

DZ-MATRIX

MATRIX AUDIO PROCESSOR

1 - Safety instructions

Important safety information



This appliance is designed to operate in a heated space and away from any form of humidity or water splashes. Use in humid, unprotected areas or areas subject to extreme temperature fluctuations may pose a risk to the appliance and any person in the vicinity.



Only competent technical services recognized by CONTEST are authorized to carry out maintenance on this device. Routine maintenance procedures must be carried out in accordance with the precautions described in this manual.



This appliance contains non-insulated parts inside its casing that are live and whose voltage is high enough to pose a risk of electric shock. Under no circumstances should you perform maintenance on this appliance while the power is on.

Symbols used



The IMPORTANT symbol indicates an important recommendation for use.



The WARNING symbol indicates a risk to the physical integrity of the user and any other person present. The product may also be damaged.



The CAUTION symbol indicates a risk of damage to the product.

Instructions and recommendations

1 - Read the instructions:

It is recommended that you read all operating and usage instructions before using the appliance.

2 - Keep the instructions:

It is recommended that you keep the operating and usage instructions for future reference.

3 - Heed the warnings:

Please heed all warnings and operating instructions of the product.

4 - Follow the instructions:

It is recommended that all operating and usage instructions be followed.

5 - Water and humidity:

Do not use this appliance near water, for example, near a bathtub, washbowl, sink or laundry tub; or in a wet location or near a swimming pool, etc...

6 - Installation:

Do not place this appliance on an unstable stand, tripod, bracket, or table. The appliance may fall, causing serious injury to a child or adult and serious damage to the unit. Only use a rolling cabinet, a shelf, a tripod, a stand or a table recommended by the manufacturer or sold with the appliance. In all cases, when installing the appliance, follow the manufacturer's instructions and use only with tools recommended by the manufacturer. Care should be taken when moving the cabinet while the appliance is in use. Sudden stops, excessive force and rough surfaces may cause the unit to tip over.

7 - Ceiling or wall mounting:

It is recommended that you contact your dealer before mounting.

8 - Ventilation:

Slots and openings in the casing are provided for ventilation, to ensure the product can be used with confidence and to prevent overheating. These openings should not be blocked or covered. Care must be taken to never block these openings by placing the product on a bed, sofa, blanket or other such surface. This appliance should not be placed in an enclosed installation such as a suitcase or rack unless proper ventilation has been provided or the manufacturer's instructions have been followed.

9 - Heat:

It is recommended that the product be kept away from heat sources such as radiators, stoves, heat reflectors, or other products (as well as amplifiers) that produce heat.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: To reduce the risk of electric shock, never remove the covers. There are no user-serviceable parts inside the casing. Contact qualified service personnel for maintenance of this appliance.
To reduce the risk of electric shock, do not use an extension cord, multi-socket, or other connecting device unless all metal parts that come into contact with each other are completely out of reach.

Noise level

Public address systems are capable of delivering a sound pressure level (SPL) that is harmful to human health. Seemingly non-critical sound pressure levels can damage hearing if a person is exposed to them over a long period.
Do not stand in the immediate vicinity of operating loudspeakers.

Environmental protection

- HITMUSIC is an advocate of protecting the environment - we only sell clean products that comply with RoHS standards.
- Your product is made of materials that must be recycled. Do not dispose of it as household waste and bring it to your local waste sorting centre. Authorised sorting centres will take back your appliance at the end of its service life in order to dispose of it in an environmentally-friendly manner.



FR

Cet appareil, ses accessoires et cordons se recyclent

REPRISE À LA LIVRAISON

OU

À DÉPOSER EN MAGASIN

OU

À DÉPOSER EN DÉCHÈTERIE

Points de collecte sur www.quefairede mesdechets.fr
Privilégiez la réparation ou le don de votre appareil !

10 - Power supply:

This product operates only on the voltage indicated on the label on the back of the unit. If you are unsure of the voltage of your electrical system, consult your dealer or power company.

11 - Electric cable protection:

Care must be taken to ensure that electrical cables are not likely to be walked on or pinched by objects placed upon or against them, paying particular attention to the cables around the plugs and their exit points on the appliance.

12 - Cleaning:

Unplug the appliance from the wall outlet before cleaning. Do not use accessories not recommended by the manufacturer. Use a damp cloth to wipe the surface of the appliance. Do not place the device underwater.

13 - Period of non-use:

Unplug the power cord from your player if you are not going to use it for a long period.

14 - Ingress of objects or liquids:

Never allow objects of any kind to enter this appliance through the openings as they may cause a fire or electric shock.
Never spill liquids of any kind on the product.

15 - Damage requiring maintenance:

Refer all servicing to qualified service personnel in the following cases:

- When the power cord or plug is damaged.
- If liquid has been spilled or objects have fallen into the product.
- If the product has been in contact with rain or water.
- If the product does not operate normally by following the instructions.
- If the product has received a shock.

16 - Maintenance/servicing:

Do not attempt to service this product yourself. Doing so would expose you to dangerous voltage. Refer all servicing to qualified service personnel.

17 - Operating environment:

Operating temperature and humidity: +5 to +35°C; relative humidity not exceeding 85% (unobstructed ventilation hole).
Do not install the unit in a poorly ventilated space or a place subject to high humidity or direct sunlight (or strong artificial light).

2 - Introduction

The DZ-MATRIX is the heart of the matrix system. Its peripheral controllers, input/output boxes, and microphone console complement this series dedicated to public address systems, message broadcasting, and zone management.

The comprehensive software allows all inputs and outputs to be assigned and the signal to be processed according to the needs of the installation.

The numerous networking options make it ideal for installations in shopping centres, restaurants, hotels, museums, conference rooms, and any location where precise configuration of inputs and broadcasting zones is required.

3 - General features

3-1 The matrix system

Projects using DSP interfaces generally require a minimum number of inputs and outputs. This determines the choice and number of dedicated matrices. The DZ-MATRIX offers a wide range of input/output options to cover most applications. It can be used in two main modes:

3-1-1 On the LAN network:

- Standard: 8 analogue inputs/8 analogue outputs on the DZ-MATRIX rear panel ports.
- Optional: 4 digital inputs/4 digital outputs via remote devices.
- Maximum system inputs/outputs: 12 x 12.
- Several matrices can be connected on the same network, but they will remain independent of each other.

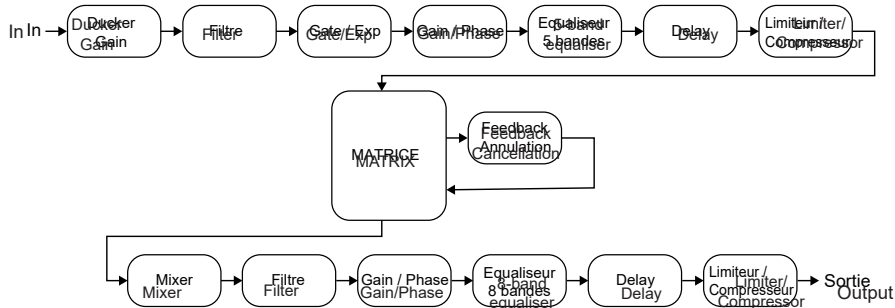
3-1-2 On the DANTE network:

After installing the DZ-DANTE modules in the DZ-MATRIXs, the latter can be interconnected using the Dante network. A maximum of 16 DZ-MATRIXs can be connected via this network, i.e. a maximum of 192 inputs and 192 outputs.

In this configuration, all the matrices interact (e.g. microphone calls from a DZ-MICDESK).

3-2 DSP functions

The system uses a simple, intuitive parameter-setting interface. The user-friendly graphical interface provides direct access to all the main functions and settings to optimise the time spent on configuring your installations.



All the functions can be configured using the software. Settings can be stored as presets. They can be duplicated or modified.

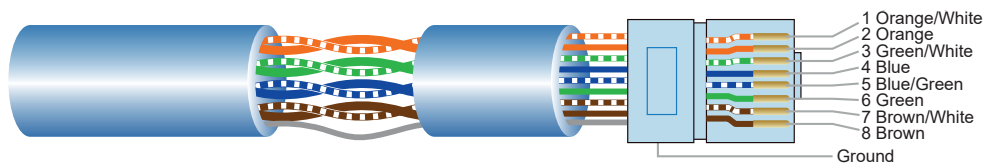
3 - 3 - The network

The DZ-MATRIX uses 3 types of network connection:

1 - RD (Remote Device), based on the RS-485 protocol and symmetrical AES3 for digital audio control and transport. This port is powered by 24 V DC.

RD port wiring:

- 1- AES TX +
- 2- AES TX-
- 3- AES RX+
- 4- RS485 TX
- 5- RS485 RX
- 6- AES RX-
- 7- DC24V
- 8- MASSE



Use a CAT 5e (or higher) shielded cable to connect peripherals to the RD ports. The maximum length is 100 metres.

WARNING: Never connect an RD port to a router, as this may damage the devices.

2 - TCP/IP for LAN control.

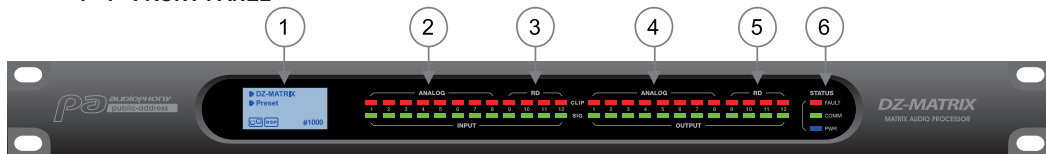
10/100M adaptive Ethernet connection with DHCP function.

3 - DANTE Network

For optimum system performance, use a Gigabit router.

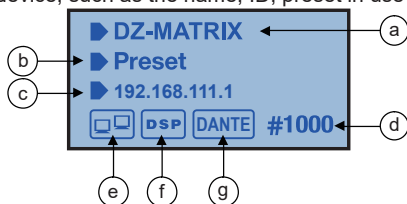
4 - Appliance overview

4 - 1 - FRONT PANEL



1 - Display.

Displays information about the device, such as the name, ID, preset in use and communication status.



a - Device name.

b - Name of the preset in use.

c - IP address of the DZ-DANTE card when installed.

d - Device ID. The ID is automatically obtained when the device is properly connected.

e - Connection indicator between the PC and the device. If the connection is good, the two icons will flash alternately.

f - DSP connection indicator.

g - DANTE icon when DZ-DANTE is installed.

2 - ANALOG

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

3 - RD

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

4 - ANALOG

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

5 - RD

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

6 - STATUS

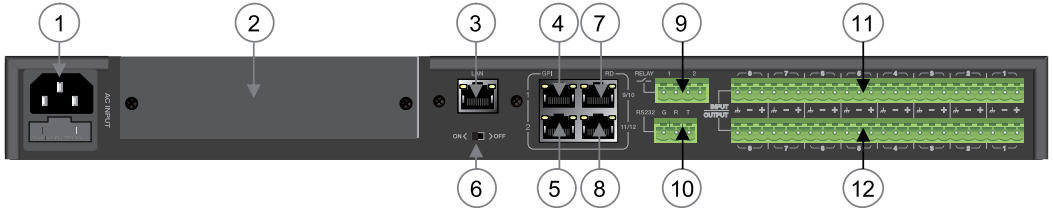
FAULT: Red LED indicating a DSP malfunction. The information is shown on the display.

COMM: Green LED indicating communication status between the PC or mobile device and the DZ-MATRIX.

This LED also indicates communication between several matrices connected through the DZ-DANTE card. The LED flashes during data transfer. It remains off if the matrix is disconnected from the network.

POWER: Blue LED indicating that the matrix is powered up.

4 - 2 - REAR PANEL



1 - Power input

The input voltage can vary from 100 to 240 V AC, 50-60 Hz.

If you need to replace the fuse, replace it with a fuse of the same rating (T1.6 A).

2 - Slot for optional DZ-DANTE extension

DZ-DANTE is part of the DZ-MATRIX system.

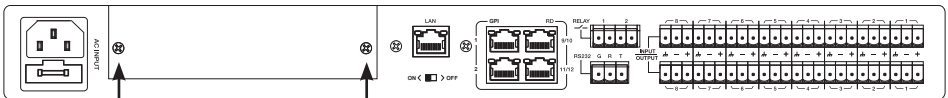
This extension allows 8 digital inputs and 8 digital outputs to be added to the DZ-MATRIX. It also handles a broadcast input/output for Emergency functions.

The DZ-DANTE card can be used to cascade up to 16 matrices, which are themselves equipped with the DZ-DANTE card.

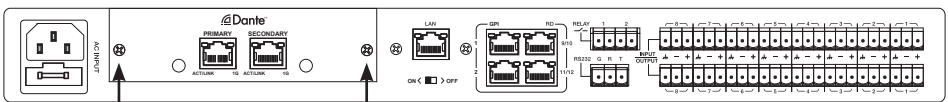
DZ-DANTE is equipped with the Brooklyn II Audinate® module.



Before installing the card, make sure that the DZ-MATRIX is switched off.



1 - Remove the cover



2 - Insert the card in the slot

3 - LAN

10/100M adaptive Ethernet connection port with DHCP function.

- The yellow light going out indicates a transmission problem. If it is on and the green light is off, the device has detected the network, but no connection is available.
- If the green light is on, the connection to the network is established.

4 & 5 - GPI

This function is used to control input/output priority/mute all outputs of channels 1-8 by dry contact or relay. (1.5 V voltage and 200 Ω resistance).

See diagram on page 25.

6 - ON <> OFF

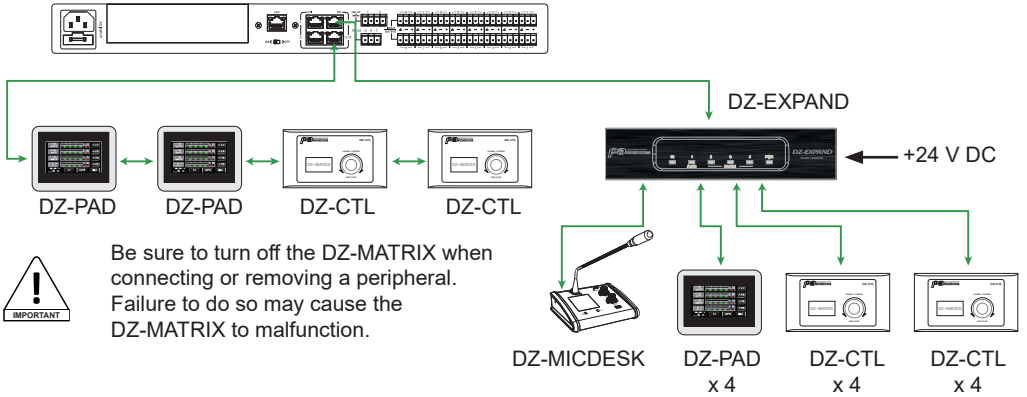
Enables or disables the Ethernet port.

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

RD ports can be used to connect a remote control accessory such as DZ-BOX22, DZ-CTL, DZ-CTL2OUT, DZ-EXPAND or DZ-MICDESK.

These ports transmit and receive AES3 digital audio and RS485 control data.

DZ-MATRIX



9 - RELAY

Dry contacts, the ON/OFF state can be individually controlled in the System menu. They are generally used as switches for third-party electrical equipment.

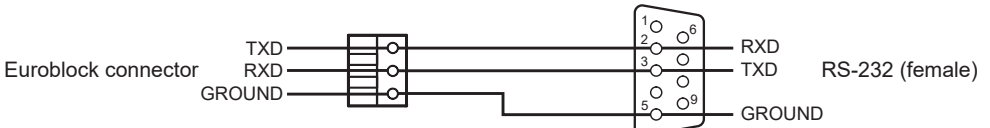
Warning: 24 V DC, control current: Less than 500 mA.

10 - RS232

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

See controls on page 50.

RS-232 connector wiring



11 - INPUT

Euroblock connectors with 8 balanced analogue inputs.

12 - OUTPUT

Euroblock connectors with 8 balanced analogue outputs.

5 - Software

5-1 Introduction to the software

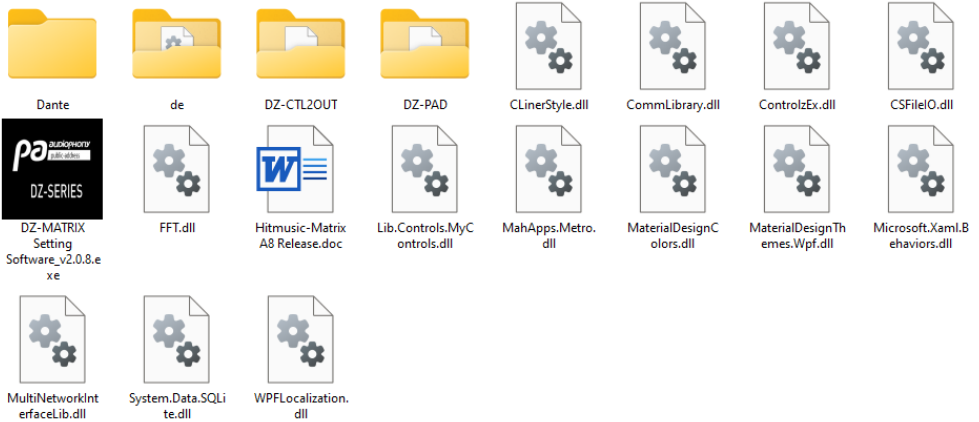
The software provides users with a quick interface to control one or more machines, configuration settings can be stored in preset files, which is very convenient for recalling or resetting the various applications.

