WP523

User Manual & Installation Guide

Remote Wall Mixer for LX523

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Introduction
Remote Wall Mixer for LX523

The WP523 is a Remote Wall Mixer which is meant to be used in combination with the LX523 Active Speaker system. It converts the signal coming from a stereo line−level audio source (such as CD−player, Tuner, MP3 player, ...) or balanced microphone to the level corresponding the differential signal input on the rear side of the LX523 (RJ45).

Making it possible to transfer high−quality audio over long distances between the wall panel and loudspeaker, by just using inexpensive twisted pair CAT5 cabling.

On the front side of the wall panel is a stereo RCA line input together with a balanced XLR microphone input. Both provided with their own knob, which allows the signals to be mixed together. A main volume dial allows you to adjust the overall volume of the loudspeaker system. An internal limiter avoids distortion on the input signal and a jumper on the rear side allows you to provide 12V phantom power to the microphone input.

The connection of the CAT5 cable can be made on the rear side of the wall panel by means of an 8−pin Euro−Terminal Block connector.

Chapter 1
Overview front panel

The front panel of the WP523 contains an unbalanced line input connected by RCA connectors and a balanced microphone input connected by a XLR connector. Each input is accomodated with a push−lock gain control potentiometer whereby both inputs can be mixed and a Clip indicator LED. The overall volume can be controlled by means of the big rotatable dial.

Unbalanced line input

LINE IN

Push−lock gain control potentiometer with clipping LED

Balanced microphone input

MIC IN

Master Volume Control

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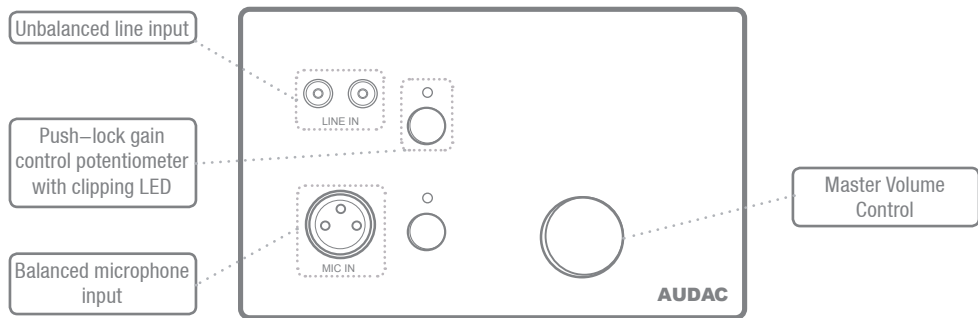
Front panel description

Unbalanced line input
An unbalanced stereo audio source can be connected to these RCA connectors.

Balanced microphone input
A balanced microphone can be connected to this XLR input connector. For powering condenser microphones, 12V Phantom power can be enabled.

Push–Lock gain control potentiometer with clipping LED
The sensitivity for the line and microphone inputs can be adjusted with these potentiometers. Through the push–lock mechanism, they can be opened and hidden again by pressing them. Above every potentiometer is a clipping indicator LED provided which illuminates when clipping of the input signal occurs. When this LED is lit, the signal is distorted and the level should be reduced by turning back the potentiometer. The sensitivity for the line and microphone input can be adjusted between the ranges of 0dB and $-\infty$dB.

**Master Volume Control**
By means of this rotatable dial, the overall volume can be controlled. The volume can be increased by turning the dial to the right, while it can be decreased by turning the dial to the left.

Overview rear panel

The rear side of the WP523 contains an 8–pin Euro–Terminal Block connector, whereby the wall panel should be connected to the RJ45 connector on the rear side of the speaker system. For more information about how the connections should be made, refer to "Connecting" in Chapter 3 of this user manual.

Below the 8-pin connector is a jumper located, whereby the 12V phantom power for the microphone input can be enabled. When the jumper is placed (standard with delivery), the 12V phantom power is enabled, and can be disabled by removing the jumper.

8–pin Euro Terminal Block connector

Phantom power enabling jumper

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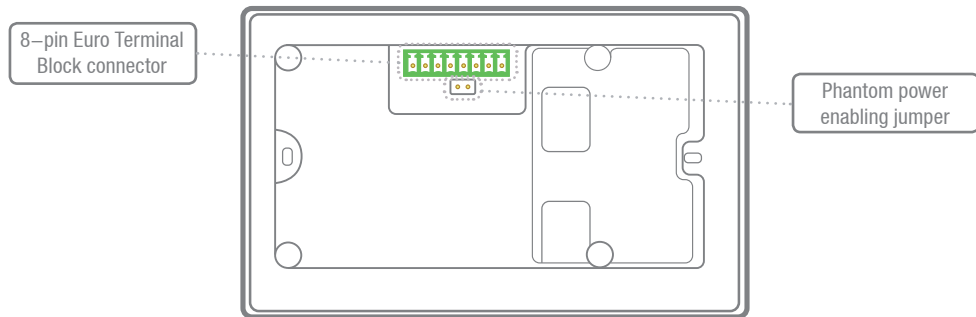
Chapter 2

Quick start guide

This chapter guides you through the setup process for a basic setup where a WP523 should be connected to a LX523 loudspeaker system.

