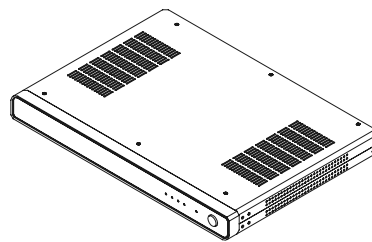
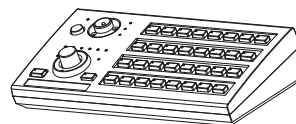


**FBT**

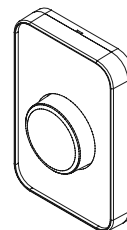
# DM-8208 DIGITAL MATRIX SYSTEM



DM-C8208



DM-S8208



DM-P8208



SAFETY INSTRUCTIONS.....	4
SYSTEM FEATURES.....	5
DM-C8208 / digital matrix controller.....	5
DM-S8208 Dsp / mic station.....	5
DM-P8208 Dsp / wall PAnel.....	5
PARTS.....	6
INSTALLATION.....	7
DM-C8208.....	7
DM-P8208.....	7
DM-8208 SOFTWARE PACK.....	8
Computer requirements.....	8
Install DM-8208 software.....	8
Install ios and android DM-8208 app.....	8
Network settings.....	9
CONNECTIONS.....	10
Pin map.....	10
DM-P8208 / DM-S8208 pin.....	10
DM-8208 System.....	10
DM-C8208.....	11
DM-S8208.....	12
DM-P8208.....	13
OPERATION.....	14
DM-C8208.....	14
DM-P8208.....	14
DM-S8208.....	15
DM-8208 SOFTWARE.....	16
SPECIFICATIONS.....	26
DM-C8208.....	26
DM-S8208.....	27
DM-P8208.....	28
DIMENSIONS.....	29
DM-C8208.....	29
DM-S8208.....	29
DM-P8208.....	29
SERVICE AND WARRANTY.....	30



**General information**

DM-8208 Digital Matrix System Manual

Version: 1.0 en - 12/2022 Code No.: 46059

Keep this document in a safe place for future reference.

Check the FBT website for the latest version of this document at regular intervals.

In the event this product is re-sold to third parties, ensure it is accompanied by this document.

FBT Elettronica SpA – 62019 Recanati (Italy)

[www.fbt.it](http://www.fbt.it) – [info@fbt.it](mailto:info@fbt.it)

### WELCOME

Welcome you from management and staffs of FBT ELETTRONICA. All of the staffs here at FBT have dedicated to provide excellent products of value, and we are glad that you have purchased one of our products. We sincerely trust that this product will provide satisfactory service, but if anything goes up you do not satisfy completely, we will endeavor to make things right. Welcome to FBT and thank you for joining our worldwide family.

### UNPACKING

Please inspect all equipment carefully right after unpacking. If you find any damages, contact your supplier or dealer immediately. Only a shipper may file a damage claim as a carrier for damages which have been incurred during shipping. Be sure to keep carton boxes and other all packing materials for the carrier's inspection. If your packing materials are in good condition, please keep them. If you ever need to return the unit to FBT or an authorized service center, you should use only the original factory packing.

### BEFORE USE

To insure proper use of this product, please read owner's manual carefully and keep this manual in an easily accessible place for future reference.

### SAFETY INSTRUCTIONS

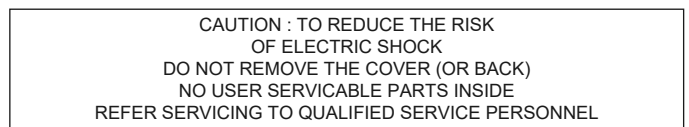
1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non insulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the products.



#### Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.



For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation.



By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

#### Pb

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

#### Information on Disposal in other Countries outside the European Union

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

#### Note for the battery symbol (bottom two symbol examples):

The sign Pb below the symbol for batteries indicates that this batteries contains lead.

### SYSTEM FEATURES

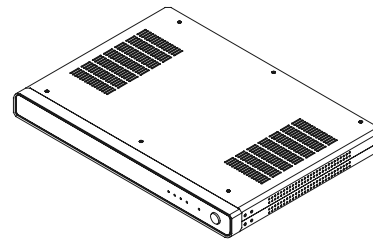
You can have information about the main functions of DM System.  
 You can get information about the products that make up the DM-C8208 and the key features of each product.  
 You can easily check the names, descriptions, product picture and special features of each product.

#### DM-C8208 / DIGITAL MATRIX CONTROLLER

- **Operation:** Multi-channel DSP Audio Controller with 8 input/output channels.
- **Input:** Input audio can be selected from MIC, CD player, and various kinds of input source and output can be made up to 8 channels in order of priority.
- **Output:** The eight output signals of this product are amplified by the professional amplifier with more accurate and clear sound quality. The power of this unit is changed from AC to DC through the SMPS built in the product to supply the power for the entire system.

When the AC input is turned on, the power is always on.

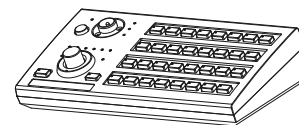
When the power button on the front panel is turned on, all the power is supplied, and audio and various serial communication are activated.



DM-C8208

#### DM-S8208 DSP / MIC STATION

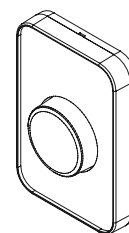
- **Operation:** Power ON/OFF, ALL button, Talk/Volume button, Chime button, 8 group buttons (G1~G8), 8 preset buttons (P1~P8), 16 output channel buttons (Z1~Z16).
- **Priority function:** Two levels of priority settings of the remote microphone.
- **Device scalability:** It can be extended to 4 units per each terminal (up to 8 units) by LINK IN/OUT RJ45 terminal.
- **4 tone Chimes:** 4 tone Chimes are applied, and transfers to AUTO MODE.
- **Various input terminals:** XLR input on the front and AUX input on the rear.
- **Output Led:** Output LED is supported to see output rate.



DM-S8208

#### DM-P8208 DSP / WALL PANEL

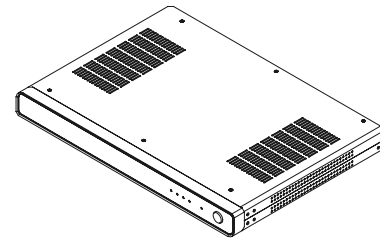
- **Operation:** Easy to select the input source and adjust the output volume.
- **Display:** Input Source Selection and the local volume is displayed on the LCD.
- **Device scalability:** It can be extended to 4 units per each terminal (up to 8 units) by LINK IN/OUT RJ45 terminal.
- **LINK IN/OUT:** Data communication and power supply via CAT-5 cable.
- **Various input terminals:** XLR input on the front and AUX input on the rear.
- **Device scalability:** Up to 8 units by daisy chain.



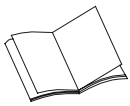
DM-P8208

### DM-C8208

Here you can find the list of parts, each figure and quantity for DM-C8208, the main controller of DM System.  
Please check if you have all the parts correctly.