5-2 Operating system and installation

The software can be downloaded from the Audiophony-pa website:

https://audiophony-pa.com/software/DZ-MATRIX_Setting_Software_v2.0.8.zip

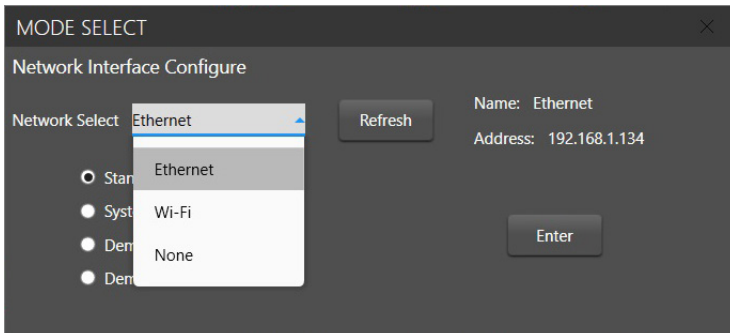
After downloading the folder, unzip the "DZ-MATRIX Setting Software_vX.X.X" folder on your computer and run the "DZ-MATRIX Setting Software_vX.X.X.exe" file.



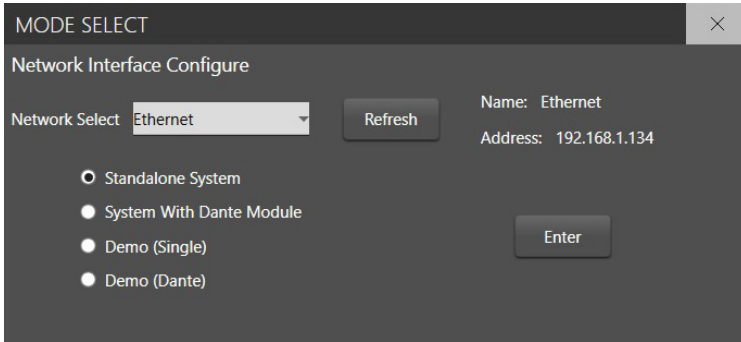
5-3 Choosing the operating mode when opening the software

Once the connection has been established. When the software is opened, a dialogue box as shown below appears.

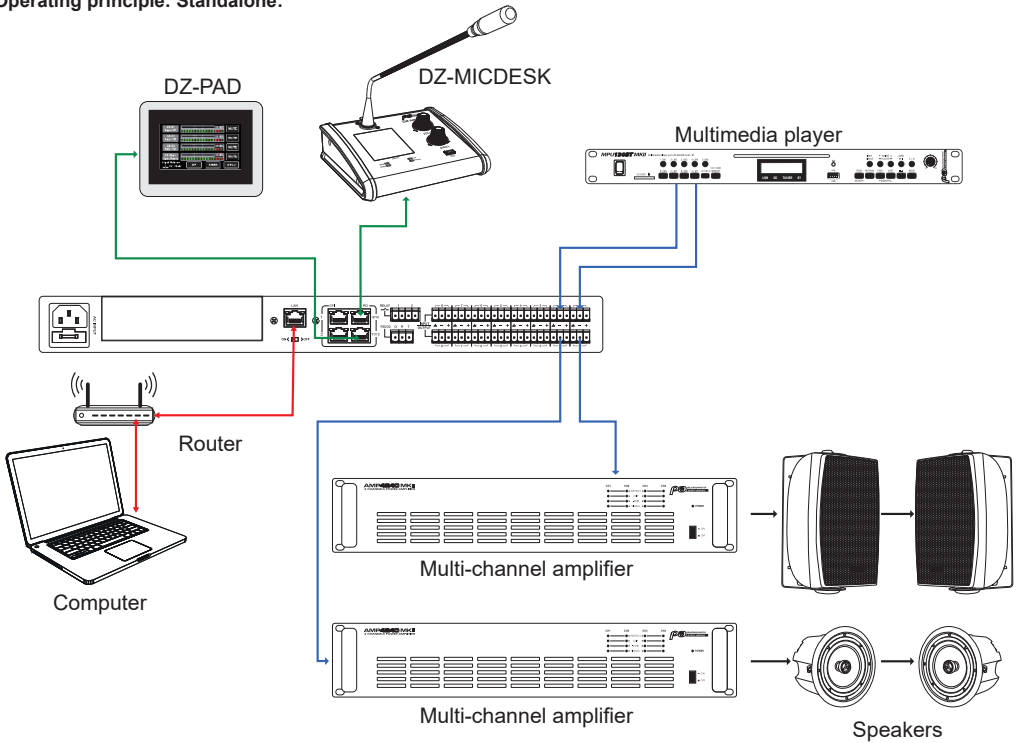
Select the communication mode.



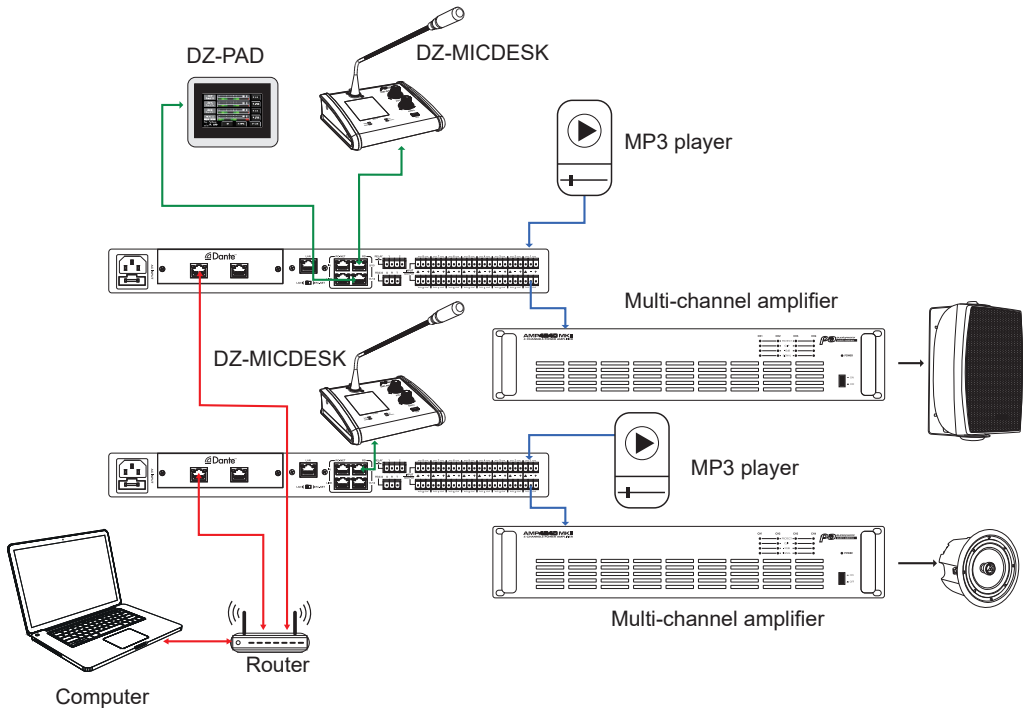
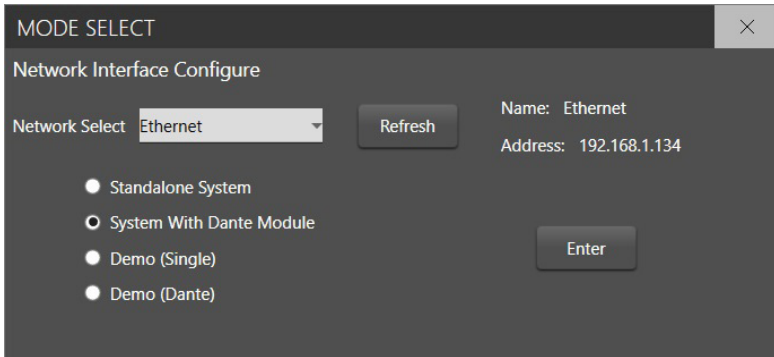
Then select the operating mode:



Operating principle: Standalone:



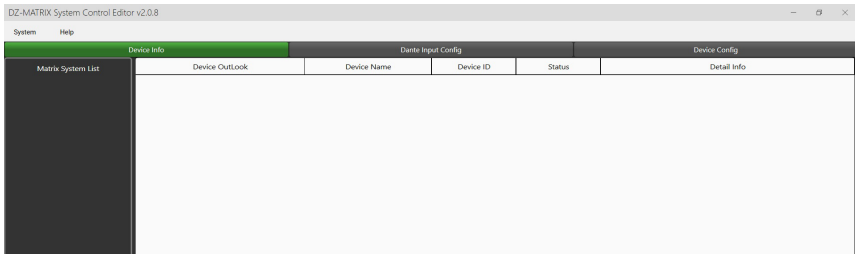
2 - Mode with the DZ-DANTE module: Several matrices are interconnected



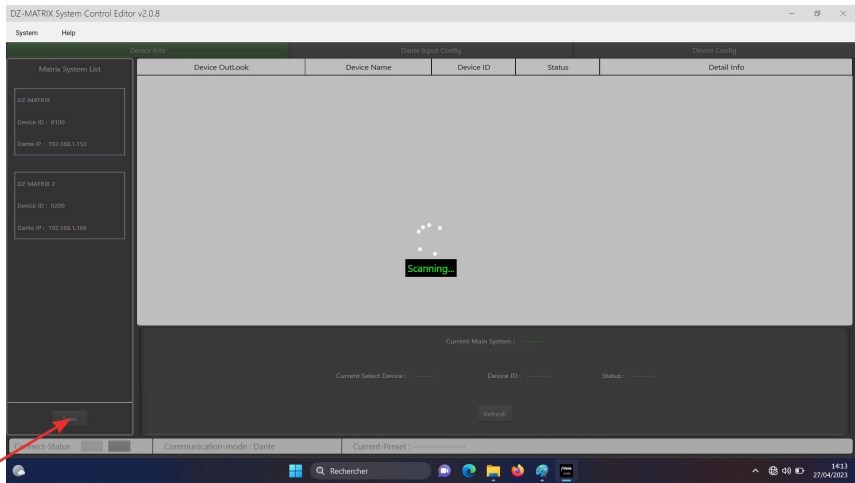
Click "Enter" to launch the software.

To connect the IP address, use the router's internal local network. The router and PC must use the DHCP function.

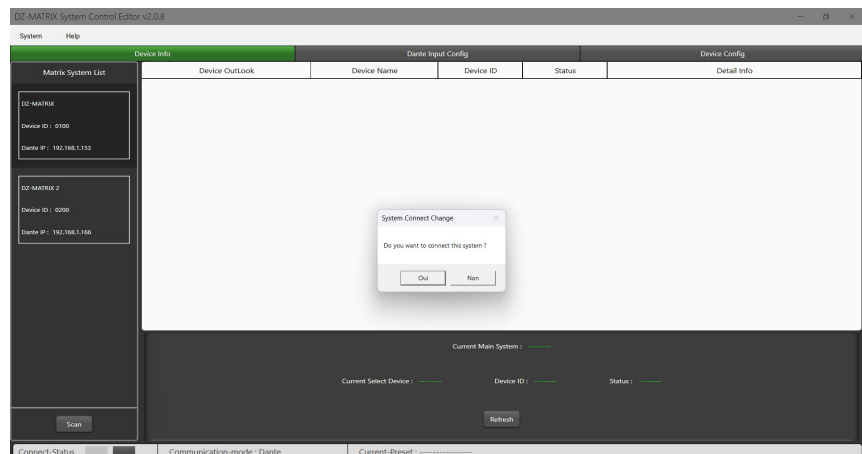
On opening, the software interface will look like this:



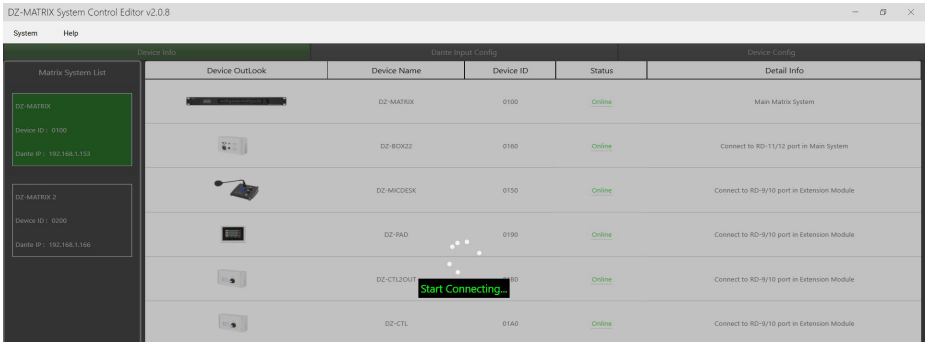
Click on "Scan" to identify the connected devices:



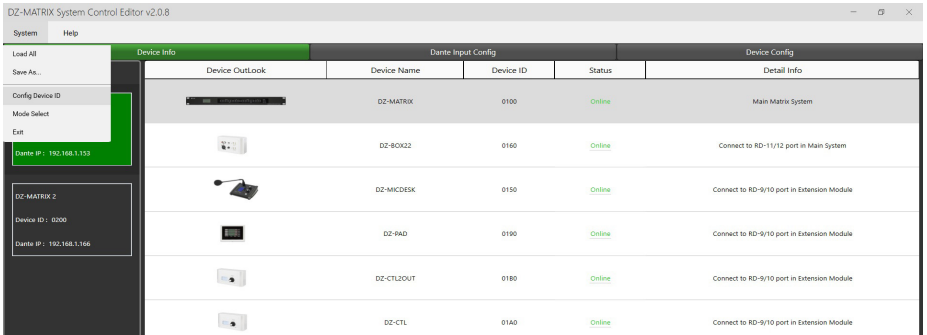
Select the matrix you want to manage.



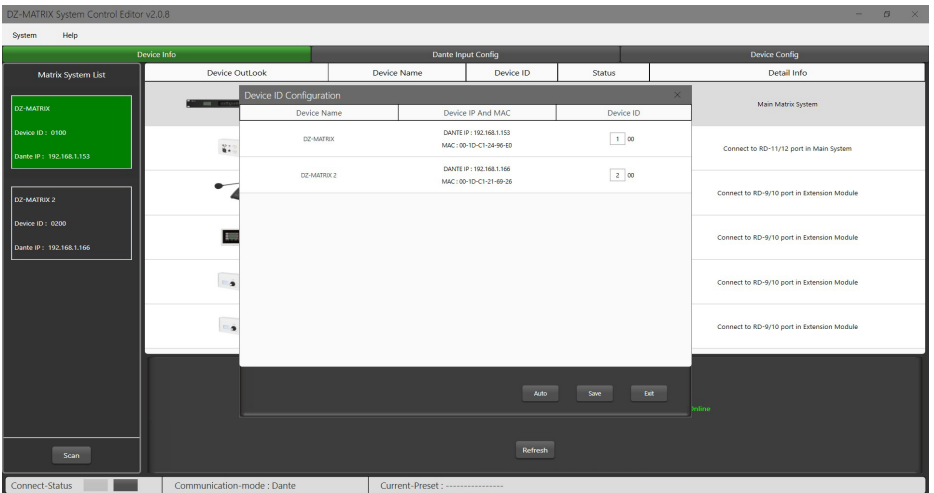
The connection process identifies all the connected devices:



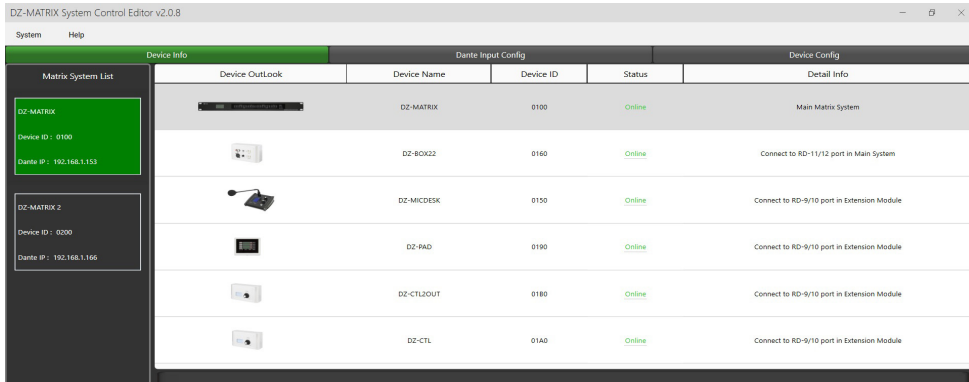
Establish the identity of each device: "Config Device ID" menu



For each matrix connected, specify its identity then click on "Save".