Install your WP523 wall panel on the desired location by means of the optional available WB5065 installation boxes. Provide a twisted pair cable from the loudspeaker to the WP523 wall panel. Connect the twisted pair cable according to the standards described in this user manual with the RJ45 connector on the loudspeaker side and to the 8-pin Euro-Terminal block connector on the wall panel side. After all those connections are made, just plug-in the connectors of the twisted pair cable, plug in the mains power on the loudspeaker side and your system is ready for operation.

You can plug in your line and microphone audio sources to the wall-panel, and your sounds should be audible through the speaker system. The master volume and mixing can be done with the push-lock and the big rotatable dial on the wall panel. Make sure that the settings for volume and tone control on the rear side of the speaker system are correct too.

Chapter 3
Installing & Connecting

Installing

For installing the WP523, two different kinds of flush mount installation boxes are available.
The plastic installation box (WB5065/FG) is meant to be used for installation into gypsum, wooden or other kinds of plate walls with a thickness between 7 mm and 25 mm. An installation hole with dimensions 135 x 75 mm should be cut wherein the installation box should be placed. When the wall panel is placed into the installation box and the screws are tightened, the wall panel will be secured to the wall.
The second type of installation box is a steel version (WB5065/FS) which can be used for mortar in brick or stone walls. Make sure the installation box is installed upright (notice the text and the sticker on the installation box)

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Connecting

The WP523 wall panel should be connected to the LX523 speaker system by means of UTP twisted pair cable. The 8-pin Euro-Terminal Block on the rear side of the WP523 should be connected to the RJ45 connector on the rear side of the speaker system. The maximum cable distance between the input unit and the speaker system can reach up to 500 meter.

To ensure a proper working of the system, all 8 conductors of the twisted pair cable have to be connected according to the table below

PIN 1

RJ-45M
Male

**PI Port PINOUT (Audio, +/–12V DC):**
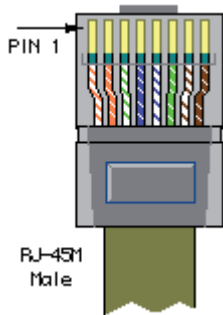
Pin 1	White–Orange	AUDIO LEFT
Pin 2	Orange	AUDIO LEFT
Pin 3	White–Green	+12V DC
Pin 4	Blue	–12V DC
Pin 5	White–Blue	GND
Pin 6	Green	GND
Pin 7	White–Brown	AUDIO RIGHT
Pin 8	Brown	AUDIO RIGHT

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ATTENTION

The twisted pair cabling must always be 'straight'. In case of self made cabling, it must be wired as described in this chapter to make the system work properly.

The twisted pair cable should be connected to the 8–pin Euro–Terminal Block connector on the rear side of the wall panel. The connector starts with Pin1 on the left side to Pin8 on the right side. These Pin's should be connected to the corresponding Pin's of the RJ45 connector.
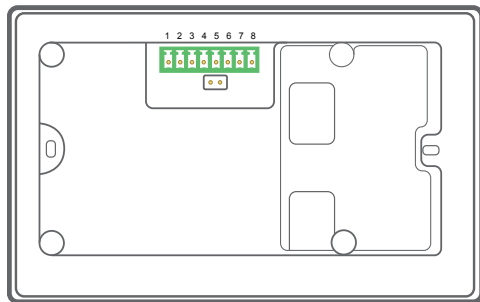
Pin 1	White–Orange
Pin 2	Orange
Pin 3	White–Green
Pin 4	Blue
Pin 5	White–Blue
Pin 6	Green
Pin 7	White–Brown
Pin 8	Brown

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Chapter 4

Technical Specifications

Line input	Stereo, RCA input	
	Sensitivity:	+12dB / -6dB
	Signal / Noise:	> 95 dB
	THD+N:	< 0.02
Microphone input	Balanced, XLR input	
	Sensitivity:	-20dB / -46dB
	Signal / Noise:	> 85 dB
	THD+N:	< 0.05
	Phantom power	12V DC
Connector	8-pin Euro Terminal block	
Dimensions	153 x 94 x 55 mm	
Built-in Depth	37 mm	
Weight	0.175 Kg	
Installation standard	BS4662 - 2 gang	