DM-C8208



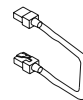
1x User's Guide



1x power cord



2-pin DC terminal block  
(Green / 1EA)



1x LAN cable 2m



2-pin terminal block  
(Green / 2EA)



4x Rack mounting screw



5-pin terminal block  
(Green / 1EA)



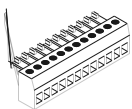
4x washer



6-pin terminal block  
(Green / 2EA, Orange / 2EA)



2x rack bracket



12-pin terminal block  
(Green / 2EA, Orange / 2EA)

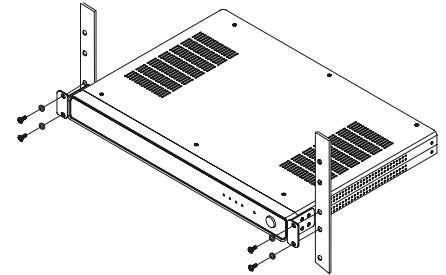
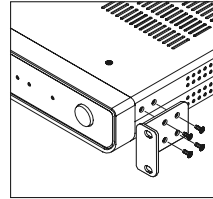


4x Rubber feet

### DM-C8208

DM System falls into three different types of group, product installed on a rack, product installed on the wall and software. Please review below contents according to type of group.

1. Please turn off the power of the whole system and install it.
2. Connect the output line of the product (DM-C8208) to the main amplifier input (HOT), (COM).
3. When using the auxiliary amplifier, connect the output line of the product (DM-C8208) to the auxiliary amplifier input (HOT), (COM).
4. Please ensure that ventilation slot are not obstructed by other devices.

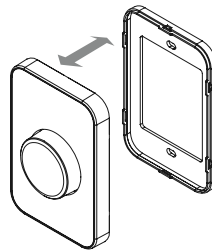


After removing the screws of the product, attach the bracket as shown in the figure and tighten the screws again.

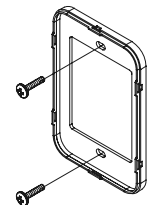
### DM-P8208



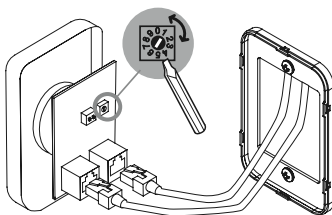
1. Open the groove marked with a small fat screwdriver.



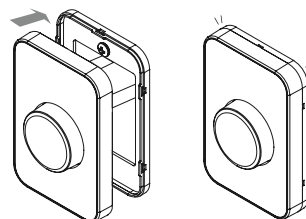
2. Remove the rear plate.



3. With screws, attach it to the switch box which is embedded on the wall.



4. After setting the ID number on the back of the board as shown in the figure, connect the RJ45 cable on the wall to the front LINK jack.



5. After connection, affix it to the plate attached on the wall.

DM software is a GUI (Graphic User Interface) program for operating DM System.

Dedicated software consists of Operation, Schedule, DSP, Setup, GPI/O, Help, and users can easily control and edit according to their own taste. It can be used on PC, MAC, iPad, Tablet and dedicated application is available especially for iPad.

The latest software for PC and MAC can be downloaded from [www.fbt.it](http://www.fbt.it). App for iPad/Tablet can be downloaded from Apple's App store and Google Play.

## **COMPUTER REQUIREMENTS**

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DM software, the exclusive software for the DM system, can be installed and used on PC, MAC, iPad and Tablet.

The computer specifications for which DM software is applicable are as follows.

Before installing the software, please make sure that there is no computer virus.

1. OS(Operating System) : Mac OS, Windows 10 or latest version
2. CPU : 32bit or 64bit processor over 1GHz
3. RAM : 32bit over 2GB, 64bit over 4GB
4. HDD : 32 bit requires more than 16GB, 64 bit requires more than 20GB
5. Display : DirectX 9 graphics device. Resolution 1024x768 or higher

## **INSTALL DM-8208 SOFTWARE**

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Please follow the instructions below to install DM System's dedicated software.

Download the latest DM software to your computer from our website at [www.fbt.it](http://www.fbt.it).

Unzip DM software.

1. Double-click the installation file of the DM software after unzipping. In case of PC, Windows 8 or later should be installed as an administrator mode.
2. Follow the installation wizard's instructions that appear on your computer screen.
3. When the installation is complete, click the Finish button.
4. When you click the Finish button, a shortcut icon for DM software is created on the desktop.

## **INSTALL IOS AND ANDROID DM-8208 APP**

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iOS and Android app for DM System control is available.

DM-8208 APP for iOS and Android is available for iPad/Tablet. It is as easy and simple as possible for general users to easily control and use the DM System. There is no difference from the computer version, so you can easily use the software.

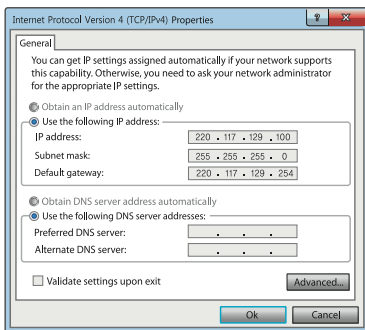
You can download the app from Apple's App store and Google play.



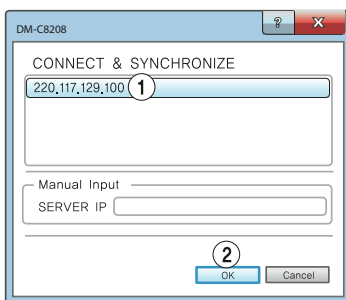
### NETWORK SETTINGS

Network settings are required to control the DM System with your computer or iPad/Tablet. Network setup of DMSystem is easy and simple. Follow the procedure below.

**When connecting DM-C8208 to control computer via a direct cable:**

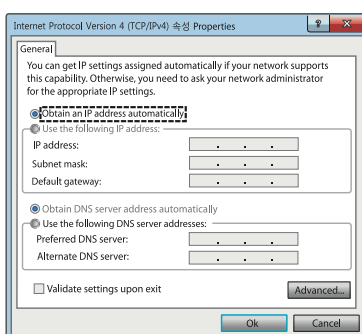


1. DM software must be installed on the control PC.
2. Connect the LAN cable to the Ethernet port of DM-C8208. Another LAN cable connects to the network port on your computer.
3. Please refer to 6.1 for pin map of LAN cable.
4. Turn on the DM-C8208.
5. Open the network settings window of the control computer as shown on the left, enter the IP address below, and click OK.

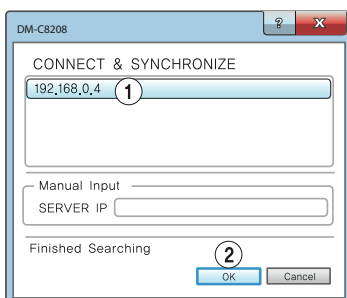


6. Click the DM software icon on the desktop. The confirmation window of the IP address you wrote is displayed as shown on the left. When you click OK, the DM software login screen appears.