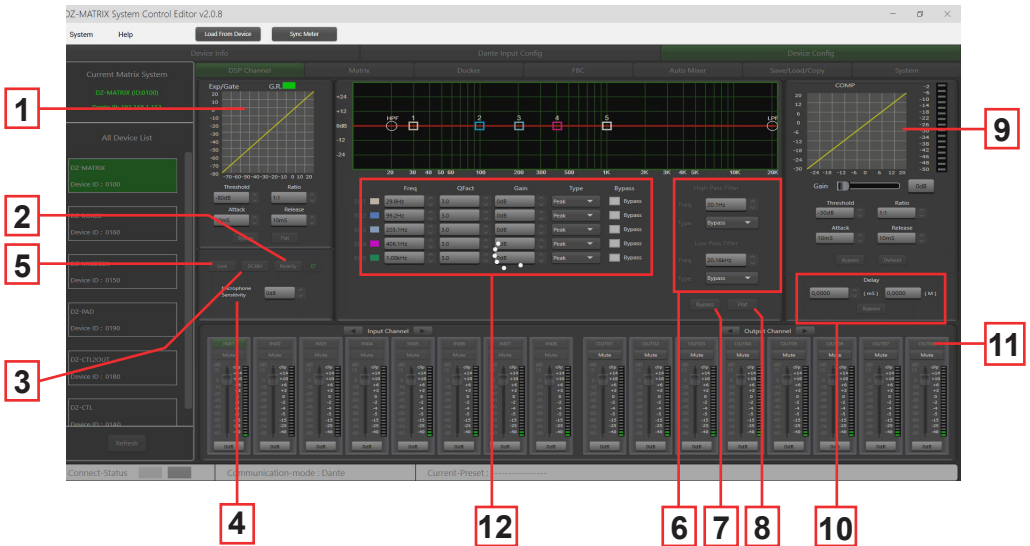
Select a matrix to identify the elements connected to it



Click on "Load From Device" to retrieve the settings saved in the matrix.



5-4 DSP functions on inputs



1 - EXP/GATE: The Expander/Gate function attenuates signals below the threshold value and lets signals above the threshold value through. When the signal is above the threshold, the output signal remains identical to the input signal. Setting the ratio value to its maximum turns the Expander into a Noise Gate.

- **Threshold:** -80 dB to +20 dB. Click this button to set the gate trigger level for the selected channel.
- **Ratio:** Gain ratio between the input signal and the amplified signal, from 1:1 to 10:1.
- **Attack:** Response time when the signal is greater than the specified threshold, from 10 to 150 ms. The attack time is the time it takes for the gate to open completely once the threshold has been reached.
- **Release:** Expander response time when the signal falls below the specified threshold, from 10 ms to 1000 ms.
- **Bypass:** Disables the Expander/Gate.
- **Flat:** Restores the default settings.

2 - Polarity: Reverses the signal phase by 180°.

3 - DC48V: Turns on 48 V phantom power for condenser microphones.

4 - Microphone sensitivity: Input sensitivity for a microphone from -48 dB to 0 dB.

5 - Link: Used to link two inputs. This will link the setting and mute. Inputs 1-2, 3-4, 5-6, 7-8, 9-10 and 11-12 can be linked.

6 - Filters: High-pass and low-pass filter: These filters are used to cut out unnecessary frequencies that are not reproduced by the source. For example, a voice microphone will be set to 100 Hz for the high-pass filter and 4 kHz for the low-pass filter.

- **Freq:** Cut-off frequency.
- **Type:** Type of filter.

7 - Bypass: The signal is not processed and goes on to the next processing module.

8 - Flat: All parameters are reset to factory settings.

9 - COMP:

A compressor can limit the dynamic range of a signal above a certain level. When the signal exceeds the threshold, it is compressed by a ratio greater than 1. Below the threshold, the input and output signals remain identical. Setting the ratio to its maximum value turns the compressor into a limiter.

- **Threshold:** Threshold at which the signal is compressed, from -30 dB to +20 dB.
- **Ratio:** Compression ratio. For example, a ratio of 3:1 means that if the input level is 3 dB higher than the threshold, the output signal will be 1 dB higher than this threshold. The ratio value can be set between 10:1 and 1:1.
- **Attack:** Compressor response time when the signal exceeds the selected threshold. From 10 to 150 ms.
- **Release:** Compressor response time when the signal is below the selected threshold, from 10 ms to 1000 ms.
- **Bypass:** Disables the compressor.
- **Default:** restores the compressor's default values.
- **Gain:** Adjusts the output level of the compressor.

10 - Delay: A delay can be set for each input. It can be set in milliseconds (up to 1361 ms) or metres (up to 467 m).

- **Bypass:** The signal is not processed by the Delay function.

11 - Input and output channels: Click on the channel name (input or output) to display the DSP window for the chosen channel.

- **Mute:** mutes the signal.
- **Fader:** Adjusts the channel level.

You can enter a value in dB to adjust the channel level. To do this, double-click on the button below the fader.

- Changing the channel name:

- Double-click on the channel name.
- Enter the name you want to assign to the channel.
- Confirm with "Save".

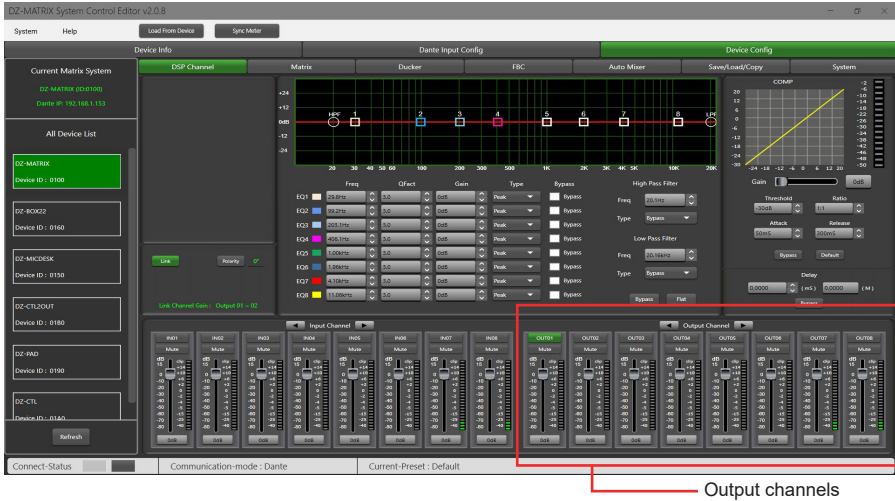


12 - Parametric equalizer: 5 parametric filters are available to adjust the curve of your input signals.

- **Freq:** filter centre frequency between 19.7 Hz and 20.16 kHz
- **Qfact:** This is the filter quality factor (Q). The higher the value, the finer the processed area of the spectrum. Can be set from 0.4 to 128.
- **Gain:** Gain or attenuation of the selected frequency, from -18 dB to +18 dB.
- **Type:** Filter type, Peak/Low/High.
- **Bypass 1-5:** Temporarily bypasses the individual processing of filters 1-5 without having to use the general "Bypass" function.

5-5 DSP functions on outputs

On the "DSP Channel" page, click on the name of the output channel to enter the DSP settings for the corresponding output channel.

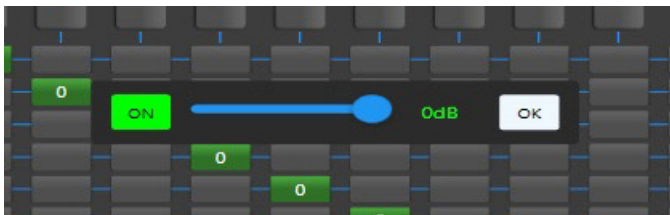


This menu is identical to the input channels, but without the Expander/Gate section. The parametric equalizer here has 8 bands, instead of 5 for the inputs. Please refer to the description of the DSP functions on the inputs (5-4).

5-6 Matrix

This part of the software is used to assign inputs to outputs by means of a graphical representation in matrix form. By clicking on the grey boxes, a small window will prompt you to enable the link from the input to the output, adjust the volume and confirm your action.

Several inputs can be assigned to several outputs.
If the connection is active, the box will turn green, with the output level displayed. Otherwise, it will remain grey.

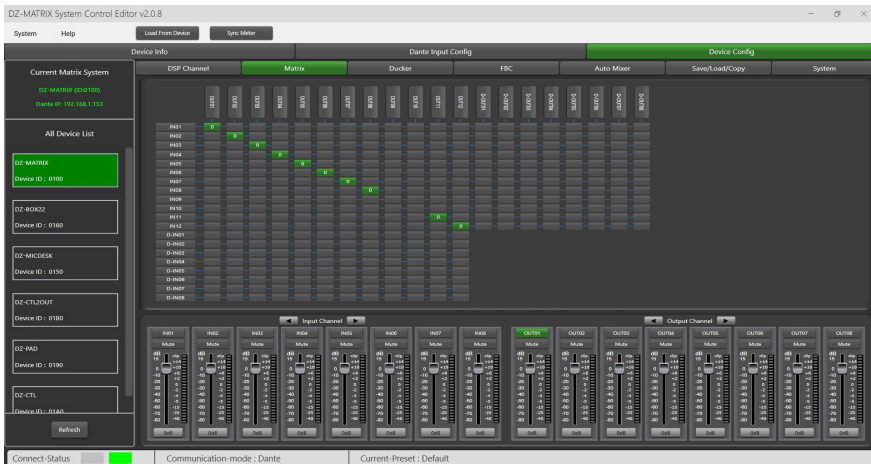


1 - Standalone mode:

- The matrix can route 12 input signals to 12 separate outputs. This is referred to as a 12 x 12 matrix.
- IN (OUT) 01 to IN (OUT) 08 are analogue inputs/outputs available on the rear panel.
- IN (OUT) 09 to IN (OUT) 12 are digital inputs/outputs (RD ports) and are converted into analogue signals.

2 - DANTE system mode:

- The matrix can route 20 input signals to 20 separate outputs. This is referred to as a 20 x 20 matrix.
- IN (OUT) 01 to IN (OUT) 08 are analogue inputs/outputs available on the rear panel.
- IN (OUT) 09 to IN (OUT) 12 are digital inputs/outputs (RD ports) and are converted into analogue signals.
- D-IN (OUT) 01 to D-IN (OUT) 08 are DANTE digital inputs/outputs and are converted to analogue signals.



5-7 DANTE configuration

5-7-1 DANTE configuration in software



1 - DANTE receivers: Displays the matrices equipped with a DZ-DANTE module connected to the network. Used to select a matrix in order to configure the inputs and outputs.

2 - Receiver inputs: Displays the digital inputs of the receiver matrix.

3 - DANTE transmitters: Used to select the DANTE transmitter assigned to each input of the matrix.

There are several assignment options for each receiver input:

- **None:** No DANTE assignment.

- **Third-party device:** Indicates that routing is active on the chosen input. This assignment has been made on the DANTE Controller. It could be an internal routing in the same matrix or with another DANTE product (for example a ConvD2in).

- **DZ-MATRIX (ID:DXXXX):** Used to select the transmitting matrix.

- 4 - **Transmitter output:** Used to choose the digital output of the matrix selected in the DANTE transceiver.
- 5 - **Refresh:** Refreshes the page if you are working in parallel with the DANTE Controller.
- 6 - **Save To Device:** Saves the displayed configuration in the DZ-MATRIX memory.
- 7 - **Save to PC:** Saves the configuration to a folder on the connected computer.
- 8 - **Load from PC:** Recalls a previously saved configuration.

5-7-2 DANTE configuration in the DANTE Controller interface

The DANTE Controller window uses the settings made in the DZ-MATRIX System Control Editor software. BroadcastInput1 or BroadcastOut1 visible on the DANTE Controller are not assignable. These inputs/outputs are reserved for Emergency mode and DZ-MIC-DESK microphone calls.



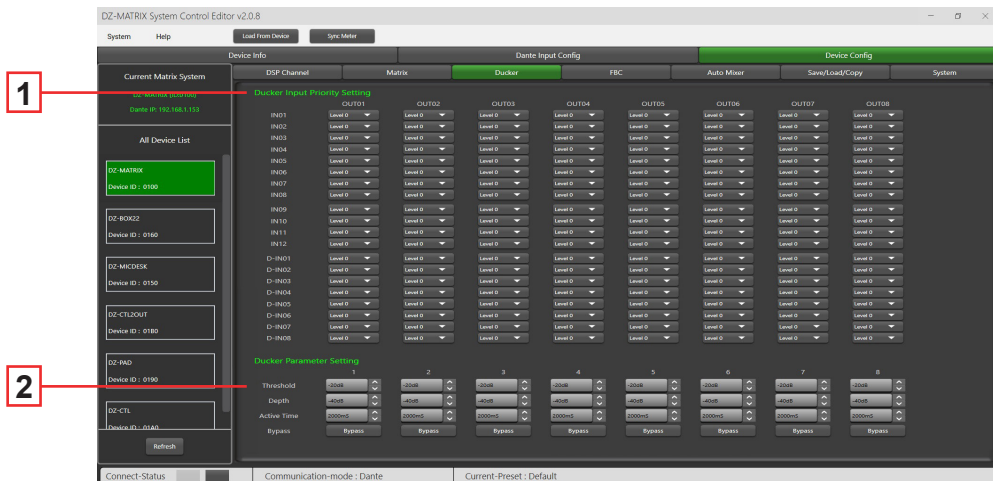
Notes: The configuration shown on the DANTE Controller corresponds to the configuration shown on the DZ-MATRIX System Control Editor software.

5-8 Ducker

The Ducker is designed to attenuate one or more channels when priority signals are activated. The main applications are automatic speaking for conferences or priority messages.

For example: The signal from a microphone can attenuate the background music (talkover).

Once the message has been broadcast, the volume of the background music is automatically restored.



1 - Priority management of inputs on each analogue output 1 to 8. There are 15 priority levels, the highest being 15. This function does not apply to the RD outputs.

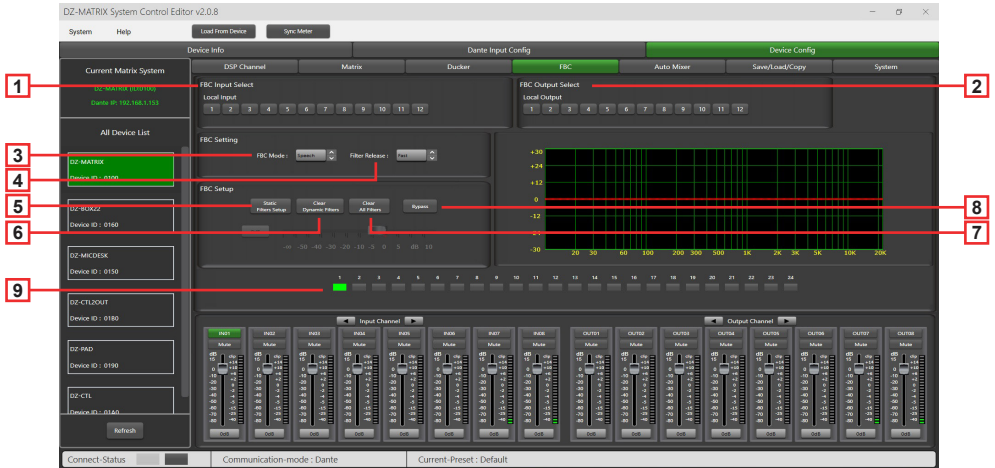
- 2 -
- **Threshold:** Attenuation threshold. From 0 dB to -80 dB.
 - **Depth:** Attenuation level.
 - **Activation Time:** Rate of gain change to attenuate inputs.
 - **BYPASS:** The signal is not processed.

5-9 FBC module

The FBC (Feedback Compression) function allows feedback to be effectively suppressed and processed. The dynamic filter and the static filter have the same function. They filter out the unwanted components or characteristics of a signal in a certain frequency range. The differences between them are as follows:

- 1 - **Static filters:** The frequency points that have been measured remain fixed in their position.
- 2 - **Dynamic filters:** The filter will be removed when the feedback disappears. It is not fixed to a specific frequency.

Even in difficult environments, it can significantly suppress feedback and effectively prevent clipping of audio equipment and speakers.



1 - FBC Input Select: You can choose from 12 inputs. When the corresponding input is switched on, the filter for that channel is activated. The default filter is a dynamic filter. The corresponding LED from 1 to 24 turns green.

2 - FBC Output Select: You can choose from 12 outputs. When the corresponding output is switched on, the filter for that channel is activated. The default filter is a dynamic filter. The corresponding LED from 1 to 24 turns green.

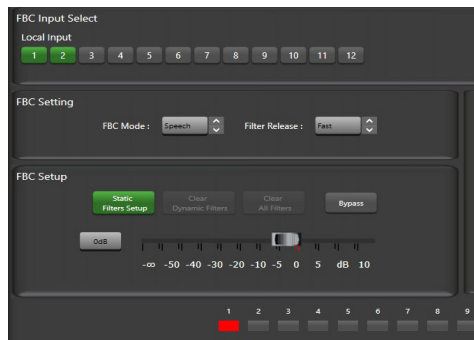
FBC Settings:

3 - FBC Mode: The Speech or Music functions are suitable for meetings and musical performances, where feedback and noise are automatically analysed.

4 - Filter Release: Used to determine the rate at which the dynamic filter is cleared. Fast/Medium/Slow

FBC Parameters:

5 - Static Filter Setup: By default, this is a dynamic filter (the light is green). Click on Static filter configuration to switch to the static filter (the light turns red).



6 - Clear Dynamic Filters: Reset all dynamic filters.

The automatic clearing time of the dynamic filter is limited to 2~3 s.

At this point, you can press this button to clear the dynamic filter immediately.

7 - Clear All Filters: Resets all dynamic and static filters.

