

DZ-MATRIX

MATRIX AUDIO PROCESSOR

PRESENTATION LEAFLET

H11393 / H11395 / H11396 / H11397 / H11398 / H11399 / H11400 - Version 1 / 10-2022

The complete user manual and software updates are available for download at www.audiophony-pa.com

1 - Safety information

Important safety information



This unit is intended for indoor use only. Do not use it in a wet, or extremely cold/hot locations. Failure to follow these safety instructions could result in fire, electric shock, injury, or damage to this product or other property.



Any maintenance procedure must be performed by a CONTEST authorised technical service. Basic cleaning operations must thoroughly follow our safety instructions.



This product contains non-isolated electrical components. Do not undertake any maintenance operation when it is switched on as it may result in electric shock.

Symbols used



This symbol signals an important safety precaution.



The WARNING symbol signals a risk to the user's physical integrity. The product may also be damaged.



The CAUTION symbol signals a risk of product deterioration.

Instructions and recommendations

- 1 - Please read carefully :**
We strongly recommend to read carefully and understand the safety instructions before attempting to operate this unit.
- 2 - Please keep this manual :**
We strongly recommend to keep this manual with the unit for future reference.
- 3 - Operate carefully this product :**
We strongly recommend to take into consideration every safety instruction.
- 4 - Follow the instructions:**
Please carefully follow each safety instruction to avoid any physical harm or property damage.
- 5 - Avoid water and wet locations :**
Do not use this product in rain, or near washbasins or other wet locations.
- 6 - Installation :**
We strongly encourage you to only use a fixation system or support recommended by the manufacturer or supplied with this product. Carefully follow the installation instructions and use the adequate tools.
Always ensure this unit is firmly fixed to avoid vibration and slipping while operating as it may result in physical injury.
- 7 - Ceiling or wall installation :**
Please contact your local dealer before attempting any ceiling or wall installation.
- 8 - Ventilation :**
The cooling vents ensure a safe use of this product, and avoid any overheating risk. Do not obstruct or cover these vents as it may result in overheating and potential physical injury or product damage. This product should never be operated in a closed non-ventilated area such as a flight case or a rack, unless cooling vents are provided for the purpose .
- 9 - Heat exposure :**
Sustained contact or proximity with warm surfaces may cause overheating and product damages. Please keep this product away from any heat source such as a heaters, amplifiers, hot plates, etc...

CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN

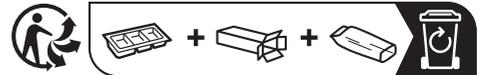
WARNING : This unit contains no user-serviceable parts. Do not open the housing or attempt any maintenance by yourself. In the unlikely even your unit may require service, please contact your nearest dealer.
In order to avoid any electrical malfunction, please do not use any multi-socket, power cord extension or connecting system without making sure they are perfectly isolated and present no defect.

Sound levels

Our audio solutions deliver important sound pressure levels (SPL) that can be harmful to human health when exposed during long periods. Please do not stay in close proximity of operating speakers.

Recycling your device

- As HITMUSIC is really involved in the environmental cause, we only commercialise clean, ROHS compliant products.
- When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.



- 10 - Electric power supply :**
This product can only be operated according to a very specific voltage. These information are specified on the label located at the rear of the product.
- 11 - Power cords protection:**
Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at lugs, convenience receptacles and the point where they exit from the fixture.
- 12 - Cleaning precautions :**
Unplug the product before attempting any cleaning operation. This product should be cleaned only with accessories recommended by the manufacturer. Use a damp cloth to clean the surface. Do not wash this product.
- 13 - Long periods of non use :**
Disconnect the unit's main power during long periods of non use.
- 14 - Liquids or objects penetration :**
Do not let any object penetrate this product as it may result in electric shock or fire. Never spill any liquid on this product as it may infiltrate the electronic components and result in electric shock or fire.
- 15 - This product should be serviced when :**
Please contact the qualified service personnel if :
 - The power cord or the plug has been damaged.
 - Objects have fallen or liquid has been spilled into the appliance.
 - The appliance has been exposed to rain or water.
 - The product does not appear to operate normally.
 - The product has been damaged.
- 16 - Inspection/maintenance :**
Please do not attempt any inspection or maintenance by yourself. Refer all servicing to qualified personnel.
- 17 - Operating environment :**
Ambient temperature and humidity: +5 - +35°C, relative humidity must be less than 85% (when cooling vents are not obstructed).
Do not operate this product in a non-ventilated, very humid or warm place.