**When connecting the DM-C8208 and the control computer via a router (AP):**



1. DM software must be installed on the control PC.
2. Turn on the DM-C8208.
3. Open the network settings window of the control computer as shown on the left, and select Obtain an IP address automatically and Obtain DNS server address automatically. Then click OK.



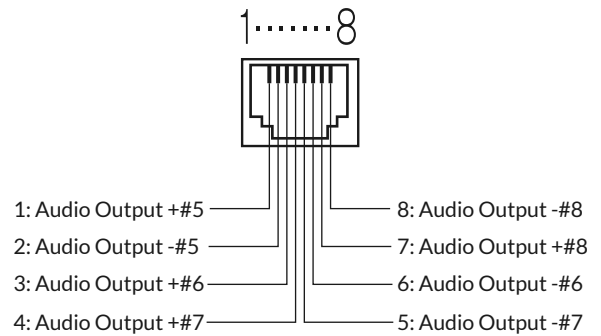
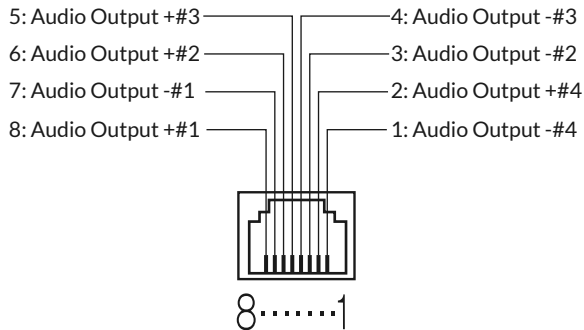
4. Click the DM software icon on the desktop of the control computer. The confirmation window of the IP address assigned through the router (AP) will be displayed as shown on the left. When you click OK, the DM software login screen appears.

DM System Connection diagrams are shown below. The Pin Map is provided first before wiring.

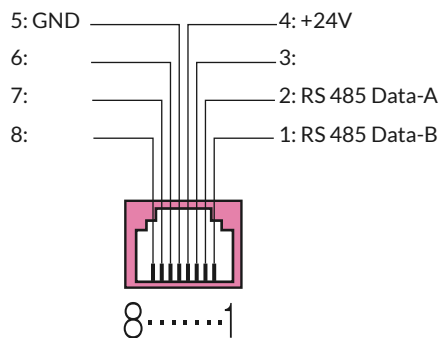
You can find the information between products, rear panel for each product from this Connection section.