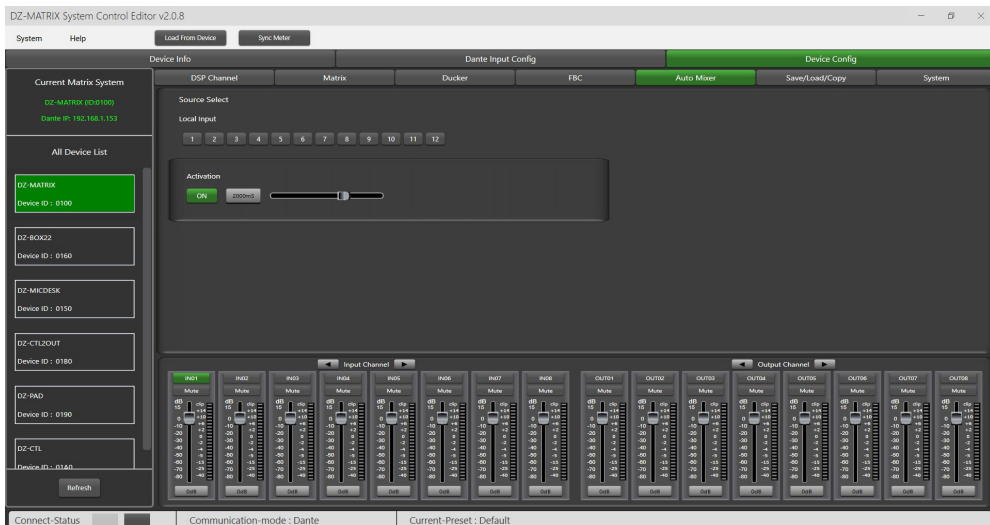
8 - Bypass: Disables the FBC function.

9 - Indicators 1 to 24: Once the system has detected the frequency to be processed, if it is a static filter, the indicator boxes 1 to 24 turn red and the filtering effect is reflected on the graph. For dynamic filters, the attenuation also appears on the graph and the indicator boxes turn green.

Warning: The DZ-MICDESK does not have the FBC function. When the DZ-MICDESK is connected, the FBC function of the corresponding channel cannot be activated.

5-10 Auto Mixer

The Auto Mixer automatically controls the gain of multiple microphones in real time, significantly reducing feedback, noise and filtering of adjacent microphones. It maintains a constant system gain, even when several speakers are speaking simultaneously, and crossfades seamlessly without any signal compression.



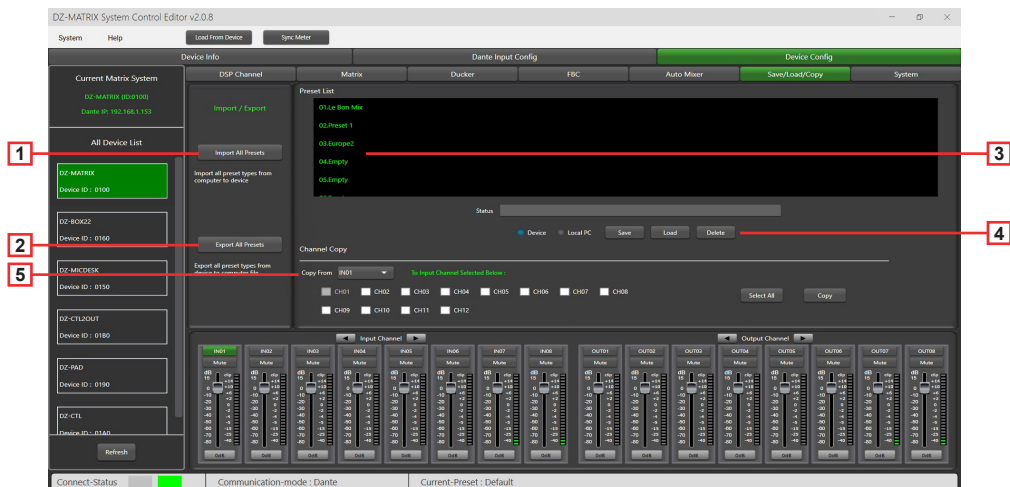
Source Select

Local Input: Selects the input channels (1-12) to be processed.

Activation Time: Sets the start time for mixing the signal from the selected input channel. Press ON to activate the time setting and use the horizontal slider to adjust the time value.

5-1 SAVE / LOAD / COPY

This menu is used to manage backup parameters. This data can be stored directly in the DZ-MATRIX's internal memory in the form of presets. Its memory contains a total of 24 presets.



- 1 - **Import All Preset:** Imports all preset types from the selected device to your computer.
- 2 - **Export All Preset:** Exports all preset types from the computer to the selected device.
- 3 - **Preset List:** Displays all saved presets.

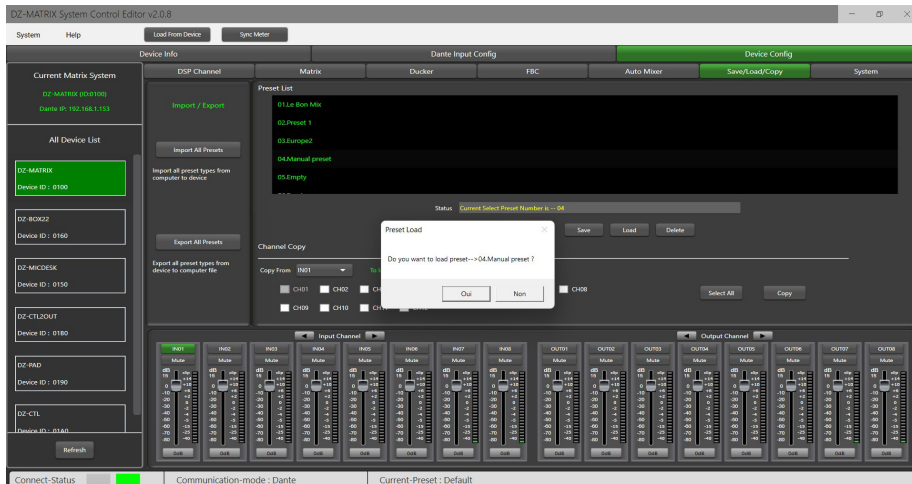
4 - Device/Local PC

Warning:

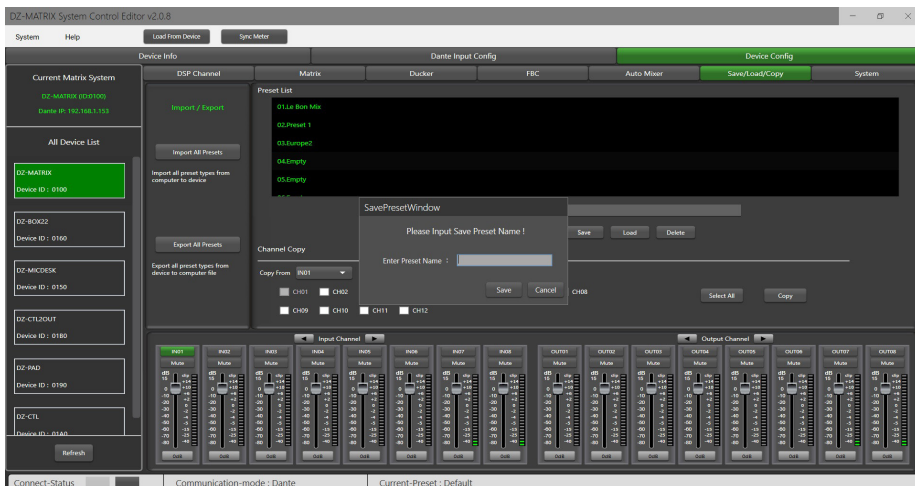
Save/load/delete operations are limited to the preset list. All device configuration data, with the exception of the preset list, must be managed via "Load All" and "Save As..." in the "System" menu.

If a device is selected:

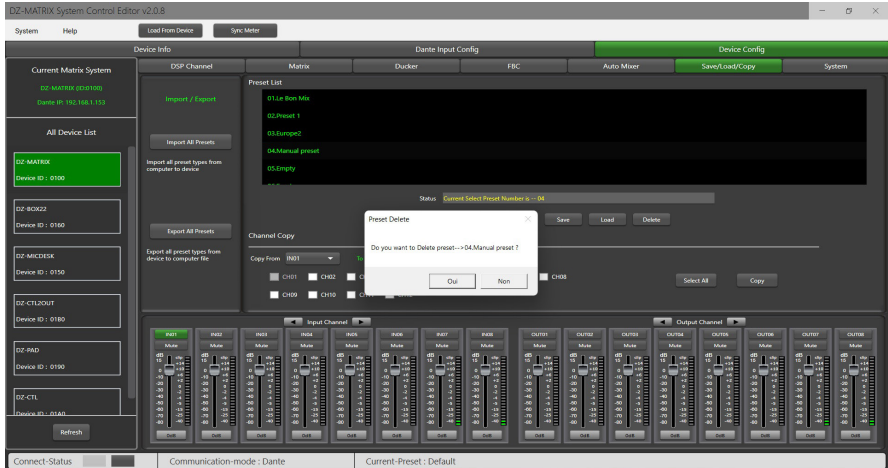
Load: First select a preset, click OK to load it, and wait a few seconds until loading is complete.



Save: Select a preset from the list, then customise the name and click Save.

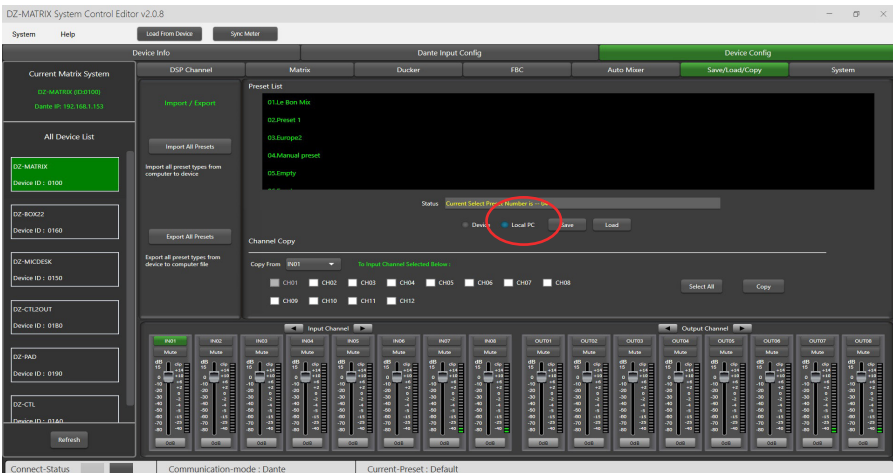


Delete: Select a preset and click Delete, the preset will be deleted.



- If "Local PC" is selected:

Load: Select Local PC and click Load. The preset will be loaded locally from the computer.



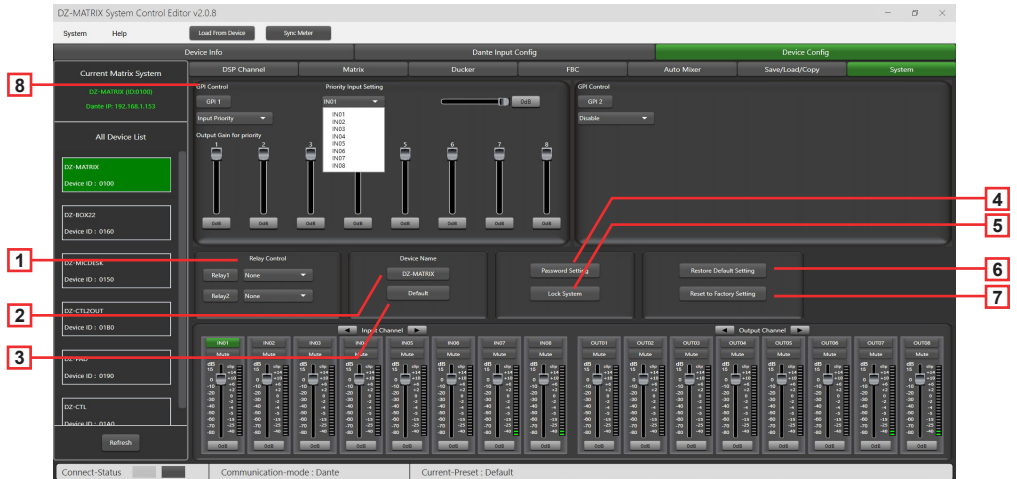
Save: When Local PC is selected, click Save to save the current preset on the computer.

6 - Channel Copy: Input channels (1~12) can be selected and copied to any input channel (1~12). The same applies to outputs.

Select All: Click on this button to select all channels (CH1~CH12).

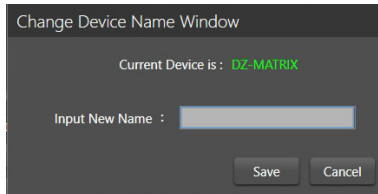
Copy: After selecting the input/output channel to any other channel, click Copy, all parameters will be copied.

5-12 System



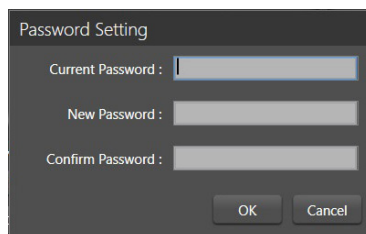
1 - Relay Control: IN01-IN08 or Paging (DZ-MICDESK) can be selected. When there is a broadcast signal on the selected channel, the corresponding relay terminal on the rear panel of the DZ-MATRIX makes contact and can be used to control the starting or stopping of external devices.

2 - Device Name: You can customise the device name here. After modifying it, press Save to confirm.

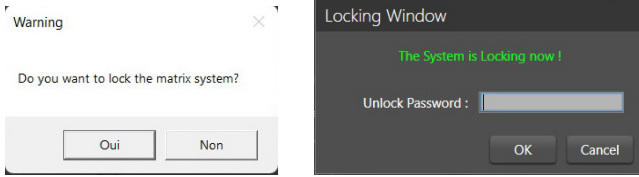


3 - Default: Replaces the device name with the default setting: DZ-MATRIX.

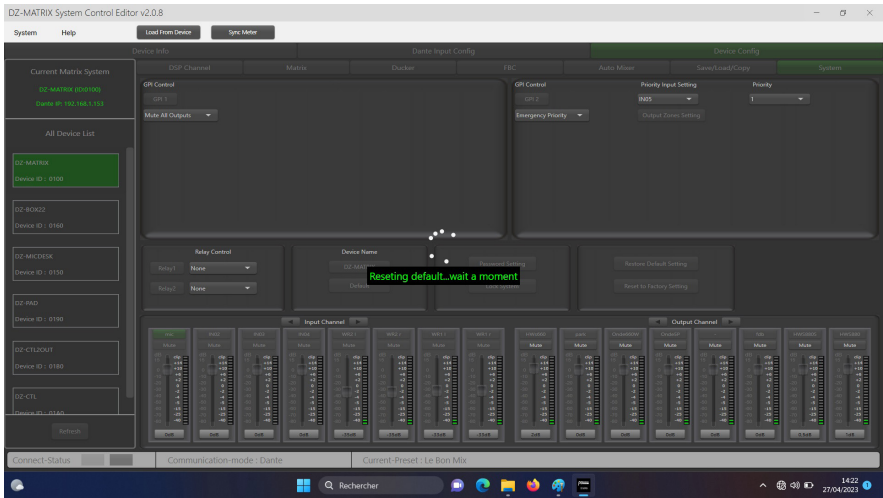
4 - Password Setting: Used to change the password.



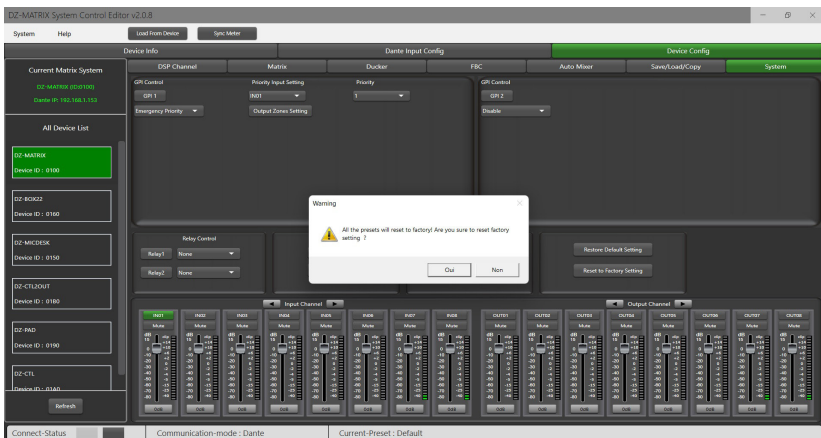
5 - Lock System: Press this button to lock the system. If you forget the password, you can use the admin password: DZ88 to unlock the system.



6 - Reset Default Setting: Restores all parameters, except the preset list, to default settings.

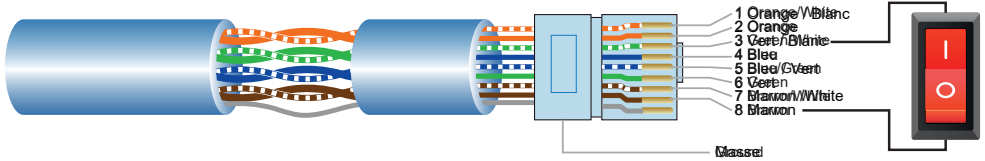


7 - Reset to Factory Setting: Restores all parameters to default settings, including the preset list.



