

ZX406PA

Operating Instructions



The perfect audio-distribution centre for:

schools

medical institutions

sports centres

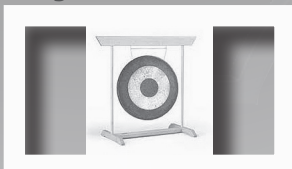
factory buildings

shopping malls

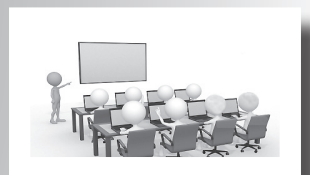
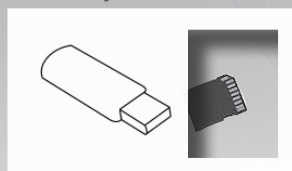
meeting areas

clubs, bars & restaurants

Integrated chime module



MP3 Player on board



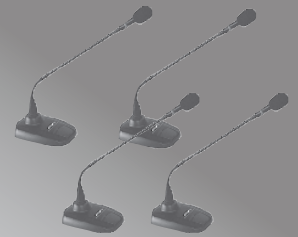
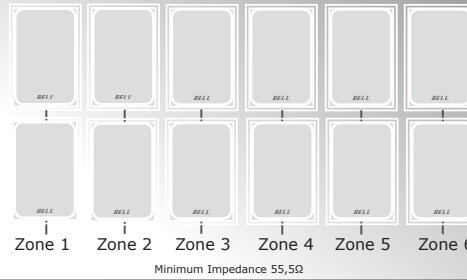
ZX406PA

Concept:

The ZX406PA will send audio signals, such as speech, music or chime to 6 selectable zones.

The output power of 180W may drive a number of **100V Line speakers** with a total min. impedance of 55,5Ω

In **low impedance mode**, the minimum impedance is 4Ω.

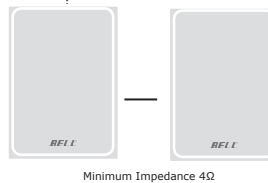


4 Mic Input channels with Gain-Control
48V phantom power supply on board



Rear Panel Features:

- 4 x mic input, XLR Combo
- 4 x mic gain control
- 4 x phantom power, 48V
- 2 x RCA input L/R, Aux1, Aux 2
- 1 x Remote start input (chime on)
- 1 x RCA preamp output
- 1 x RCA power amp input
- Speaker output 180Watt 4Ω
- Speaker output 100V, 6 zones min. impedance = 55,5Ω



Measurements / Weight
ZX406PA: 19"
(W x H x D) 482 x 88 x 350mm
weight, net. 12Kg



Operational Features, Front

- Volume, Mic 1,2,3,4
- MIC 1 with Automute / Priority
- Volume, Master
- Volume AUX1 (MP3 player)
- Volume AUX2 (CD, I-Pod etc.)
- 2-band EQ: Bass, Treble
- Volume, Chime
- Chime start switch
- Extra front input Mic 1 (Jack)
- MP 3 player with USB input
- Mains switch
- Master output control (bargraph)

BELL Loudspeaker Systems



Bell CPX Series, compact 100W - 8Ω / or 20-30-40W 100V line speaker systems. Available in black or white.



CPX160.3, Ceiling speakers including rear cover 100V line. 1-2-3W



BELL M Series, powerful high quality speaker systems. Qualify for in- and outdoors use. Available in 8Ω, 16Ω or 100V Line. Special colors on demand.



Bell OS 12 Omnisphere patented 360° speaker system. Available in 8Ω oder 100V Line. Special colors on demand

Operating features, front panel

Volume, Mic 1,2,3,4
Volume controls of channels 1...4

Automute, MIC1 (switch)

When pushed, MIC1 (microphone) is given priority over all other channels.

Volume, Master

Master volume control.

Volume AUX1 (MP3 Player)

Controls the volume of any signal source connected to sockets AUX1 (RCA) such as CD players, MP3 etc.
When the built-in MP3 player is in use, AUX1 controls its volume.

Volume AUX2

Controls the volume of any signal source connected to sockets AUX2 (RCA) such as CD players, MP3 etc.

EQ: Bass, Treble

Active EQ / tone control. (+/-15db)
Center position = neutral. Any manipulation of the EQ controls should be done with care. Extreme settings should be avoided, since they will likely have a negative influence on the overall sound quality.

Gong (Chime) Volume

Controls the output volume of the built-in chime module.

Gong (Chime) Start

Activates the built-in chime module.
(May also be activated via jack socket 'Chime Control' (rear panel))

MP 3 Player

Reads / plays MP3 data from any USB Stick or SD card.

MAINS

Mains Switch to connect unit to current.

Master Output Control (bargraph)

Displays the total output level.

Features, rear panel

Mic channel inputs 1..4, XLR Combo
Input socket for microphones for use with XLR plugs (3-pin, male), or 6,3mm jack plugs.

Pin connection XLR, balanced:

1=Ground, 2=Hot, 3=Cold

Pin connection XLR, unbalanced:

1+3=N 2=L

to connect unbalanced sources (mic) with a 3-pin XLR(m) connector, insert a wire bridge between pin1 and pin3 of the incoming XLR plug.

Pin connection, Jack balanced:

Housing=Ground, Ring=Cold, Head=Hot
Mono jack plug = unbalanced.

Mic Gain (Control 1..4)

matches connected sources (mics) to in-mixing level. Turn clockwise to increase input sensitivity. Turn counterclockwise to reduce sensitivity.

Phantom Power Supply, 48V (CH 1..4)

Slide switch w/LED Indicator. Feeds connected condenser microphones with external 48V phantom power.