### PIN MAP

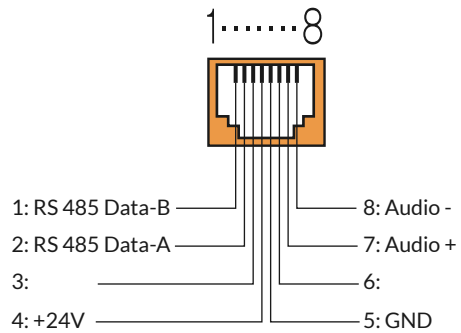
#### Audio Output 8ch (RJ45 type) PIN



#### DM-P8208 / DM-S8208 PIN

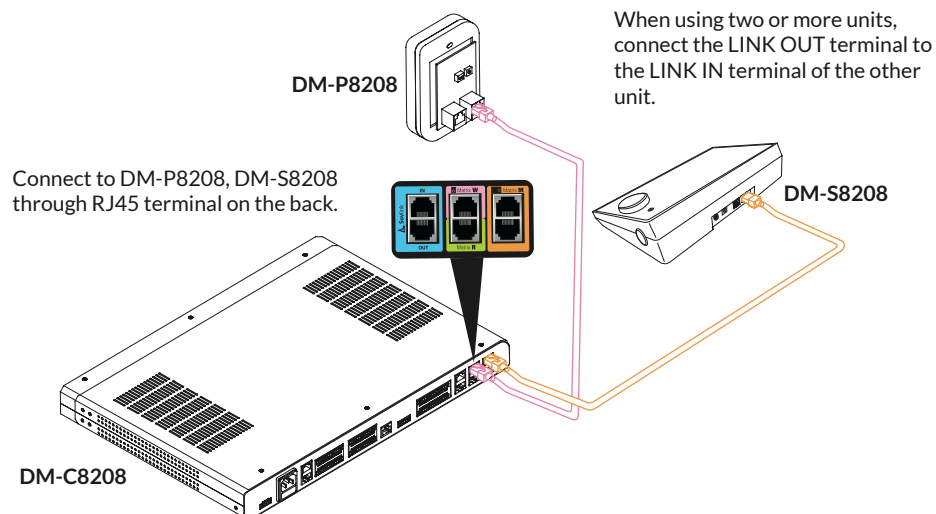


DM-P8208 RJ45 Type Pin



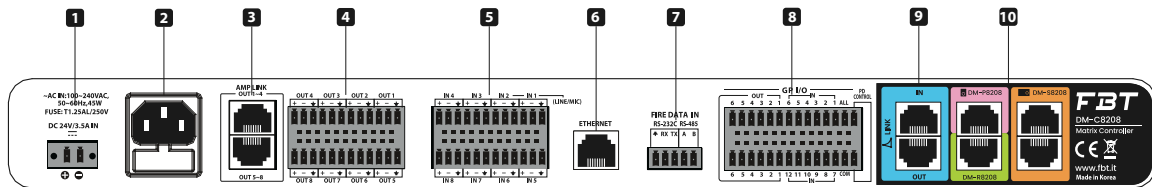
DM-S8208 RJ45 Type Pin

#### DM-8208 SYSTEM



## DM-C8208

Digital Matrix Controller

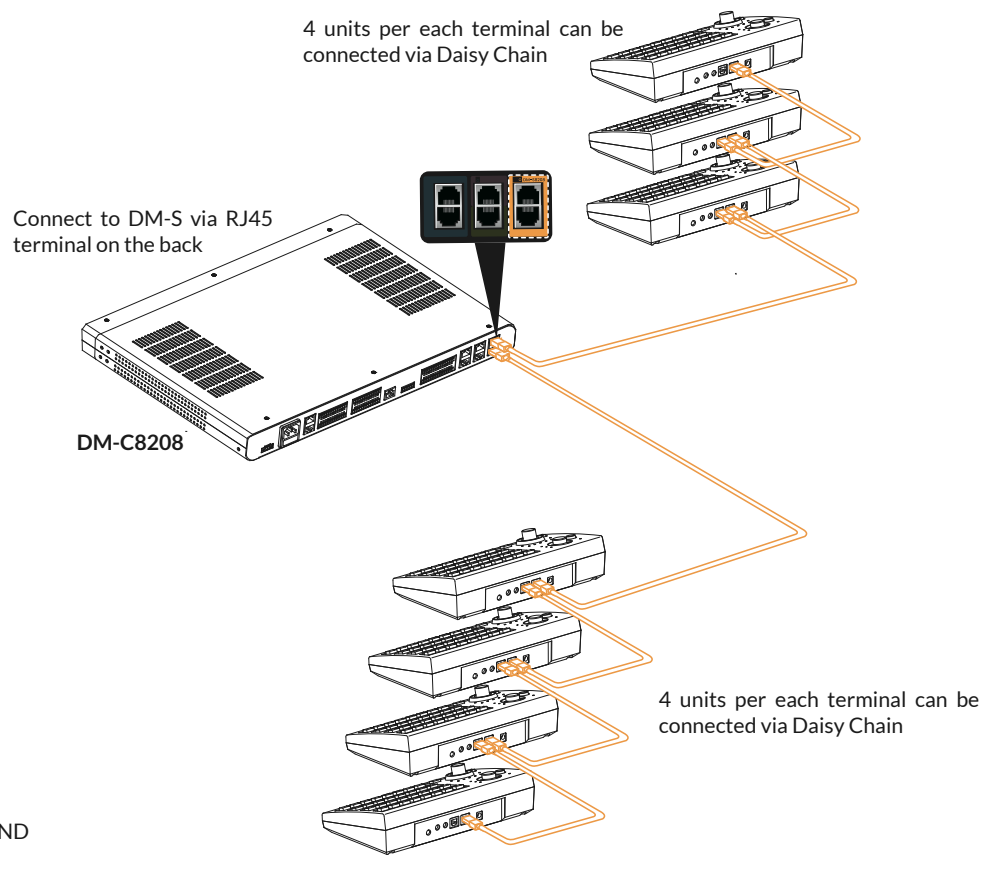


1. **DC power input terminal**  
It is a DC power (DC 24V) input terminal for connecting the unit with DC power for operation.
  2. **AC input terminal**  
It is main power (AC 220V) input terminal. DC power is supplied to the unit through the SMPS inside.
  3. **Audio output auxiliary terminal**  
8 channels balanced audio output using RJ-45 terminal. It can be connected to the dedicated amplifier.
  4. **Audio output terminal**  
8 channels balanced audio output using terminal block.
  5. **Audio input terminal**  
8 channels balanced audio input using terminal block.
  6. **Ethernet**  
PC / MAC connection port. DM-C8208 can be controlled with dedicated software.
  7. **Serial terminal**  
This terminal is used for factory service.
  8. **General-purpose input / output**  
General-purpose 12 input and 6 output using terminal block.
  9. **1, 2, 3**  
This terminal is dedicated for future upgrade.
- Expansion terminal**  
DM-P8208 : Terminal to connect DM-P8208 (Wall controller).  
DM-S8208 : Terminal to connect DM-S8208 (Mic Station).

### DM-S8208

#### Mic Station

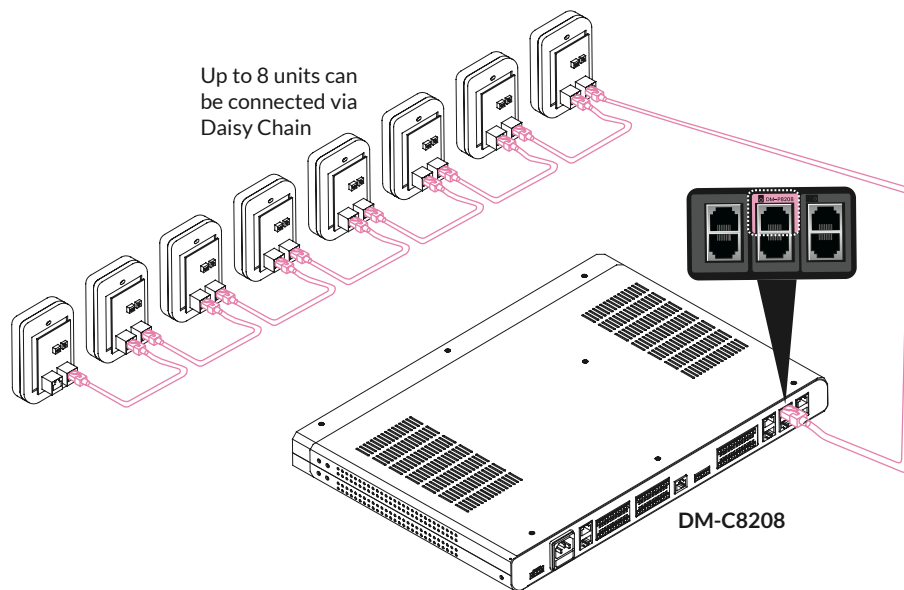
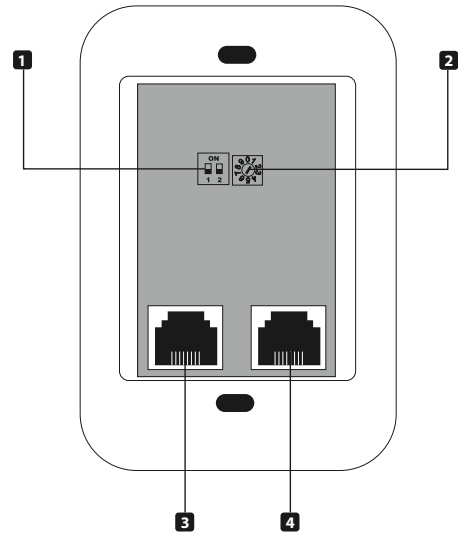
1. Turn off the power and connect and install.
2. Avoid humid place and install in a well ventilated place.
3. When using a microphone other than the one provided, the microphone level may be high or low.
4. When connecting DC power, be sure to check on +, -.
5. Please connect a power supply 24VDC 600mA or higher (not included).



### DM-P8208

#### Wall Panel

1. **Termination resistor switch**  
This switch is set for stable data transmission of LINK IN / OUT. If it does not work properly when processing expansion, set switch 1 to On. (Switch for the 2nd rmware update)
2. **ID setting switch**  
Use to set individual ID number. (When two or more units are used, setting duplication and 0 or 9 will not work).
3. **LINK OUT**  
A terminal jack used to expand.
4. **LINK IN**  
A terminal used to connect the equipment to DM-P8208 output of DM-C8208.

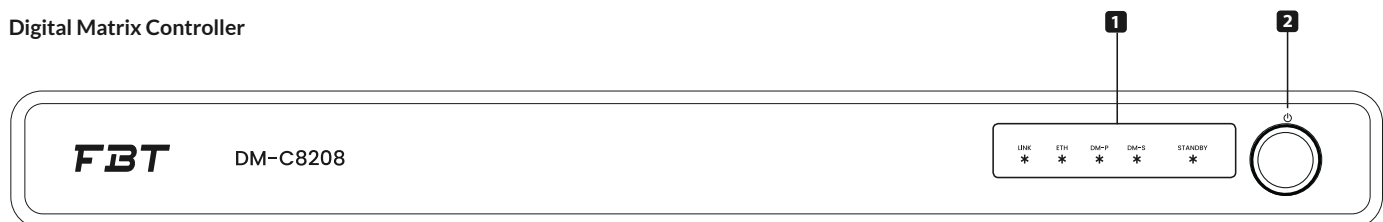


You are now ready to run the DM-8208 System. Please check the following information for each product.