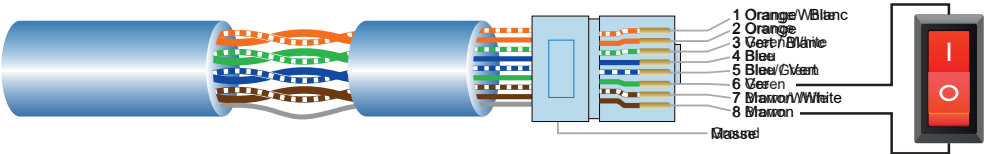
8 - GPI Control: For easy control of the IN/OUT priority (GPI function takes priority) and volume of the selected IN/OUT.
Note: The GPI voltage is 1.5 V and the resistance is 200 Ω. It is only used for relay or switch control.

GPI 1 wiring



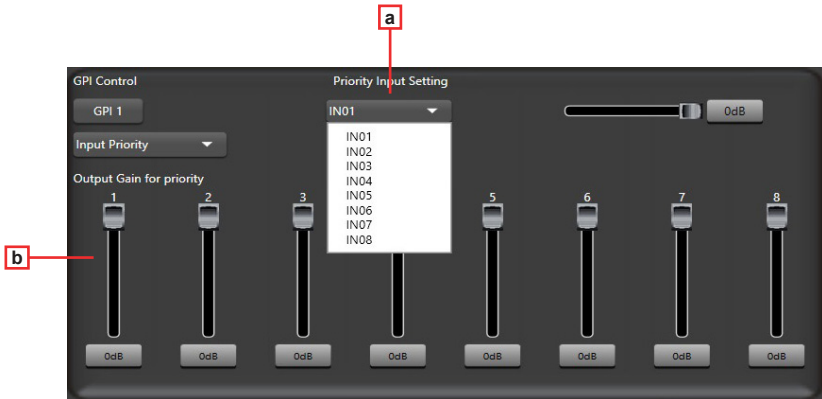
- 1) Place the connector on the GPI 1 port on the back plate.
- 2) The other end connects the green/white wire and the brown wire of the network cable to form a short circuit.
- 3) The GPI light on the software automatically lights up (green), which means that it is activated.
- 4) Set the type of priority according to your needs.

GPI 2 wiring



- 1) Place the connector on the GPI 2 port on the back plate.
- 2) The other end connects the green and brown wires of the network cable to form a short circuit.
- 3) The GPI light on the software automatically lights up (green), which means that it is activated.
- 4) Set the type of priority according to your needs.

GPI Control mode1: Input Priority



- a - Input Priority:** Select input 1 to 8 for priority control.
- b - Output gain for priority:** These potentiometers are used to adjust the output gain for each channel.

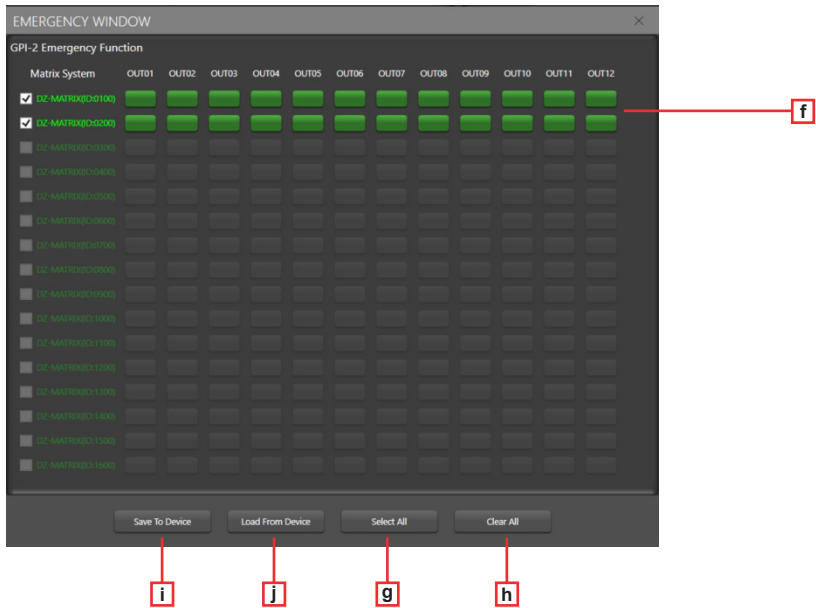
GPI Control mode 2: Mute all outputs**GPI Control mode 3: Emergency priority**

Emergency priority is only used for emergency broadcasting. This mode has a higher priority than "DUCKER". When the emergency broadcast is initiated, the volume setting of the corresponding channel (whether muted or at minimum) will automatically revert to the default volume.

c - Input Priority: Select input 1 to 8 for priority control.

d - Priority: The top level (highest number) has a higher priority. The highest level is 16.

e - Output zones setting: Select the output channel, set it in the pop-up window.



f - Output channel selection zone: Select the output channel. It will turn green if selected, grey if not.

g - Select All: Selects all channels.

h - Clear All: Deselects all channels.

g - Select All: Selects all channels.

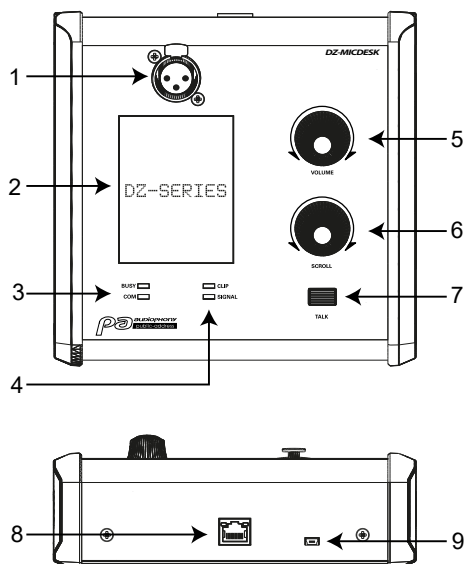
h - Save to device: After selecting a channel, click this button to confirm the selection.

i - Load From Device: Used to retrieve presets already saved.

6 - Devices

6 - 1 - DZ-MICDESK

Zone-managing microphone console



1 - Mic input

3-pin XLR female connector for the gooseneck electret microphone (supplied). It uses phantom power supplied by the base of the DZ-MICDESK.

2 - Display

Displays selected zones, volume and ID.

3 - BUSY/COM operation indicators

When communication with the DZ-MATRIX is correct, the green COM indicator flashes.

When several microphones with different priority levels are trying to transmit in the same zone, the microphone with the highest priority level is able to transmit normally.

The red BUSY indicator of the microphone with the lowest priority lights up and the display shows "Paging Busy..." until the microphone with the highest priority has finished transmitting.

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 volume of the microphone sent to the selected zones. Press this button to select all zones.

6 - SCROLL

You can select one or more zones by turning the knob to the left or right and pressing it to confirm.

7 - TALK

When you press and hold the button, the chime sounds and the red ring on the microphone lights up, indicating that you can speak. Release the button when you have finished speaking.

8 - Port RD

Connecting to the DZ-MATRIX. The maximum length of the CAT 5E (or higher) cable is 100 metres.

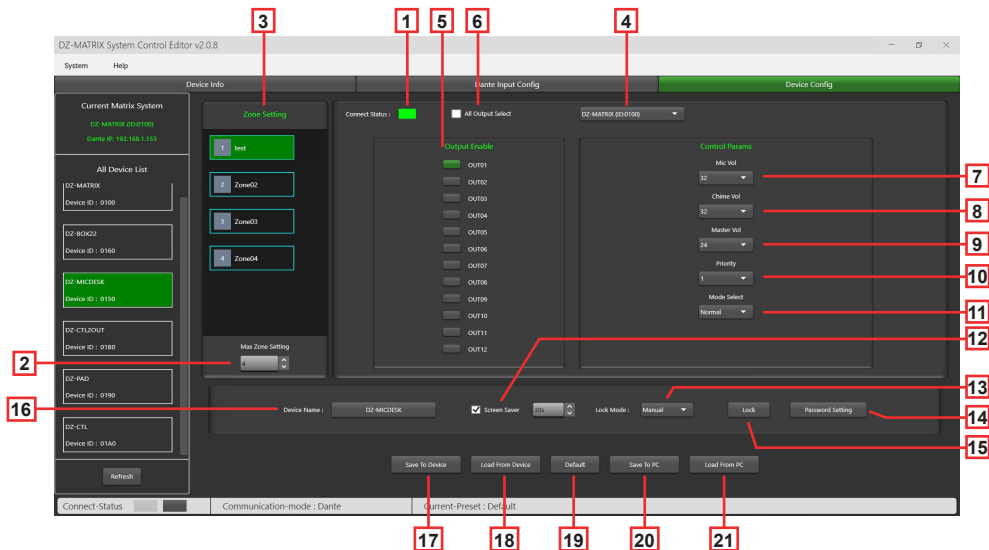
9 - Port USB

This port is used to load the MP3 file used for the chime. The maximum duration of the chime is 4 seconds.

To do this, connect your DZ-MICDESK to the computer using the USB port. It will be recognised as a USB drive. All you have to do is replace the MP3 file.

6-1-1 DZ-MICDESK Editor

This page is used to configure all the functions of the DZ-MICDESK.

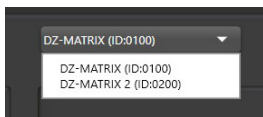


1 - Connect Status: When the LED is green, it means that the communication status is normal. If it is grey, there is no communication.

2 - Max Zone Setting: A maximum of 64 zones can be configured and managed.

3 - Zone Setting: Each zone can select 1 to 12 outputs. The zone name can be changed. To do this, double-click on the desired zone.

4 - Choosing the matrix: In-line selection of the DZ-MATRIX (only with the DANTE option): Each zone (3) can select any output 1 to 12 from the DZ-MATRIX in-line (5).



5 - Output Enable: Select the output channel corresponding to the zone. It is green when selected, grey when deselected.

6 - All Output Select: Selects all output channels at once.

7 - Mic Vol: Adjusts the microphone volume from 0 to 32.

8 - Chime Vol: Adjusts the chime volume from 0 to 32.

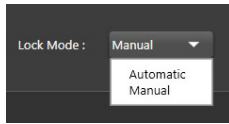
9 - Master Vol: Adjusts the master volume. from 0 to 32.

10 - Priority: Sets the priority level from 1 to 16. The higher the level, the higher the priority.

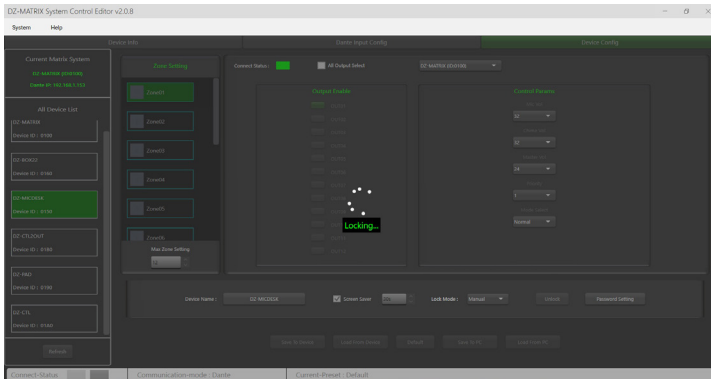
11 - Mode select: Selects the broadcast mode. Emergency is only used for emergency broadcasting. This mode has the highest priority, higher than the GPI 3 "Emergency priority" control mode and "DUCKER". When the DZ-MICDESK's emergency broadcast is triggered, the broadcast volume setting of the corresponding zone (whether muted or at minimum) will automatically revert to the default volume.

12 - Screen Saver: When this box is ticked, the device will enter a standby state if there is no operation for the time selected beforehand.
Note: The factory default setting is ON. To prolong the life of the LCD screen, it is recommended that the user set it to ON. You can choose between 10 sec, 30 sec and 60 sec

13 - Lock Mode:

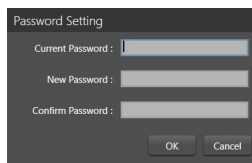


Automatic: The DZ-MICDESK automatically locks if no action is taken. You will then have to enter the code chosen during configuration to unlock it.

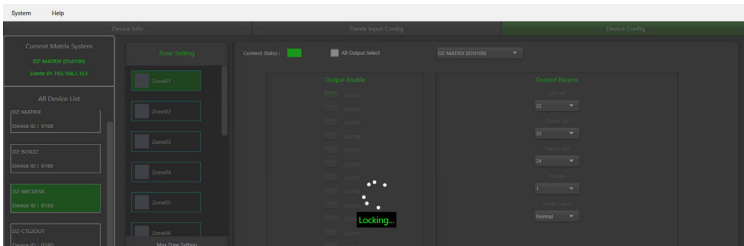


Manual: The DZ-MICDESK locks when the “Lock” button in the DZ-MICDESK configuration window is pressed (PC).

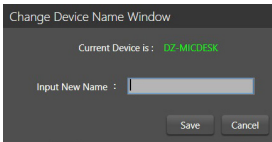
14 - Password Setting: Used to change the password. The password can be made up of numbers and letters.



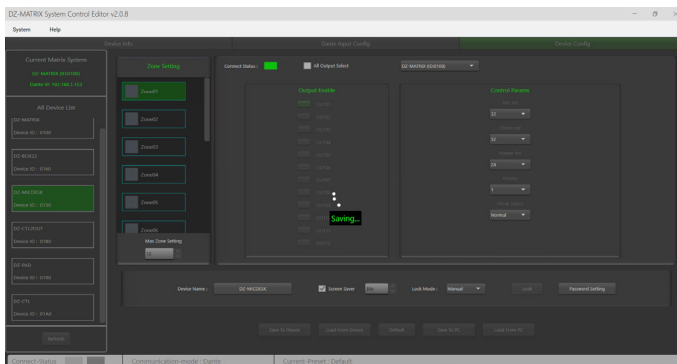
15 - Lock: Used to lock the DZ-MICDESK.



16 - Device Name: The default name is displayed in the box. Click to change the device name.

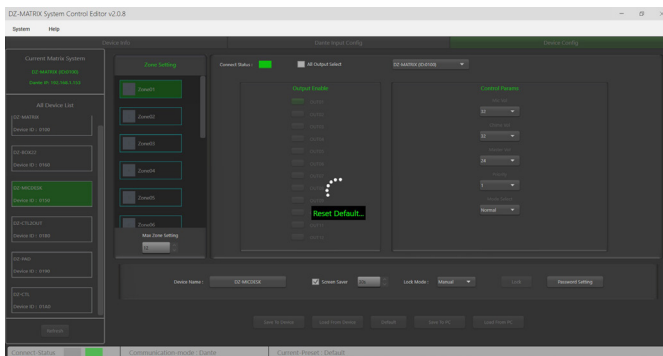


17 - Save To Device: Once the settings have been changed, they must be saved in the device to take effect.

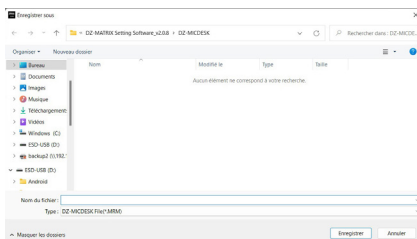


18 - Load From Device: Loads presets from the device.

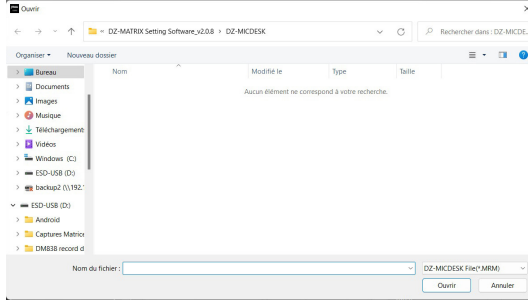
19 - Default: Resets the presets.



20 - Save To PC: Saves the current presets to the computer.



21 - Load From PC: Loads presets from the computer.

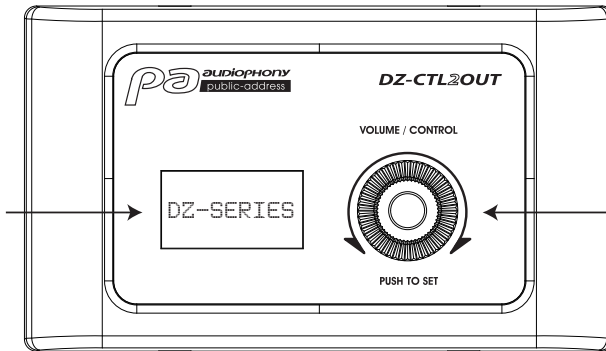


6-2 - DZ-CTL2OUT

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

FRONT PANEL

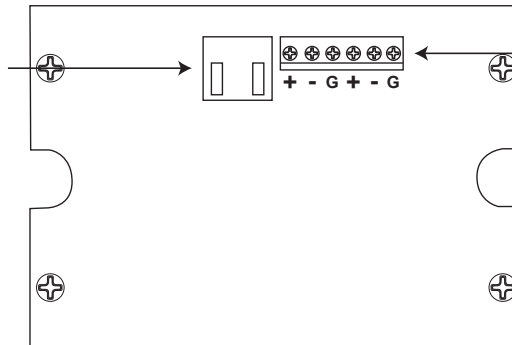
Display: shows volume level and signal level for a dedicated output. Also displays routing settings.