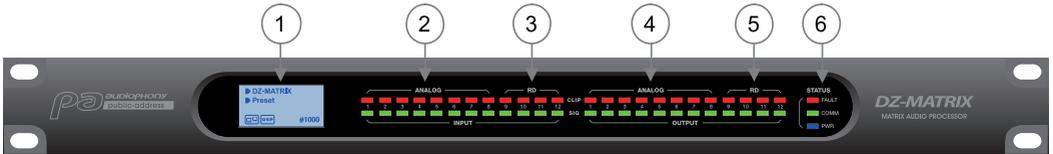
2 - Introduction

The DZ-MATRIX is the heart of the matrixing system, its peripheral controllers, input/output boxes and microphone desk complete the series dedicated to public address, message broadcasting and zone management. The complete software allows to assign all inputs and outputs and to process the signal according to the needs of the installation.

The numerous mesh possibilities make it suitable for installations in shopping malls, restaurants, hotels, museums, conference rooms, etc. where the number of entrances and the area of diffusion require precise parameterization.

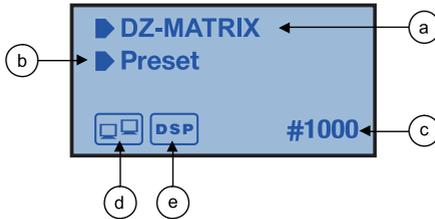
3 - Overview

3 - 1 - FRONT PANEL



1 - Display

Displays device information such as name, ID, current preset and communication status.



- a - Displays the name of the device.
- b - Displays the preset currently in use.
- c - Displays the ID of the device. The ID is obtained automatically when the device is properly connected.
- d - Connection indicator between the PC and the device. If the connection is good, the two icons will flash alternately.
- e - DSP connection indicator.

2 - ANALOG

Analog input indicators. The green LED indicates the presence of a signal, the red LED indicates the clipping of the signal of the corresponding input.

3 - RD

RD remote input indicators. The green LED indicates the presence of a signal, the red LED indicates the clipping of the signal of the corresponding input.

4 - ANALOG

Analog output indicators. The green LED indicates the presence of a signal, the red LED indicates the clipping of the signal of the corresponding input.

5 - RD

RD remote output indicators. The green LED indicates the presence of a signal, the red LED indicates the clipping of the signal of the corresponding input.

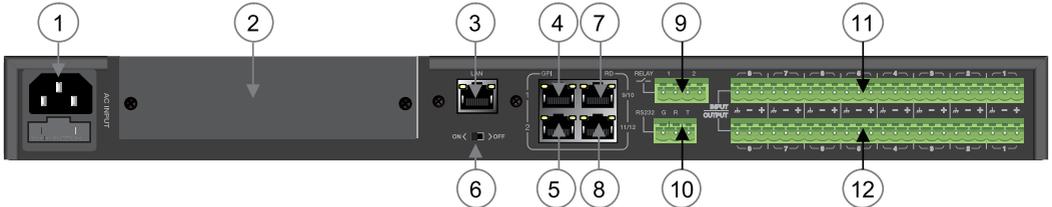
6 - STATUS

FAULT : Red LED indicating a DSP malfunction. The information is relayed on the display.

COMM : Green LED indicating the communication status between the PC and the device. The LED flashes during data transfer. It remains off if there is a problem.

POWER : Blue LED indicating that the unit is powered on.

3 - 2 - BACK PANEL



1 - Power supply input

The input voltage may vary from 100 V to 240 VAC, 50-60 Hz.