Check the product installed in the rack, the product installed on the table, the product installed on the wall, and the execution information of the software.

### DM-C8208

#### Digital Matrix Controller



#### 1. LED LAMP

- Link: Dedicated for future applications
- Eth: LED displayed when connecting to Ethernet.
- DM-P: LED displayed when connecting DM-P8208.
- DM-S LED displayed when connecting DM-S8208.
- Standby : Low Power Mode status LED.

#### 2. BUTTON

- Power ON / OFF Button: Button to wake up in Low Power Mode.

### DM-P8208

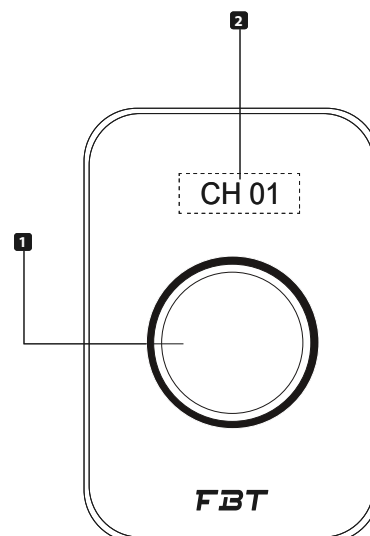
#### Wall Panel

#### 1. ROTARY ENCODER SWITCH

Simply press button to select the input source and turn it to adjust output area volume. Volume increases by turning clockwise, decreases by turning counterclockwise.

#### 2. LCD DISPLAY

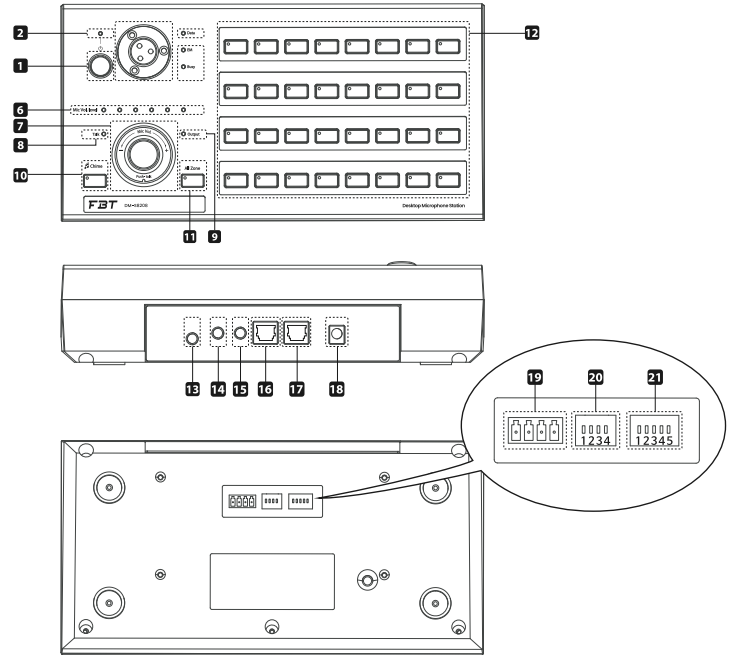
Display the selected source and output area volume and broadcasting status. In Matrix mode, 'Input No. + Category' is displayed. In Mix mode, 'MIX' is displayed on LCD. It is displayed on the LCD depending on the broadcasting mode such as schedule broadcast, remote broadcast, EM broadcast, and so on. If there is no activation for 30 seconds, the LCD changes to the Sleep mode.



## DM-S8208

### Mic Station

1. **POWER BUTTON**  
Switch for turning on/off the power of the unit, power is DC +24V.
2. **STANDBY LED**  
Led lights up automatically when its power supply, and lights out when you press POWER button. (press once -OFF, press twice -STANDBY).
3. **MIC INPUT**  
It is a goose neck microphone input for a XLR screw type, used the microphone by support FBT.
4. **DATA LED**  
To show a connection between DM-S8208 and DM-C8208. If a connection is not good, the LED goes off.
5. **EM/BUSY LED**  
EM: if this equipment is used for EM broadcasting, Emergency LED will be on.  
Busy: if you want to broadcast when another DM-S8208 is in us the Busy LED will light up.
6. **VOLUME LEVEL LED**  
When you change the sound volume, the LED lights according to the volume value.
7. **VOLUME/TALK BUTTON**  
Turn the button to the left or right to adjust the volume. After selecting the desired output and pressing it then you can operate the talk button.
8. **TALK LED**  
Select the desired group or output, press the TALK button, and the TALK LED will light up.
9. **OUTPUT LED**  
To indicate an output level of DM-S8208. Only operated on MIC and AUX mode except for CHIME mode.
10. **CHIME BUTTON**  
Press the CHIME button, so that the selected music wich was chosen on n.21 step will be reproduced. MIC and AUX output doesn't work during CHIME music playing. User key input might be delayed during preset setting and connection/end of telephone call.
11. **ALL BUTTON**  
To control 8 DM-C8208 outputs with All button at one go imply.
12. **PUSH BUTTON**  
To consist of 8 group buttons (G~G8), 8 preset buttons (P1~P8), and 16 output channel buttons (Z1~Z16). Buttons will be light up to check broadcasting area, audio output. Please select the each group (G), the preset (P) or the output channel (Z). And press the TALK button so that the LED will light up. If a connection state is not good, the LED goes off.
13. **AUX INPUT**  
Aux input is used for the external sound source (3.5 Jack). It will be mixed and output with MIC input.
14. **AUX VOLUME**  
To control the volume of AUX channel. When you turn clockwise, the sound level goes increased, and if you turn counterclockwise, it goes declined.
15. **CHIME VOLUME**  
To control the volume of CHIME. When you turn clockwise, the sound level goes increased, and if you turn counterclockwise, it goes declined.



16. **LINK OUT TERMINAL**  
A terminal is to connect when expanding this unit. Connect to the LINK IN of the expended device.
17. **LINK IN TERMINAL**  
A terminal to connect this unit from DM-C8208
18. **DC POWER INPUT TERMINAL**  
To use a separate adapter, connect an adapter with DC + 24V, 500mA or more.
19. **S/W DEBUGGING SOCKET**  
A software debugging socket for developers.
20. **ID SET-UP SWITCH**  
This switch is to set a priority. User can set up into the top priority (No.1) and the same ranked priority (No.2~8). If the ID set to the same, DM-S8208 will not work.