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

CONNECTION BOARD

RJ45 connector for connection to the DZ-MATRIX. The maximum length of the CAT 5E (or higher) cable is 100 metres.



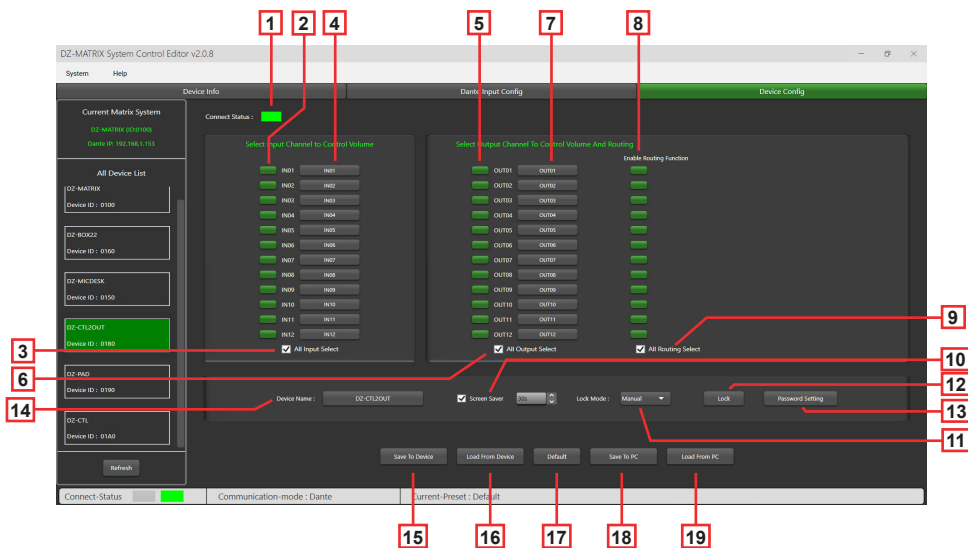
2 analogue line outputs assigned to RD ports 9/10 or 11/12 on the DZ-MATRIX

| | |
|---------------------------|---------------------------------|
| 2 analogue outputs | |
| Balanced | |
| Connectors | 2 x 3-pin terminals, 5 mm pitch |
| Impedance | 240 Ohms |
| Maximum output power | +20 dBu |
| Frequency response @ 0 dB | 20 Hz ~ 20 kHz +/- 1.5 dB |
| Dynamic range | -107 dB max., A-weighted |
| Crossover distortion | -87 dB max., A-weighted |

| | |
|--------------------|-------------|
| LCD display | |
| Volume adjustment | -∞ ~ +15 dB |

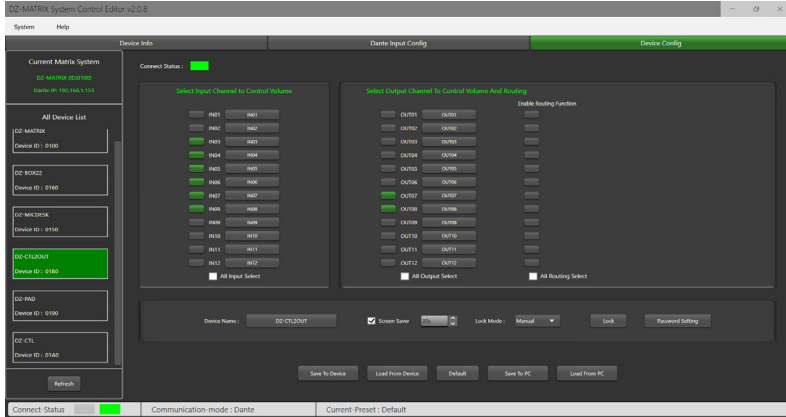
| | |
|--|--|
| Ports | |
| RD to DZ-MATRIX network port, RJ45, maximum 100 m CAT 5E cable (or higher) | |

| | |
|------------------------|------------------|
| Dimensions (L x H x D) | 147 x 86 x 47 mm |
|------------------------|------------------|



1 - Connect Status: When the LED is green, it means that the communication status is normal. If it is grey, there is no communication.

2 - Select Input Channel to Control Volume: Selected channels are green.



3 - All Input Select: Selects all input channels at once.

4 - Input Channel Name: The default name is displayed in the box. Click to change the input channel name. Note that the channel name will be changed on all devices as well as the matrix.

5 - Select Output Channel To Volume And Routing: Selected channels are green.

6 - All Output Select: Selects all output channels at once.

7 - Output Channel Name: The default channel name is displayed in the box. Click to change the output channel name. Note that the channel name will be changed on all devices as well as the matrix.

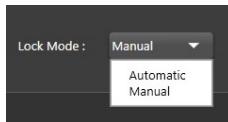
8 - Enable Routing Function: This function enables or disables routing of matrix sources to the selected zone. Selected channels are green, unselected channels are grey.

9 - All Routing Select: Selects all routings at once.

10 - Screen Saver: When this box is ticked, the device will enter a standby state if there is no operation for the time selected beforehand.

Note: The factory default setting is ON. To prolong the life of the LCD screen, it is recommended that the user set it to ON. You can choose between 10 sec, 30 sec and 60 sec.

11 - Lock Mode:

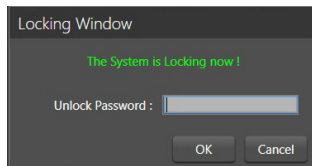


Automatic: The DZ-CTL2OUT automatically locks if no action is taken. You will then have to enter the code chosen during configuration to unlock it.

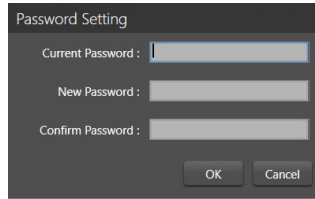
Manual: The DZ-CTL2OUT locks when the "Lock" button in the DZ-CTL2OUT configuration window is pressed (PC).

12 - Lock: Locks the DZ-CTL2OUT.

Click on Unlock and enter the password (13) to unlock. If you forget the password, you can use the factory password "DZ88" to unlock.

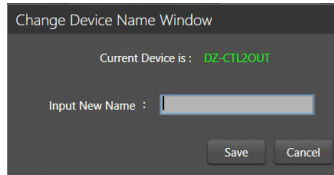


13 - Password Setting: Used to change the password. The password can be made up of numbers and letters.



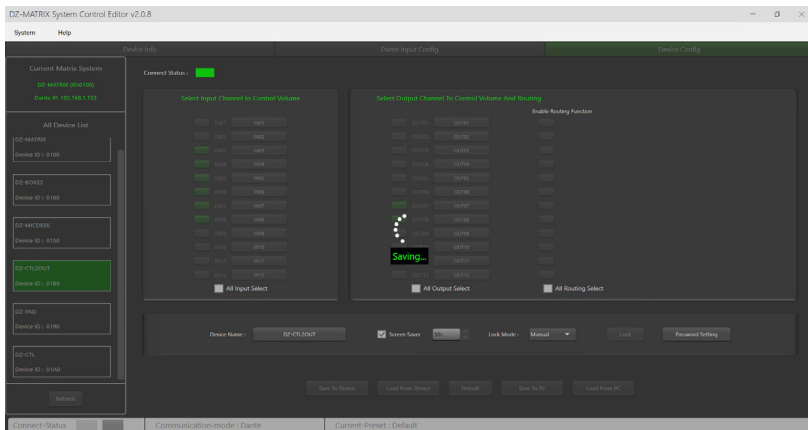
A dialog box titled "Password Setting" with three input fields: "Current Password", "New Password", and "Confirm Password". Below the fields are "OK" and "Cancel" buttons.

14 - Device Name: The default name is displayed in the box. Click to change the device name.



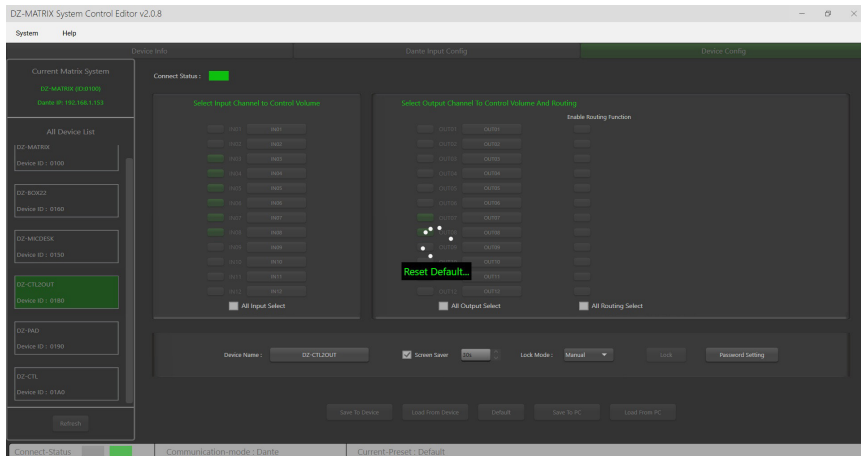
A dialog box titled "Change Device Name Window" showing "Current Device is : DZ-CTL2OUT" and an "Input New Name" field. Below the field are "Save" and "Cancel" buttons.

15 - Save To Device: Once the settings have been changed, they must be saved in the device to take effect.

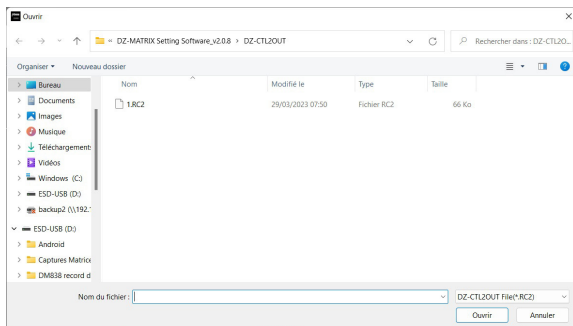
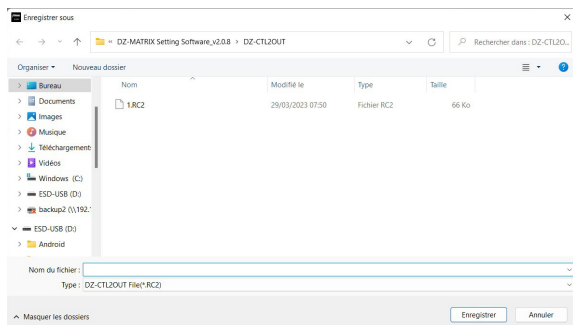


17 - Default: Resets the presets.

18 - Save To PC: Saves the current presets to the computer.



19 - Load From PC: Loads presets from the computer.

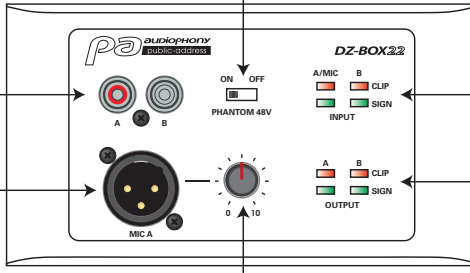


6 - 3 - DZ-BOX22

The DZ-BOX22 is an audio input and output module including 2 analogue input channels and 2 analogue output channels. The device includes integrated A/D and D/A converters that process AES3 digital audio signals to and from the DZ-MATRIX. The DZ-BOX-22 uses 2 digital input channels and 2 digital output channels. A total of 4 digital input channels and 4 digital output channels can be occupied on the DZ-MATRIX.

FRONT PANEL

Switchable 48 V phantom power for condenser microphones.



Analogue 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.

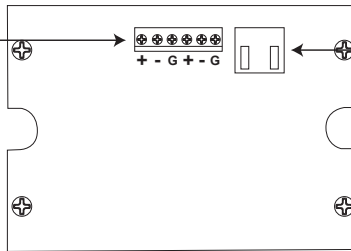
Status indicators for output signals A and B.

Adjusts the mic input level.

If RCA input A is used simultaneously with the microphone input, the two will be mixed together.

CONNECTION BOARD

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



RJ45 connector for connection to the DZ-MATRIX. The maximum length of the CAT 5E (or higher) cable is 100 metres.

Inputs

| | |
|----------------------|-------------------------------|
| Balanced | |
| Connectors | 3-pin XLR and RCA |
| Input impedance | 5.1 KΩ |
| THD+N | < 0.01 % typ 20-20 kHz, 0 dBu |
| Maximum input level | 20 dBu |
| Frequency response | 20 Hz ~ 20 kHz +/- 1.5 dB |
| Dynamic range | -107 dB max., A-weighted |
| Crossover distortion | -87 dB max., A-weighted |

Outputs

| | |
|----------------------|---------------------------------|
| Balanced | |
| Connectors | 2 x 3-pin terminals, 5 mm pitch |
| Impedance | 240 Ohms |
| Maximum output level | +20 dBu |
| Frequency response | 20 Hz ~ 20 kHz +/- 1.5 dB |
| Dynamic range | -107 dB max., A-weighted |
| Crossover distortion | -87 dB max., A-weighted |

Indicator lights

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

Ports

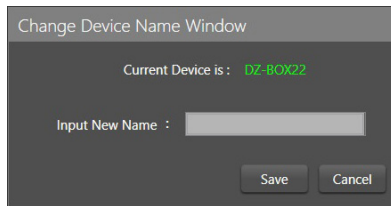
| | |
|--|------------------|
| RD to DZ-MATRIX network port, RJ45, maximum 100 m CAT 5E cable (or higher) | |
| Dimensions (L x H x D) | 147 x 86 x 47 mm |

6-3-1 DZ-BOX22 Editor



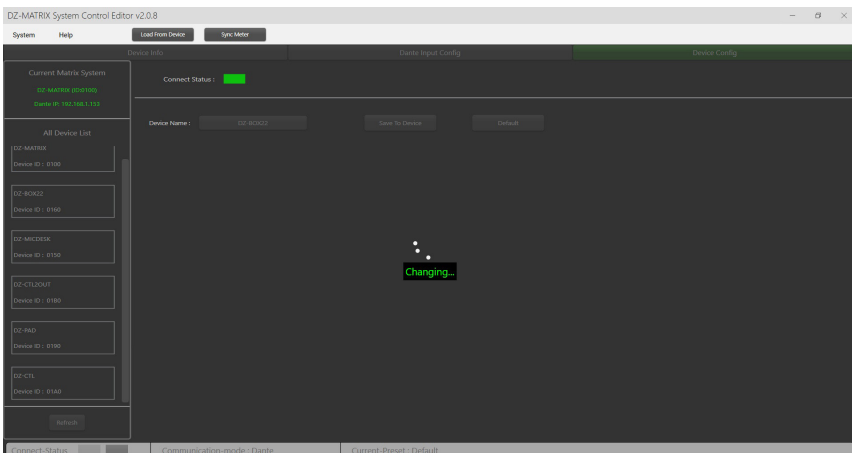
1 - Connect Status: When the LED is green, it means that the communication status is normal. If it is grey, there is no communication.

2 - Device Name: The default name is displayed in the tab. Click to change the device name.



3 - Save To Device: Once the settings have been changed, they must be saved in the device to take effect.

4 - Default: Resets the presets.

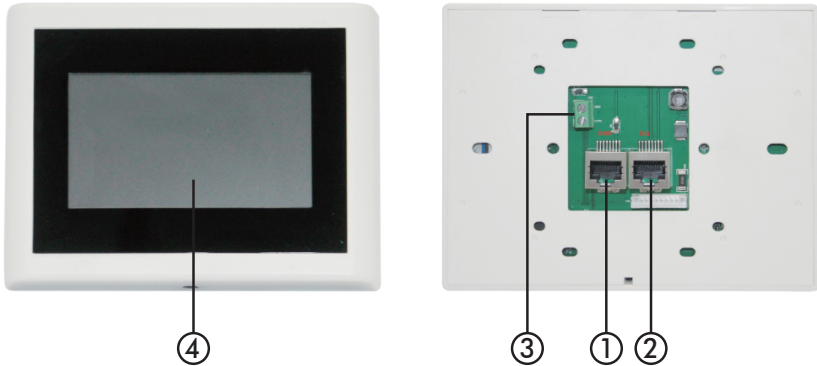


6-4 - DZ-PAD

The DZ-PAD is a wall-mounted volume controller with a 4.3" touch screen.

The DZ-PAD unit allows you to control inputs, outputs, scenes and the system. The system is fully configurable.

It can be assigned to any DZ-MATRIX output. It can also be used to route any input to any output, as in the Matrix menu of the Control Editor software.



1 - RD IN port

Connects to the DZ-MATRIX or DZ-EXPAND.

The maximum length of the CAT 5E (or higher) cable is 100 metres.

2 - RD EXP port

LINK connection for additional controllers (4 controllers max.).