If you have to replace the fuse, replace it with a fuse of the same value.

2 - Compartment for the optional extension

3 - LAN

Port for Ethernet connection, 10/100M adaptive, with DHCP function.

4 & 5 - GPI

This function is used to control the input / output priority / mute all outputs of channels 1-8.

6 - ON <> OFF

Enables or disables the Ethernet port.

7 & 8 - RD 9/10, 11/12

RD port for connecting a remote control accessory such as DZ-BOX22, DZ-CTL, DZ-CTL2OUT, DZ-EXPAND and DZ-MICDESK.

This port transmits and receives AES3 digital audio and control data.

9 - RELAY

Dry contacts whose ON/OFF status can be individually controlled in the System menu. They are usually used as switches for third party electrical equipment.

Attention: 24V DC, control current : Less than 500 mA.

10 - RS232

This interface is used to remotely control the parameters of the DZ-MATRIX, such as changing a preset or changing the gain of a channel.

11 - INPUT

Euroblock connector with 8 balanced analog inputs.

12 - OUTPUT

Euroblock connector with 8 balanced analog outputs.

Analog I/O 8 x 8	
Connectors	Euroblock 8 x 3 pins, 5 mm pitch
CODEC	CS5368-CQZ 24 bits, 48K A/D
	CS5368-CQZ 24 bits, 48K D/A

Inputs	
Balanced	
Gain settings	0 dB to 50 dB, step=12 dB
Input Impedance	6.5 K Ω
Phantom power	+48 VDC, 10 mA max per input
THD+N	< 0.01%, 20 Hz ~ 20 KHZ, 0 dBu
Maximum level	20 dBu (7.746 Vrms)
Frequency response	20 Hz ~ 20 KHz, 0 dB +/-1.5 dB
Dynamic range	-126 dBu
Cross talk	-70 dB max, A weighted 20 Hz ~ 20 KHz, +20dB

Outputs	
Balanced	
Impedance	240 Ω
Maximum level	+20 dBu
Frequency response	20 Hz ~ 20 KH, 0 dB +/-1.5 dB
Dynamic range	-107 dBu max, A weighted
Cross talk	-87 dB, A weighted

Indicators	
Signal	-30 dBu, green LED
Clip	+17 dBu, red LED

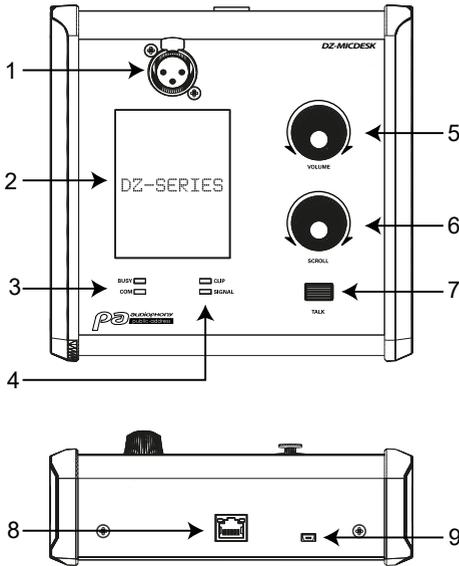
DSP	
Processor	SHARC ADSP-21489, 450 MHz
Word lenght	32 / 64 bits floating point

Dimensions	
L x H x D	483 x 44 x 256 mm

4 - Peripheral devices

5 - 1 - DZ-MICDESK

Micro zone manager desk



1 - Mic input

3-pin XLR female connector for the gooseneck electret microphone (included). It uses phantom power controlled by the DZ-MATRIX software.

2 - Display

It displays the selected zones, the volume and the identification number.

3 - BUSY/COM operation indicators

When the communication with the DZ-MATRIX is correct, the green LED flashes. The red BUSY LED lights up when another mic is used.

4 - Signal indicator LEDs

The green LED indicates the presence of a signal when the microphone is activated. The red LED indicates the clipping limit.