#### (DIP-SW Operation)

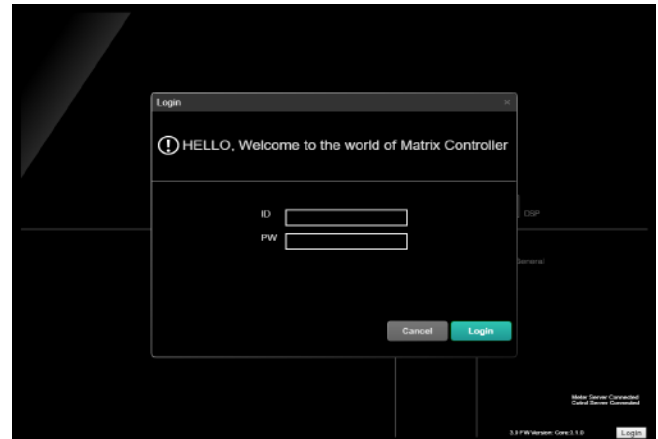
Priority	DIP SW (1 2 3 4)	Priority	DIP SW (1 2 3 4)
1	1 0 0 0	5	1 0 1 0
2	0 1 0 0	6	0 1 1 0
3	1 1 0 0	7	1 1 1 0
4	0 0 1 0	8	0 0 0 1

21. **CHIME SELECT SWITCH**  
Total 4 types of CHIME are applied, user can select CHIME to play.
  1. 2 TONE
  2. 4 TONE DOWN
  3. 4 TONE UP
  4. WEST MINISTER
  5. WAUTO CHIME MODE

### LOGIN

DM software is the dedicated software name for DM-C8208. With DM software, users can control the product quickly and easily. Installers can also make all settings in DM software

- Click the DM software icon on the desktop to install the operating software.
- The login screen appears as shown above.
- Log in with the given ID and PW.
- Default login value is ID: Master / PW: 1. Please enter the correct case as it is case-sensitive.
- You can grant 1 Master grade and up to 3 Admin grade.



### HOME

All functions of DM-C8208 can be controlled here. It is divided into categories according to the usage. We will help you to use your desired functions with enjoy and stability.

- Click on the desired function to proceed and then you can see the detailed function.
- Operation: This is main screen which can control audio input and output operation
- Schedule: You can set the schedule reservation and check the reservation status
- DSP: High precision filter is provided for high quality sound.
- Setup: You can set audio input / output, group, preset, and internal sound source
- Contact closure: You can set GPI/O contacts
- General: You can set ID administration, network, time zone, save, firmware and log
- At the bottom right, you'll see the log-in grade. You can see what your grade is. In the bottom right corner you can check the login level and the software version.
  - You can check the login level.
  - You can check the firmware version and application version of DM-C8208.

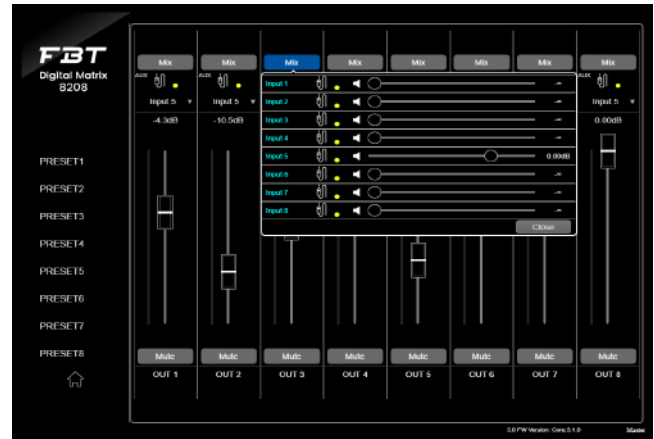




### OPERATION

An intuitive user interface (UI) is provided for quick and easy control of main functions. UI is consisted of the most essential and frequently used functions for operation.

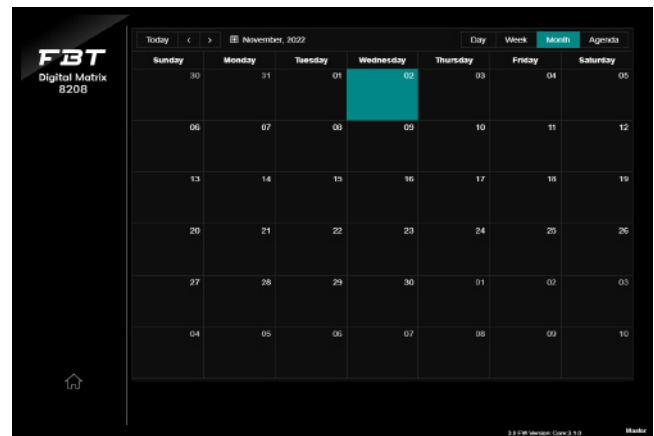
- Matrix mode and mix mode can be selected for each output channel. The default setting is in matrix mode.
  - Matrix mode: Only one input can be selected. Press the arrows icon to check the available inputs.
  - Mix mode: It is a function to mix and broadcast multiple inputs. When you press the Mix button, the Mix icon is highlighted and the Mix mode is activated. When you open the settings window, you can mix multiple inputs. Adjust the volume of the input to mix and then press the Close button to complete the setting.
- You can adjust the volume fader up or down for each output channel. The fader moves from -90.00dB to 0.00dB.
- Mute On / Off is available for each output channel.
- A total of eight preset buttons are provided. You can use it after setting preset in Setup.
- Click the house icon in the lower left corner to return to the main category



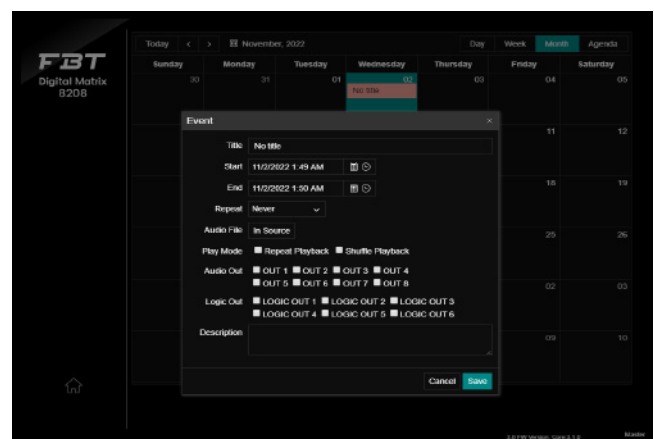
### SCHEDULE

Scheduler enables scheduled broadcasts to match the desired date and time. It is available in an intuitive calendar form for easy and convenient use of scheduled broadcasts.