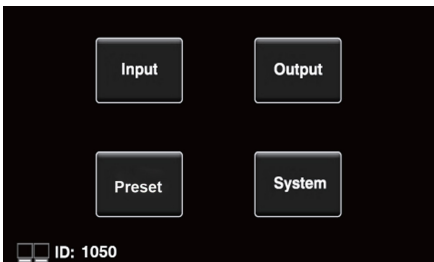
3 - Power connector

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

4 - Touch screen

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

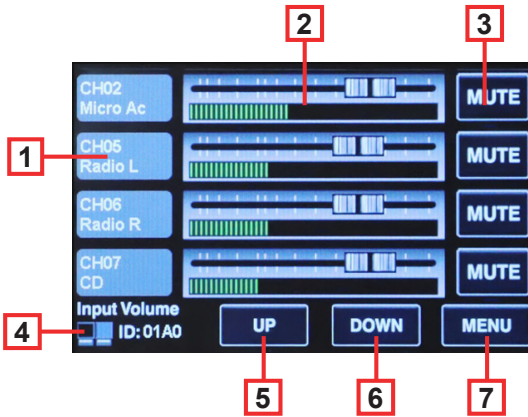
6-4-1 Touch screen functions



Home screen

Provides access to four different submenus:

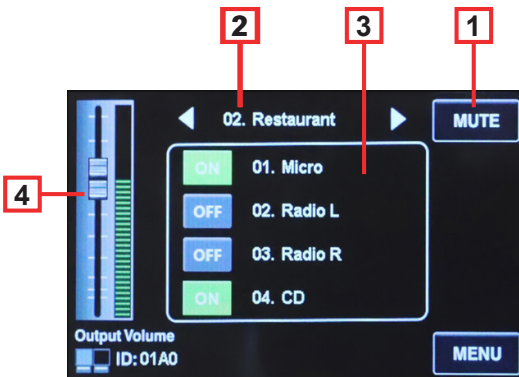
- Input
- Output
- Preset
- System.



Menu Input

In the Input menu, volumes and mutes can be set and visually checked.

- 1 - Channels:** Used to select to channel to be adjusted.
- 2 - Faders:** Used to adjust the input level of the selected channel
- 3 - Mute:** Used to mute the volume of the selected channel.
- 4 - Icons and ID:** When they flash alternately, this indicates that a connection has been established with the DZ-MATRIX. The device ID is displayed.
- 5 - UP:** Go to the next page.
- 6 - DOWN:** Go to the previous page.
- 7 - MENU:** Go to the home page.



Output menu

In the Output menu, the routing function lets you assign any input to any output. Volumes and mutes can be set and visually checked.

- 1 - Mute:** Used to mute the volume of the current output channel.
- 2 - Outputs:** Scrolls through outputs 1 to 12 in standalone mode or 1 to 20 if the DZ-DANTE option is installed.
- 3 - Inputs:** Used to enable or disable inputs 1 to 12 in standalone mode or inputs 1 to 20 if the DZ-DANTE option is installed.
- 4 - Output Volume:** Used to adjust the level of the current output.



Preset menu

The Preset menu is used to call up the presets stored in the DZ-MATRIX.

- 1 - PRESET LIST:** All the presets stored in the DZ-MATRIX are listed here.
- 2 - LOAD:** Used to load the selected preset.



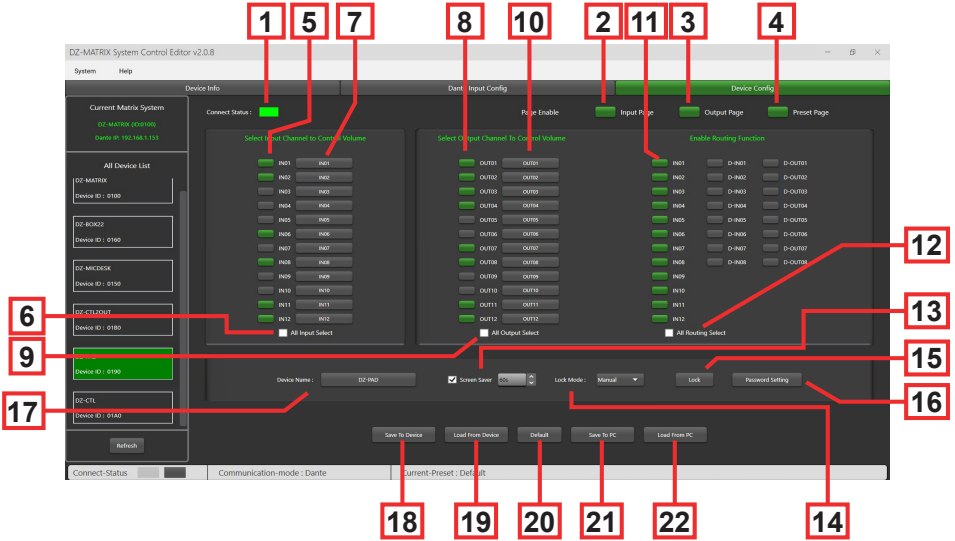
System menu

The System menu displays the device firmware version, address and name.

- 1 - Information:** Displays the device name, address, firmware version and language currently in use.
- 2 - Lock:** Used to lock the device. To unlock, enter the password. If you have forgotten the password, you can enter: "DZ888".

2

6-4-2 DZ-PAD Editor



- 1 - Connect Status:** When the LED is green, it means that the communication status is normal. If it is grey, there is no communication.
- 2 - Input Page:** After clicking on Enable, the input page can be accessed from the DZ-PAD touch screen. The option is green is enabled, grey if not. If disabled, the page will not be visible on the DZ-PAD.
- 3 - Output Page:** After clicking on Enable, the output page can be accessed from the DZ-PAD touch screen. The option is green is enabled, grey if not. If disabled, the page will not be visible on the DZ-PAD.
- 4 - Preset Page:** After clicking on Enable, the presets page can be accessed from the DZ-PAD touch screen. The option is green is enabled, grey if not. If disabled, the page will not be visible on the DZ-PAD.
- 6 - All Input Select:** Selects all input channels at once.
- 7 - Input Channel Name:** The default name is displayed in the dialogue box. Click on the channel to change its name. Note that the channel name will be changed on all devices as well as the matrix.

8 - Select Output Channel To Volume And Routing: Selected channels are green.

9 - All Routing Select: Selects all outputs at once.

10 - Output Channel Name: The default channel name is displayed in the box. Click to change the output channel name. Note that the channel name will be changed on all devices as well as the matrix.

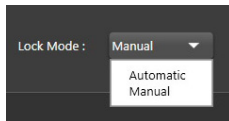
11 - Anable Routing Function: This function enables or disables routing of matrix sources to the selected zone. Selected channels are green, unselected channels are grey.

12 - All Routing Select: Selects all routings at once.

13 - Screen Saver: When this box is ticked, the device will enter a standby state if there is no operation for the time selected beforehand.

Note: The factory default setting is ON. To prolong the life of the LCD screen, it is recommended that the user set it to ON. You can choose between 10 sec, 30 sec and 60 sec.

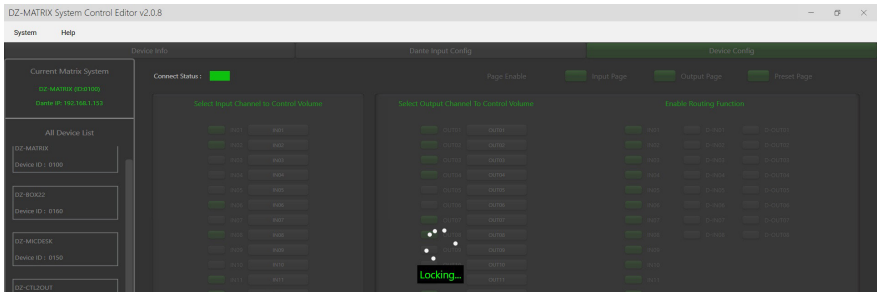
14 - Lock Mode:



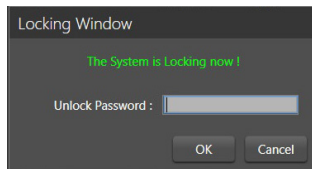
Automatic: The DZ-PAD automatically locks if no action is taken. You will then have to enter the code chosen during configuration to unlock it.

Manual: The DZ-PAD locks when the "Lock" button in the DZ-PAD configuration window is pressed (PC).

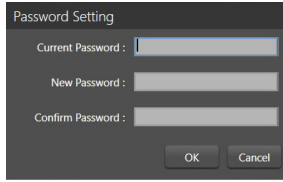
15 - Lock: Used to lock the DZ-PAD.



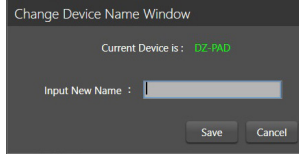
Click on Unlock and enter the password (13) to unlock. If you forget the password, you can use the factory password "DZ88" to unlock.



16 - Password Setting: Used to change the password. The password can be made up of numbers and letters.

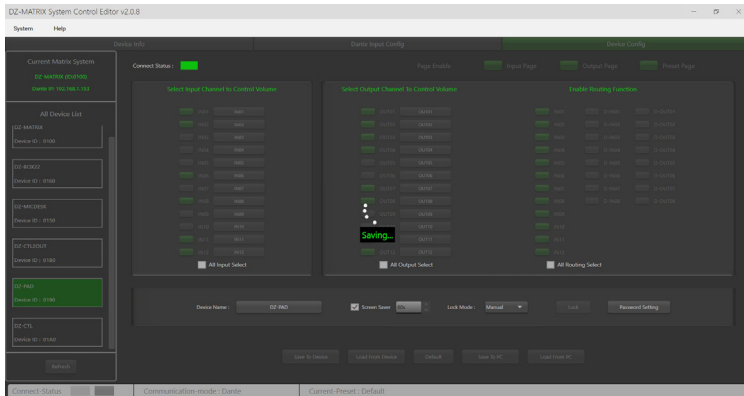


17 - Device Name: The default name is displayed in the box. Click to change the device name.

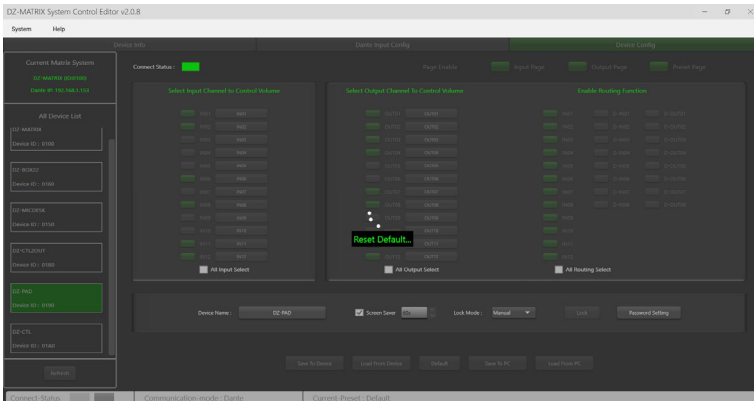


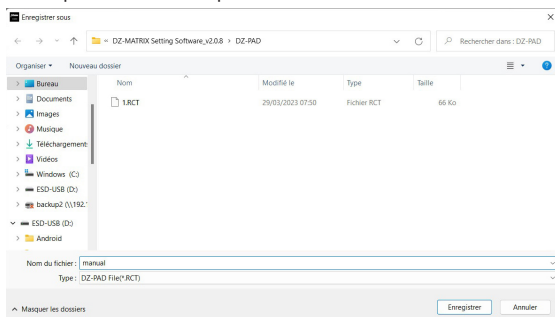
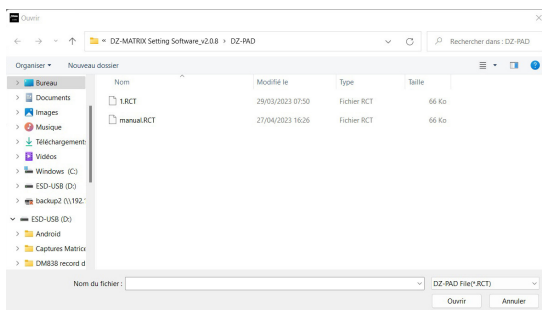
18 - Save To Device: Once the settings have been changed, they must be saved in the device to take effect.

19 - Load From Device: Loads presets from the device.



20 - Default: Resets the presets.

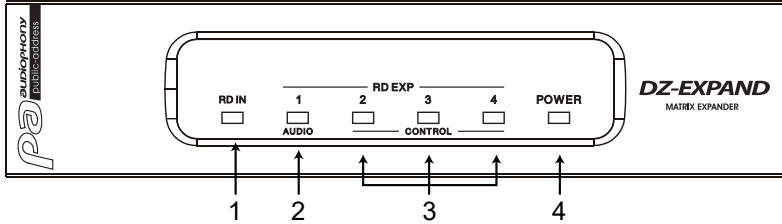


21 - Save To PC: Saves the current presets to the computer.**22 - Load From PC:** Loads presets from the computer.

4-5 - DZ-EXPAND

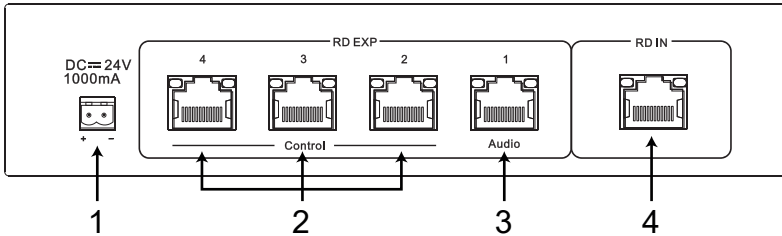
The DZ-EXPAND is an RD port switch equipped with 4 output ports (1 audio and 3 controls). This interface is particularly useful when the in/out connection between devices is not possible or when the controllers are far from the DZ-MATRIX.

FRONT PANEL



- 1, 2 and 3 - Indicate the activity status of each port.
- 4 - Indicates that the DZ-EXPAND is powered on.

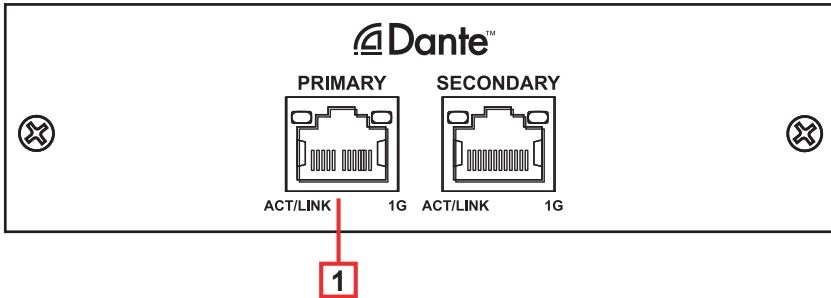
REAR PANEL



- 1 - 24 V DC ~ 1000 mA power input. When too many devices are connected to the RD EXP port of the DZ-EXPAND and the POWER indicator on the front panel of the DZ-EXPAND is off, you should connect an external 24 V DC 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 and DZ-BOX22 (remote audio data transport and control devices).
- 4 - RD connection to the DZ-MATRIX.

4-2 - DZ-DANTE

Used to add 8 × 8 DANTE digital inputs/outputs to the DZ-MATRIX matrix.
Cascades up to 16 matrices at 1 Gbit/s.



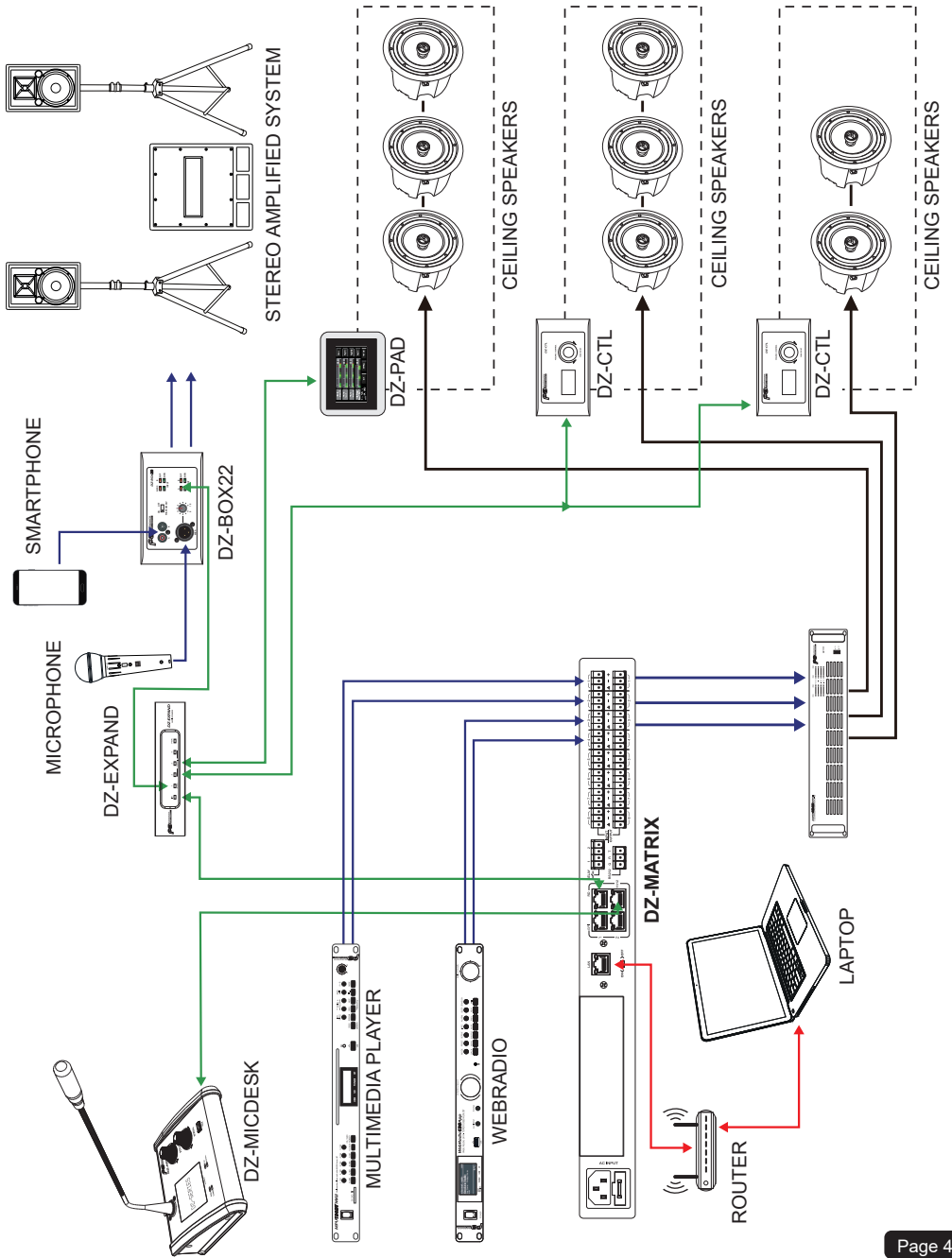
1 - DANTE port: 100/1000 Mbps adaptive Ethernet connection port with DHCP function.