5 - VOLUME

It controls the microphone volume for each selected zone. By pressing the button, it selects all zones.

6 - SCROLL

It allows you to select one or more zones by turning the knob to the left or right and pressing it to confirm.

7 - TALK

When the button is pressed, the chime sounds and the red ring on the microphone lights up, indicating that you can speak.

8 - RD Port

Connection to the DZ-MATRIX. The maximum length of the CAT 5E(or better) cable is 100 meters.

9 - USB port

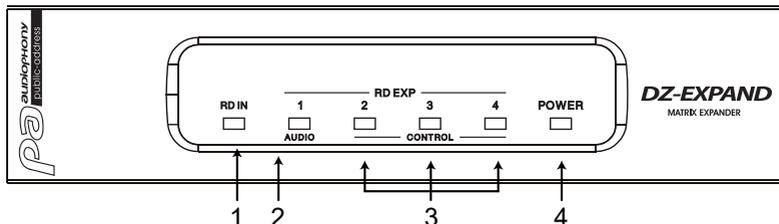
This port is used to load WAV / MP3 files for the chime sound. The maximum duration of the chime is 4 seconds.

Power supply	24 VDC (powered by DZ-MATRIX or DZ-EXPAND)
Audio output	0 dBV, balanced, RJ45 connector
Gooseneck microphone (included)	Unidirectional electret condenser microphone
Total harmonic distortion	< 0.01 %
RD port	Transmits and receives AES3 digital audio and control data to the DZ-MATRIX. RJ45 port.
USB port	Loading WAV / MP3 files for chime sound
Volume control	Microphone volume control and all-zone switch
Zone selector	Can address 1 to 64 different zones
Display	Displays device information: ID, volume, zone selector
Indicators	Signal (green), Input peak (red), Busy (red), Comm (green)
Finishing	Steel, black paint
Dimensions (L x D x H)	176 x 61.8 x 162.4 mm
Net weight	0.8 Kg

5 - 2 - DZ-EXPAND

Expander to connect multiple controllers to the matrix.

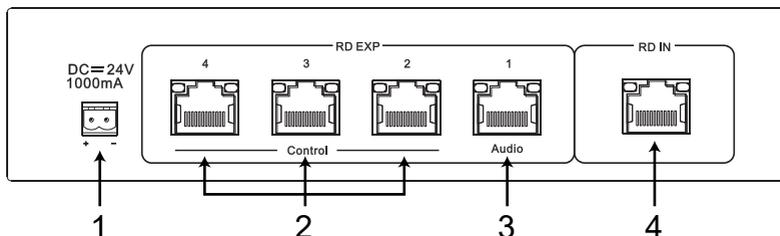
FRONT PANEL



1, 2 and 3 - Indicate the status of the activity of each port.

4 - Indicates that the DZ-EXPAND is powered on

BACK PANEL



1 - DC24V ~ 1000mA power supply input. When there are too many devices connected to the RD EXP port of DZ-EXPAND and the POWER indicator on the front panel of DZ-EXPAND is off, please connect an external DC24V 1000mA power supply.

2 - RD connections for DZ-CTL / DZ-CTL2OUT (remote device control data only) / DZ-PAD.

3 - RD connection for DZ-MICDESK / DZ-CTL2OUT / DZ-BOX22 (remote audio control and data transport devices).

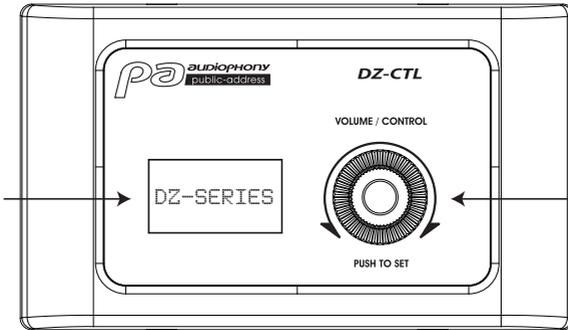
4 - RD connection to the DZ-MATRIX.

