustration 9: QX-60 block diagram

9 Specifications

Model	QX-60
Input sensitivity for full output at maximum gain	
Balanced Microphone Channel	-50dB \pm 3dB
Balanced TELE – PAGING input	-21dB \pm 3dB
Unbalanced AUX Channels	-30dB \pm 3dB
Frequency Response at 1 watt from speaker out tap. 100 Hz ~ 10 KHz	+1.5dB -3dB
Tone Controls	
100Hz, 10kHz	\pm 12dB \pm 3dB
Signal to Noise Ratio at rated power output	> 90dB
Crosstalk at all control maximum	-70dB at 1kHz
Output Power at THD 0.5%	60 Watts
Total Harmonic Distortion(THD) at 1kHz rated power	Less than 0.5%
Power Band Width at 1 kHz from speaker out tap	80Hz~18kHz with less than 0,5% THD
DC Output Offset	Less than \pm 3mV
Operating Temperature/Humidity at non-condensing	0~40° at 95% humidity
Output Voltage and Impedance	
4 Ω	16V
8 Ω	22.8V
70V	75 Ω
100V	154 Ω
Construction	
Refrigeración	Convection Cooled
Dimensions (Width/Height/Depth)	270 x 76 x 230 mm
Net Weight	3.59 kg



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