- The yellow LED going out indicates a transmission problem. If it is on and the green LED is off, the device has detected the network, but there is no connection.
- If the green LED is on, the connection to the network is established

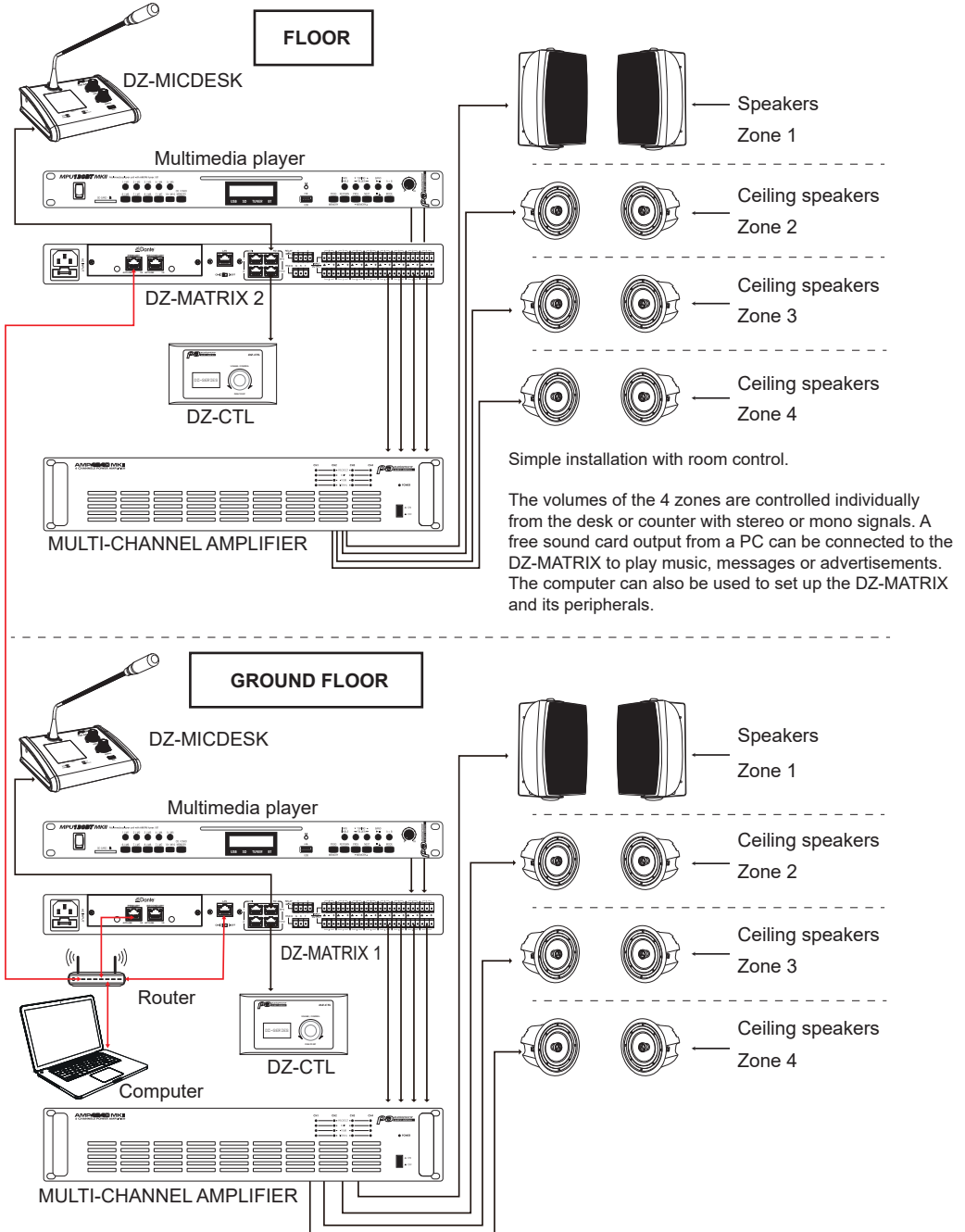
| DANTE CARD | |
|---|--|
| Power supply | 5 V DC supplied by the DZ-MATRIX |
| Audio codec | TDM, I2S |
| Audio network | DANTE input: 8 channels / Output 8 channels + 1 broadcast input/output |
| Control | SPI master and slave |
| Network | RGMII/MII |
| Operating temperature | 0°C to 40°C |
| Finish | Sheet steel |
| Dimensions | 122 x 32 x 115 mm |
| Weight | 120 g |
| Accessories | 2 x mounting screws 3 x 6 mm |
| BROOKLYN II CARD | |
| Sampling frequency | 44.1/48/88.2/96/176.4/192 kHz |
| Sampling depth | 16, 24 or 32 bits |
| Audio input/output channels (44.1/48 kHz) | Up to 64 x 64 channels |
| Audio input/output channels (88.2/96 kHz) | Up to 32 x 32 channels |
| Audio input/output channels (176.4/192 kHz) | Up to 16 x 16 channels |
| Audio input/output streams | Up to 32 x 32 simultaneous streams |

7 - Installation examples

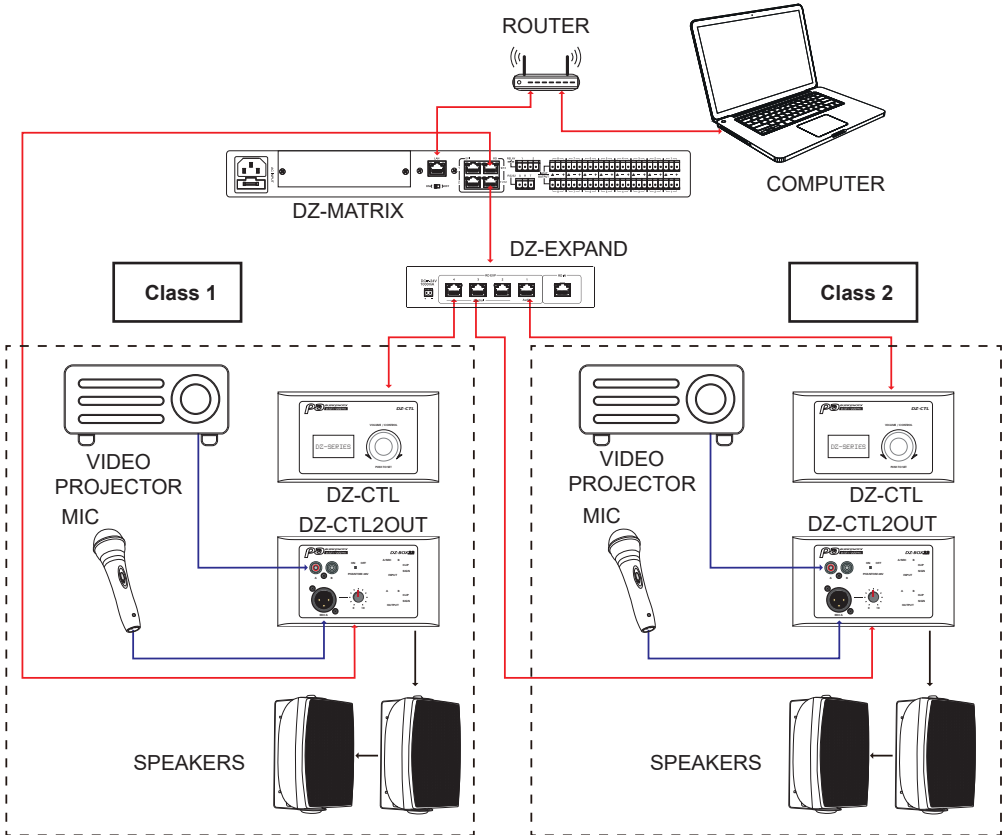
7-1 - Basic principle



7-2 - Two-storey shop



7-3 - Classroom



An audio/video system that's quick and easy to install in the classroom.

To prevent tampering by unauthorised persons, only the volume controls are available.

All other DSP functions such as equalisation or Ducking dedicated to each room can be set by the system administrator using the software.

8 - ANNEXE

8 - 1 - Codes RS232

| NO | Start Byte0 (1 Byte) | Start Byte1 (1 Byte) | Start Byte2 (1 Byte) | Length (2 Byte) | Device (2 Byte) | ID Address (High Byte) | ID Address (Low Byte) | Type (2 Byte) | Command (2 Byte) | Channel (0x01 - 0x0C (n Byte)) | Local Network Channel: (0x0D - 0x14) | Channel: (1 Byte) | Value (n Byte) | End Byte (1 Byte) | Function | |
|----|----------------------|----------------------|----------------------|-----------------|-----------------|---|-------------------------------|---------------|------------------|---|--------------------------------------|-------------------|--|-------------------|-----------------------------|--|
| 1 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x01 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Volume: 0x00-0xBE (1 Byte) | 0x40 | Input Gain | |
| 2 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x02 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Phase: 0x00 - Normal, 0x01-Invert (1 Byte) | 0x40 | Input Phase | |
| 3 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x03 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Mute : 0x00-Off , 0x01-On (1 Byte) | 0x40 | Input Mute | |
| 4 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x04 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Get Input Status | |
| 5 | 0x01 | 0x20 | 0x03 | 0x00 0x13 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x04 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Volume: 0x00-0xBE (1 Byte) Phase : 0x00 - Normal, 0x01-Invert (1 Byte) Mute : 0x00-Off , 0x01-On (1 Byte) DC48V : 0x00-Off , 0x01-On (1 Byte) | 0x40 | Receive Input Status | |
| 6 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x05 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Volume: 0x00-0xBE (1 Byte) | 0x40 | Output Gain | |
| 7 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x06 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Phase: 0x00 - Normal, 0x01-Invert (1 Byte) | 0x40 | Output Phase | |
| 8 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x07 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Mute : 0x00-Off , 0x01-On (1 Byte) | 0x40 | Output Mute | |
| 9 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x08 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Get Output Status | |
| 10 | 0x01 | 0x20 | 0x03 | 0x00 0x13 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x08 | Channel 1-12: 0x01-0x0C (1 Byte) | | | Volume: 0x00-0xBE (1 Byte) Phase : 0x00 - Normal, 0x01-Invert (1 Byte) Mute : 0x00-Off , 0x01-On (1 Byte) Invalid : 0x00 (1 Byte) | 0x40 | Receive Output Status | |
| 11 | 0x01 | 0x20 | 0x03 | 0x00 0x11 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x09 | Matrix Output Channel : 0x01-0x14 (1 Byte) Matrix Input Channel : 0x01-0x14 (1 Byte) | | | Routing : 0x00-Off , 0x01-On (1 Byte) | 0x40 | Matrix Mixer | |
| 12 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x0A | Matrix Output Channel : 0x01-0x14 (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Get Matrix Mixer Status | |
| 13 | 0x01 | 0x20 | 0x03 | 0x00 0x23 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x0A | Matrix Output Channel : 0x01-0x14 (1 Byte) | | | Matrix Local Input 01 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 02 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 03 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 04 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 05 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 06 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 07 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 08 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 09 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 10 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 11 : 0x00-Off, 0x01-On (1 Byte) Matrix Local Input 12 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 01 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 02 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 03 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 04 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 05 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 06 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 07 : 0x00-Off, 0x01-On (1 Byte) Matrix Network Input 08 : 0x00-Off, 0x01-On (1 Byte) | 0x40 | Receive Matrix Mixer Status | |
| 14 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x0B | Channel 1-12: 0x01-0x0C (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Input Gain Up, Step=1dB | |
| 15 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x0C | Channel 1-12: 0x01-0x0C (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Input Gain Down, Step=1dB | |
| 16 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x0D | Channel 1-12: 0x01-0x0C (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Output Gain Up, Step=1dB | |
| 17 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x0E | Channel 1-12: 0x01-0x0C (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Output Gain Down, Step=1dB | |
| 18 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x0F | Channel 1-12: 0x01-0x08 (1 Byte) | | | DC-48V: 0x00-Off , 0x01-On (1 Byte) | 0x40 | Input DC-48V | |
| 19 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x10 | Relay 1 / Relay 2: 0x01 / 0x02 (1 Byte) | | | Relay Channel 1-None : 0x00-0x09 (1 Byte) | 0x40 | Relay Control | |
| 20 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x11 | Invalid : 0x00 (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Get Relay Status | |
| 21 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x11 | Relay 01 Channel 1-None : 0x00-0x09 (1 Byte) | | | Relay 02 Channel 1-None : 0x00-0x09 (1 Byte) | 0x40 | Receive Relay Status | |
| 22 | 0x01 | 0x20 | 0x03 | 0x00 0x1F | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x12 | 16 Chars Device Name -ASCILL Code (16 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Modify Device Name | |
| 23 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x13 | Invalid : 0x00 (1 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Get Device information | |
| 24 | 0x01 | 0x20 | 0x03 | 0x00 0x1F | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x13 | 16 Chars Device Name -ASCILL Code (16 Byte) | | | Firmware Version: 0x10 - 0x99 (16 Byte) | 0x40 | Receive Device information | |
| 25 | 0x01 | 0x20 | 0x03 | 0x00 0x10 | 0x00 0x06 | 0x01 (High Byte of ID address) | 0x00 (Low Byte of ID address) | 0xA5 0xE8 | 0x00 0x14 | Preset number (16 Byte) | | | Invalid : 0x00 (1 Byte) | 0x40 | Recall Preset | |
| | | | | | | Note: RS232 Baudrate=9600 ID address example: if ID=5x100 then High Byte of ID address=0x01 and Low Byte of ID address=0x00 | | | | | | | | | | |

8-2 - Possible connections to the DZ system:

8-2-1 Number of connections:

| | | Maximum number of DZ-MATRIXs | PC control (wired) | | PC control (Wi-Fi) | | iOS App | | Android App | |
|-------------------|-----------|--|--------------------|----------------|--------------------|----------------|---------|----------------|-------------|----------------|
| | | | Yes/No | Maximum number | Yes/No | Maximum number | Yes/No | Maximum number | Yes/No | Maximum number |
| Via LAN | 100 Mbps | You can search for the number of connections to the same local network. But the maximum number of simultaneous connections is 11 | Yes | 1 | Yes | 2 | Yes | 1 | Yes | 1 |
| | 1000 Mbps | | Yes | | Yes | | | | | |
| Via DZ-DANTE card | 100 Mbps | 3 | Yes | 1 | Yes | 2 | Yes | 2 | Yes | 2 |
| | 1000 Mbps | 16 | Yes | | Yes | | | | | |

8-2-2 Control systems:

| | | Used simultaneously | | | | | | | |
|-------------------|-----------|---------------------|--------------------------|---------------------------|------------------------------|-------------------------------|---|--|---|
| | | PC(LAN) + PC(WIFI) | PC(LAN) + Smartphone IOS | PC(WIFI) + Smartphone IOS | PC(LAN) + Smartphone Android | PC(Wifi) + Smartphone Android | PC(LAN) + Smartphone Android + Smartphone IOS | PC(WIFI) + Smartphone Android + Smartphone IOS phone | PC(Wifi) + PC (lan) + Smartphone IOS+ Smartphone Andoid |
| Via LAN | 100 Mbps | No | Yes (1+1) | Yes (1+1) | Yes (1+1) | Yes (1+1) | No | No | No |
| | 1000 Mbps | | | | | | | | |
| Via DZ-DANTE card | 100 Mbps | Yes (1+1) | Yes (1+1) | Yes (1+1) | Yes (1+1) | Yes (1+1) | Yes (1+1+1) | Yes (1+1+1) | Yes (1+1+1+1)* |
| | 1000 Mbps | | | | | | | | |

* 1+1+1+1 = 1 PC on Wi-Fi + 1 PC on LAN + 1 iOS smartphone + 1 Android smartphone

9 - SOFTWARE



The software for Windows® can be downloaded from the Audiophony-pa website:
https://audiophony-pa.com/software/DZ-MATRIX_Setting_Software_v2.0.8.zip



The application for Android can be downloaded from the Audiophony-pa website:
https://audiophony-pa.com/software/DZ-CONTROL_android.apk



The application for iOS can be downloaded from the Audiophony-pa website:
<https://apps.apple.com/us/app/dz-control/id6446382679>