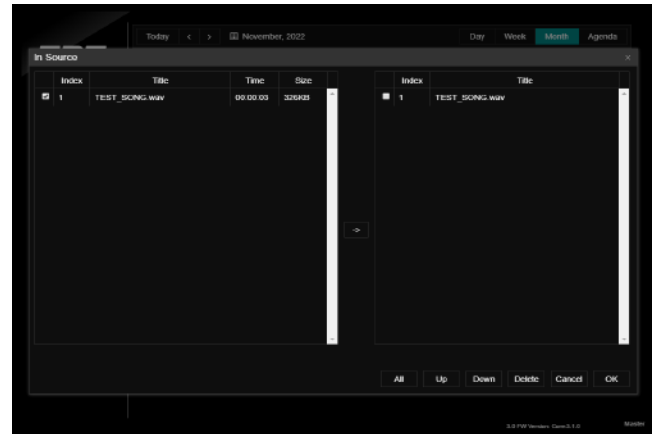
- Schedule setting and schedule view are available by Day, Week, Month and Agenda.
- A list of reservation settings can be viewed at once in the Agenda tab.
- Double-click the desired date to proceed with the reservation setting.
- You can select the current date, select the next day / the previous day, and select a specific day / week / month / year through navigation in the upper left corner.



- Start setting / editing the schedule.
- Enter the reservation setting title. Fill in the text. (ex. lunch time)
- Set the start and end times. Detailed settings can be adjusted manually or via the right icon (calendar, clock).
- Set the repeating. It can be set by Day, Week, Month, and Year. The detailed settings of the repeat cycle are shown below
  - Weekly: You can set multiple specific days for each week.
  - Monthly: You can set a specific day by month.
  - By Year: You can set a specific date for each year.
- Select the audio file that will be output on the scheduled. Multiple selections are available.
- You can select multiple audio outputs to be reserved.
- Please refer to [picture\_#1] for selecting / editing audio files.
- The selected audio file can be set to Repeat Playback or Shuffle Playback.
- You can select multiple output channels for scheduled broadcasting.
- You can execute "Logic out" when reservation broadcast is executed. It has a total of 8 contact outputs and can select multiple.
- Reservation details can be entered as text in the description field.
- When the reservation setting / editing is completed, press the SAVE button to finish.



- If you click the Insource button of the audio file, a page of [picture1] is created.
- The left space is the audio file which is saved in Insource.
- To save audio files in Insource, check out Section 7.5.6.6 Insource.
- Select the audio file you want to schedule broadcasting from the audio files saved in the left space, and click the arrow icon in the middle, to move the audio file selected to the audio file list in the right space.
- The audio files in the right are the audio files to which the schedule broadcast is applied.
- You can change the order of the audio files through Up / Down on the bottom.
- Click Delete button to delete the audio file.
- Clicking the Cancel button, cancels the changes applied to the schedule audio file list, and maintains the previous schedule audio file list status.
- Clicking the OK button, the status of the current schedule audio file list is finally saved.



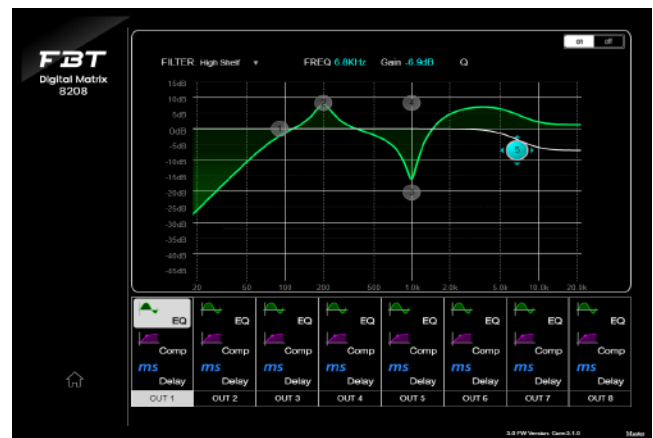
Picture 1

## DSP

High Precision filters are provided for high quality sound. It is an intuitive UI (User Interface) that can be adjusted in tune with the essential filter. You can adjust EQ (Equalizer), Comp (Compressor) and Delay for each output channel in one screen.

## EQ

- Filter can be applied to each of 5 points.
- Types of filters are Bypass, HPF (High Pass Filter), LPF (Low Pass Filter), Low Shelf, High Shelf, Peaking, and Notch Filter
- Apply Filter type to each point, and fine-tune it with mouse. In addition, the parameters of the points are provided on Freq (Frequency), Gain and Q basis. The Q value can also be adjusted with the mouse wheel.
- You can apply or not apply the provided EQ via On / Off in the upper right corner. When it is On (On), the color of the graph will be green. If it is not set (Off), the color of the graph will be gray.



### COMP

- **Threshold (Thres):** The starting level at which the compressor is applied. You can adjust from 60dB to 0dB in 1dB increments.
- **Ratio:** The compression ratio can be adjusted after the compressor is applied. Compression ratios up to 1:20 can be applied and can be adjusted in increments of 0.1.
- **Attack:** Start time at which the compressor is applied in the ratio of the threshold to the ratio. It can be applied up to 1000ms and can be adjusted in 1ms increments.
- **Release:** It is the time to return to the original signal after applying the attack. It can be adjusted from 20 ms to 1000 ms in 1 ms increments.
- **Make up Gain:** This function raises the level of the signal that is reduced by applying the compressor. You can adjust from 0dB to 18dB, in 1dB increments.
- **Knee:** You can adjust the point where the threshold and ratio are applied to SOFT, MED, and HARD. You can apply or not apply the provided Comp on On / Off in the upper right corner.

You can apply or not apply the provided Comp on On / Off in the upper right corner. When it is On (On), the color of the graph will be green. If it is not set (Off), the color of the graph will be gray.



### DELAY

- Delays can be adjusted in increments of 1 ms up to a maximum of 200 ms.
- You can apply or not apply the applied Delay on On / Off in the upper right corner. When it is On (On), the color of the graph will be green. If it is not set (Off), the color of the graph will be gray.



### SETUP

#### INPUT

Settings for input of DM-C8208 can be made on this page. Easy, concise and smart settings are available. Various input type setting, input naming, signal level control, phantom power supply, mute function can be set conveniently.

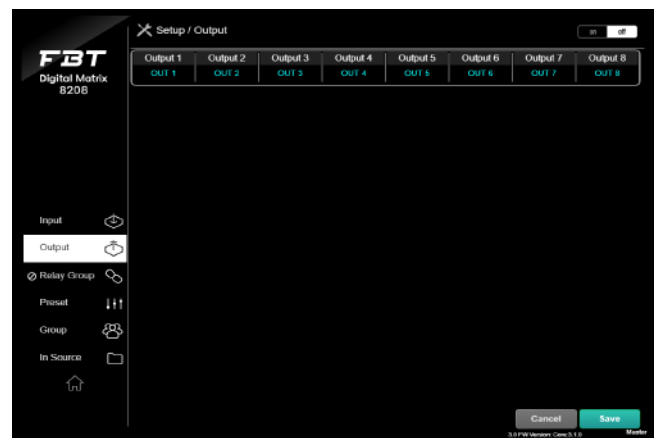
- One DM-C8208 can accept 8 BGM inputs. You can adjust the settings for a total of eight inputs.
- You can select the category of input from CDP, TUNER, AUX, MIC (dynamic, condenser) and MP3. Depending on the selected input category, line and microphone levels are applied.
- You can change the name of the input.
- Press the + 48V button, Phantom power is activation. The color of the icon changes (red) and the input is supplied with +48V phantom power. When pressed again, the icon color changes (black) and the function is inactivation.
- When the HPF button is pressed, the High Pass Filter function is activation. The color of the icon changes (green) and a low cut with a Butterworth Filter applied to the corresponding input in the 75Hz frequency. When pressed again, the icon color changes (black) and the function is inactivation.
- You can set the gain value for the input. Adjustment from -40dB to 20dB is possible. It can be adjusted according to the input gain level.
- When C/N Mic (Condenser Mic) is set in the input category setting, 48V phantom power is automatically applied.
- The input signal level meter and the set gain level are displayed and can be easily seen.
- Mute function is provided for the input.
- All eight input channels can be set the same.
- Press the Save button after completion, or press the Cancel button to cancel.