5 - 3 - DZ-CTL

Volume control box for DZ-MATRIX.

FRONT PANEL

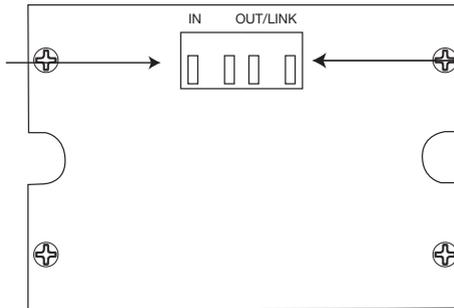
Display: Shows the volume level and signal level for a dedicated output. Also displays the routing settings.



Turn the knob to the left or right to adjust the volume.
Press the knob to access the input and output routing functions.

CONNECTION CARD

RJ45 connector for connection to the DZ-MATRIX.
Maximum 100 meters of CAT 5E(or better) cable length.



LINK RJ45 connection for additional remote controls

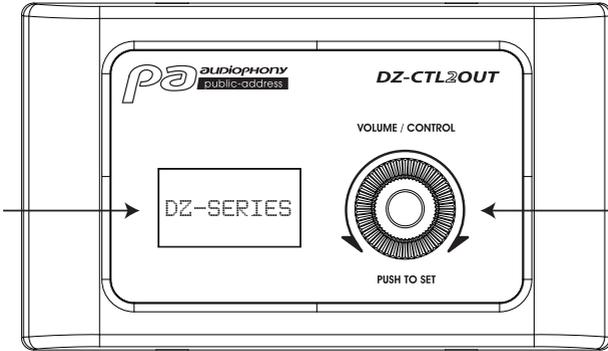
LCD display	
Volume setting	-∞ ~ +15 dB
Ports	
RD to DZ-MATRIX network, RJ45, maximum 100 m CAT 5E(or better) cable	
RD LINK network, RJ45, maximum 100 m CAT 5E(or better) cable	
Dimensions (L x H x D)	147 x 86 x 47 mm

5 - 4 - DZ-CTL2OUT

Volume control box for channels 9/10 or 11/12 of the matrix with two analog outputs.

FRONT PANEL

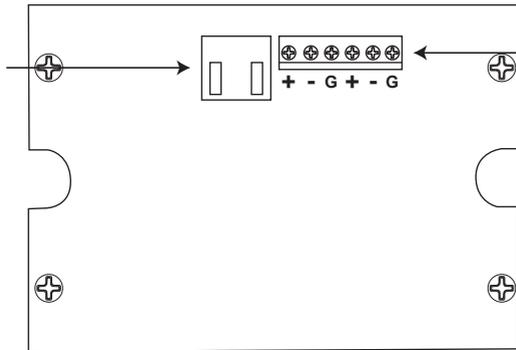
Display: Shows the volume level and signal level for a dedicated output. Also displays the routing settings.



Turn the knob to the left or right to adjust the volume. Press the knob to access the input and output routing functions.

CONNECTION CARD

RJ45 connector for connection to the DZ-MATRIX. Maximum 100 meters of CAT 5E(or better) cable length.



2 analog line outputs assigned to the RD 9/10 or 11/12 ports of the DZ-MATRIX

2 analog outputs	
Balanced	
Connectors	2 terminals 3 pins 5 mm pitch
Impedance	240 Ohms
Maximal power output	+ 20 dBu
Frequency response at 0 dB	20 Hz ~ 20 KHz +/- 1.5 dB
Dynamic range	-107 dB max., A weighted
Crosstalk	-87 dB max. A weighted