Aux1, Aux 2 L/R (Inputs RCA)

Connects audio sources (CD/MP3/etc.)

CHIME CTRL (remote trigger socket)

Connects external momentary-on switch or clock device with momentary-on output to start the built-in chime

Preamp RCA Output

Removing the wire bridge between PRE-OUT and MAIN-IN (RCA socket), will cut the connection between mixer and power amplifier. Serves to connect external devices, such as graphic equalizers etc.

Power Amp Input (Amp IN) / (RCA)

After removing the wire bridge between Preamp Out and Amp in, you may insert an audio signal directly into the built in power amplifier. (Mostly used for testing of power amp)

Loudspeaker connection

The clamp terminals will connect either low impedance **or** high impedance (70V or 100V line) loudspeakers.
A mixed connection of both types is not possible and will cause serious damages.

Loudspeakers, low impedance

Clamp 4-16Ω = +
Klemme COM = -
(Total minimum Impedance: 4 Ω)

or

Loudspeakers, 100V Line

Clamp 100V = +
Clamp(s) COM = -
(Total minimum Impedance: 55,5 Ω)

or

Loudspeakers, 70V Line

Clamp 70V = +
Clamp(s) Com = -
(Total minimum Impedance: 27,2 Ω)

Zone Selection (100V Speakers only)

100V speaker systems may be installed into max. 6 separate audio zones.

Connection of Zones (100V Line):

Zone 1: Z1=+, COM=-

Zone 2: Z2=+, COM=-

Zone 3: Z3=+, COM=-

Zone 4: Z4=+, COM=-

Zone 5: Z5=+, COM=-

Zone 6: Z6=+, COM=-

Each Zone may be switched on/off by the front side Zone switches Z1...Z6

Warning:

The total minimum impedance of all connected 100V line speakers is 55,5Ω.

Calculation of minimum impedance:

Example: speaker system 100V / 3W
calculation: $(100 \times 100) : 3 = 3333W$
The min. impedance will allow the use of 3333:55,5 speakers. (= 60pcs.) These (or less units) may be connected to all 6 or less zones in equal or unequal numbers.

Installation into a 19" Rack

The ZX406 PA may be installed into a 19" rack (min. 2 units).
Adequate ventilation of rear and side panels must be provided.
(Avoid overheating of unit).

Mains socket / mains cable

Mains connection by supplied mains cable. 230V/AC. Unit must be earthed.
The fuse holder is integrated in the lower part of the mains socket.
Fuse: 230V/2A.

SAFETY INSTRUCTIONS

In order to avoid damage to hardware or electronic components, during unit use and/or maintenance, It is necessary to follow the safety instructions.

Prior to installing the unit, please read this manual carefully. Follow all instructions and keep it for further reference.

Manipulating or opening the unit may cause damage to people. -Place the unit in a location protected from weather and in a good distance from water and moisture. -Don't expose the unit to sources of heat, such as radiators, spotlamps, hot power amplifiers etc.. -Avoid any kind of liquid entering inside the unit. -Connect the unit to a power supply line able to support the units power consumption. The power supply line must be in good operating conditions. The power supply line must have an efficient ground line. -Disconnect the unit from a.c. power socket during thunderstorm (lightning) or when out of use for long periods of time.

Leave any servicing to qualified service personnel only. Servicing is required when the apparatus has been damaged in any way, such as: -Defective connectors -Liquid has spilled inside the unit. -The unit has been dropped or has been mechanically or electrically damaged or if the personal password of the user has been forgotten.

No user-serviceable parts inside. For service, refer to an authorized maintenance.

The ZX406PA mixer amplifier complies with EMC Directive 89/336/CEE (Directive on approximation of member nation's ordinance concerning the electromagnetic compatibility) and following modifications 92/31/CEE and 93/68/CEE, as stated in EN 500821:1997, EN 55013:1990, EN 55020:1994 standards. The unit complies to Low Voltage Directive 73/23/EEC (Directive on approximation of member nation's ordinance concerning electric equipment designed to be used within the specified voltage range), and following modifications 93/68/CEE, as stated in EN 60065:1998 standard. To avoid electric shock don't open this unit. To prevent risks of fire and/or electric shock, don't expose this unit to rain or moisture.

PACKAGING

This unit package has been submitted to ISTA 1A integrity tests. We suggest you check the unit immediately after unpacking it. If any damage is found, immediately inform the dealer. Keep all unit packaging parts to allow inspection. Our company is not liable for any damage that occurs during shipment.

SHIPMENT / TRANSPORT LOSS OR DAMAGE

Products are sold and shipped ex warehouse and the shipment is at charge and risk of the buyer. Possible damages to the unit should be immediately notified to the forwarder.

WARRANTY AND PRODUCT RETURN

BELL Audio Systems warrants all materials, workmanship and proper operation of this product for a period of two years from the original date of purchase. If any defects are found in the materials or workmanship or if the product fails to function properly during the applicable warranty period, the owner should inform the dealer or the distributor, providing receipt or invoice of date of purchase and a detailed description of the defect(s). This warranty does not extend to damage resulting from improper installation, misuse, neglect or abuse. BELL will verify damage on returned units. If the unit has been properly used and warranty is still valid, the unit will be replaced or repaired. Our company is not responsible for any „direct damage“ or „indirect damage“ caused by any defective product.

INSTALLATION

Product should be installed and operated in a professional 19" standard rack with adequate ventilation.

DISCLAIMER

BELL products have been expressly designed for audio application, with signals in audio range (20Hz to 20kHz). Our company is not liable for damages caused by lack of maintenance, modification, improper use or improper installation or by ignoring safety instructions.

BELL reserves the right to change technical specifications at any time without notice.