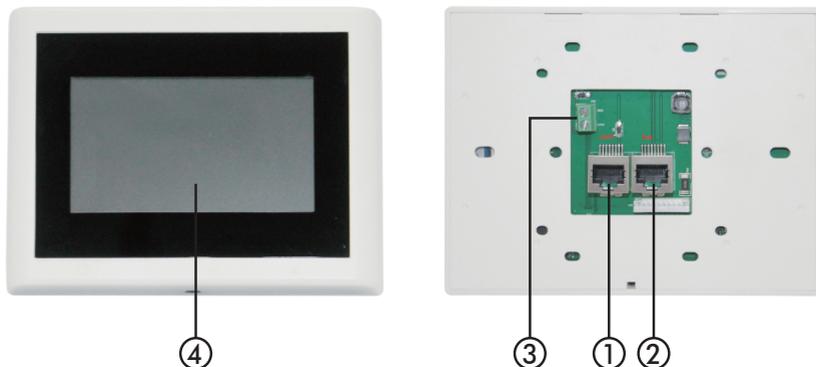
LCD display	
Volume setting	-∞ ~ +15 dB

Ports	
RD to DZ-MATRIX network, RJ45, maximum 100 m CAT 5E(or better) cable	

Dimensions (L x H x D)	147 x 86 x 47 mm
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5 - 5 - DZ-PAD

Touch control panel for DZ-MATRIX



1 - RD IN port

Connection to the DZ-MATRIX or DZ-EXPAND.

The maximum length of the CAT 5E(or better) cable is 100 meters.

2 - RD EXP port

LINK connection for additional controllers (maximum 4 controllers).

3 - Power supply connector

Auxiliary power input +24V DC, required to connect two or more DZ-PADs.

4 - Touch control panel

Displays connection status, ID number, volume, model, channel selection and other information.

5 - 6 - DZ-BOX22

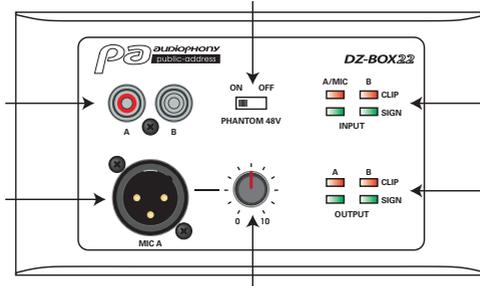
Connection box for microphone or line to be assigned to channels 9/10 or 11/12 of the matrix with 2 analog outputs.

FRONT PANEL

Switchable 48V phantom power for electret microphones.

Analog line inputs A & B assigned to channels 9/10 or 11/12 of the DZ-MATRIX.

Mic input.



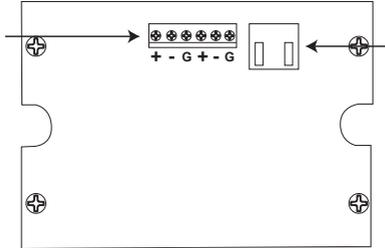
Status indicators for input signals A and B.

Status indicators for output signals A and B.

Microphone input level adjustment

CONNECTION CARD

2 analog line outputs assigned to the RD 9/10 or 11/12 ports of the DZ-MATRIX



RJ45 connector for connection to the DZ-MATRIX. Maximum 100 meters of CAT 5E(or better) cable length.

Inputs

Balanced	
Connectors	3 pins XLR and RCA
Impedance	5.1 KΩ
THD+N	< 0.01 % typ 20-20 KHz, 0 dBu
Max input level	20 dBu
Frequency response	20 Hz ~ 20 KHz +/- 1.5 dB
Dynamic range	-107 dB max., A weighted
Crosstalk	-87 dB max. A weighted

Outputs

Balanced	
Connectors	2 terminals 3 pins 5 mm pitch
Impedance	240 Ohms
Max output level	+20 dBu
Frequency response	20 Hz ~ 20 KHz +/- 1.5 dB
Dynamic range	-107 dB max., A weighted
Crosstalk	-87 dB max. A weighted

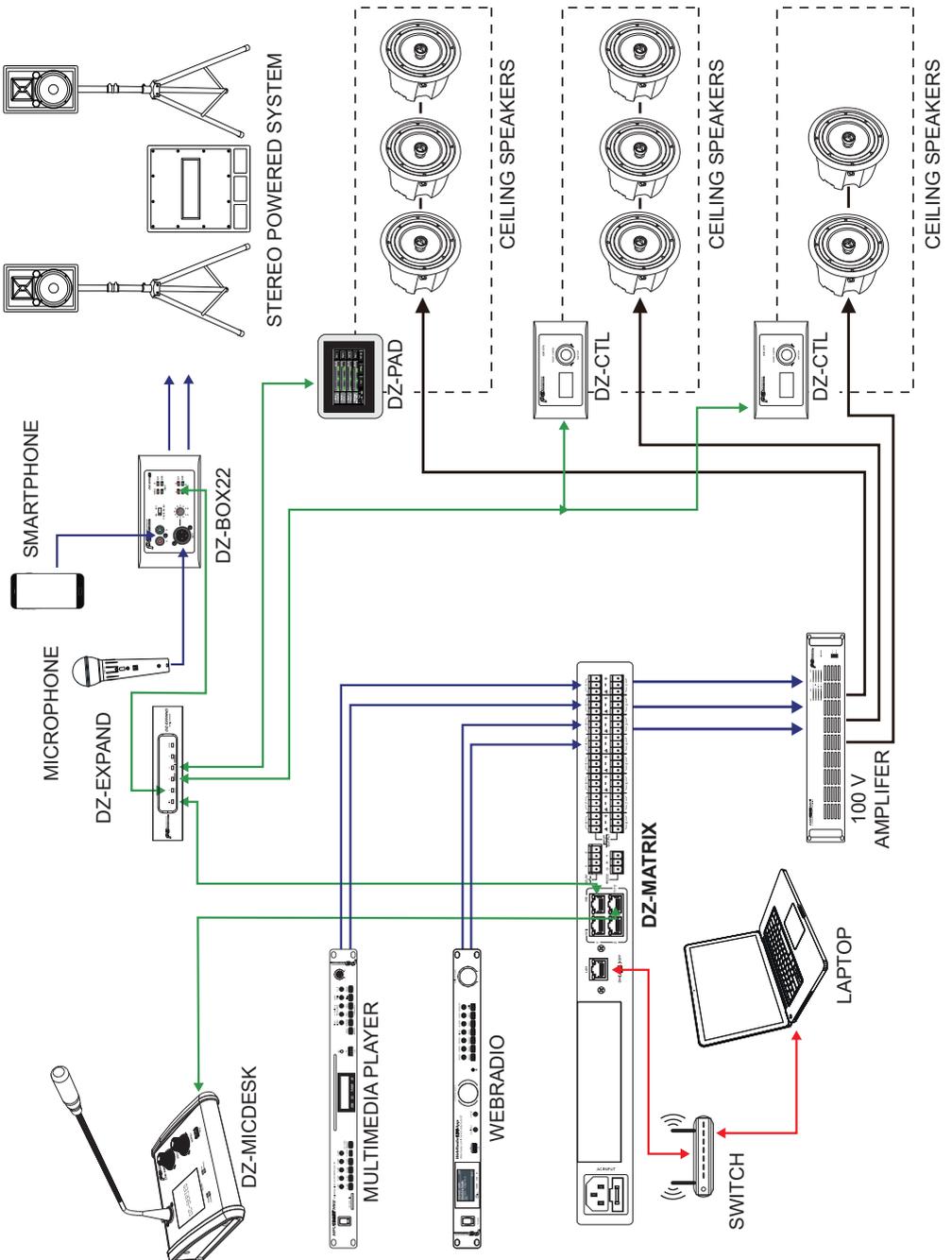
Indicators

Signal	-30 dBu, green
Clip	+17 dBu, red

Ports

RD to DZ-MATRIX network, RJ45, maximum 100 m CAT 5E(or better) cable	
Dimensions (L x H x D)	147 x 86 x 47 mm

4 - Wiring principle



Because AUDIOPHONY® takes the utmost care in its products to make sure you only get the best possible quality, our products are subjects to modifications without prior notice. That is why technical specifications and the products physical configuration might differ from the illustrations.

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