#### OUTPUT

Settings for output of DM-C8208 can be made on this page. Easy, concise and smart settings are available. One DM-C8208 has eight outputs.

- You can enter a name for each output (8 total). You can write 'Lobby' in Output 1 as shown in the figure. English is available.
- All eight output channels can be set the same.
- Press the Save button after completion, or press the Cancel button to cancel.
- Please set the switch on the top right corner in OFF mode. ON mode will be used for next future applications.



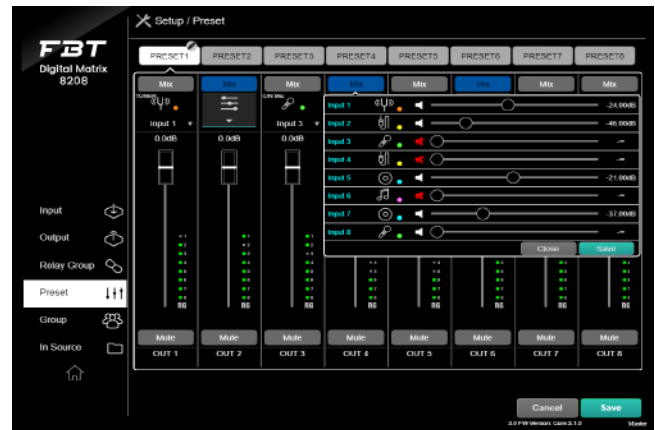
## RELAY GROUP

Section dedicated for future applications, currently not working

## PRESET

Preset can be used to create a broadcast pattern that the user frequently uses. A total of 8 presets can be created, and it can be controlled from the Operation screen.

- A total of 8 presets can be created.
- You can modify the Preset name to suit your preference.
- Each output can be set by either Mix Mode or Matrix Mode.
- Each Preset can select Input by Output Channel, Volume by Output Channel, and Mute by Output Channel.
- After setting the preset, press the Save button to save the preset.



## GROUP

You can set the group for the output channel. A total of 8 groups can be created, and the set Group can be controlled by DM-S8208.

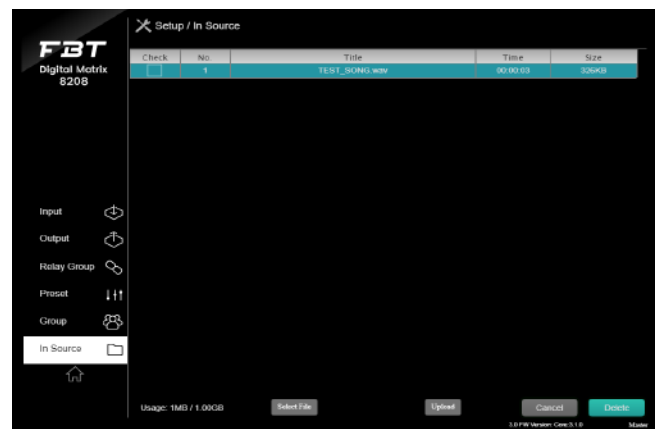
- The 8 groups set up are operated in 1: 1 correspondence with the 8 G buttons of the DM-S8208 remote mic station.
- To set up a group, first click "Group # number" at the top. The color of the clicked Group button changes. To modify the Group name, click the pencil icon and enter the Group name.
- Select the output channel (multiple selection is available).
- Click the Save button to complete the Group setting.
- If you want to edit a group, select the group button again.
- If you click the output channel you want to edit among the output channels applied to the corresponding group, it will be released and the color will change. Also, when you click the output you want to add, the color of the channel changes. Press the Save button to complete the reset of the group.



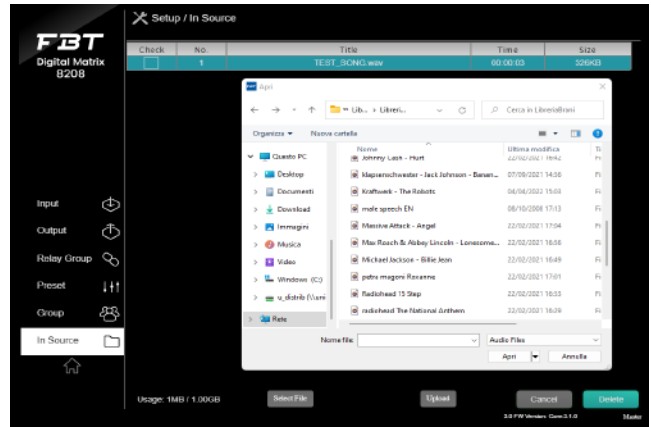
## IN SOURCE

You can save and edit the audio file for scheduled broadcasting on this page. You can save the audio file you want, so you can conveniently broadcast to the area you need when you need it.

- The internal sound source storage capacity is 1GB, which can be checked by comparing the current storage capacity with the total storage capacity.
- The file types that can be saved are WAV, MP3, and AAC. If other files are saved, they cannot be saved.



- If you click the 'Select File' button, the Explorer will appear. Find the audio file on your computer and click the 'Open' button in the navigation window. Make sure that the file is selected and click the 'Upload' button. You can see the newly uploaded file.
- Two or more files can be uploaded at once.
- You can upload up to 50MB at a time.



## CONTACT CLOSURE

### GP I/O

You can set the contact closure of DM-C8208 in this page. With GP I/O General Purposed Input/output, you can control the functions of DM-C8208 through contact closure. Input 12ch and Output 6ch. Input 12ch is shared with GP I/O and fire reception input contact (domestic only).

- GPI (General Purposed Input) has 12 inputs.
- Logic Input only works on the last input. Multiple inputs do not work at the same time.
- **Logic input:** Command and Logic output channel can be applied to each Logic input channel. It has a total of 12 inputs and is a contact closure type. Active when the contact closure is Low, and inactive when it is High. High / Low of contact closure is driven by toggle switch type.
- **Command:** Set the Command parameter corresponding to each Logic input. You can select one of the following commands.
- **Set Audio & Output:** This is function that the audio file and output channel to be played when Play single or Play repeat is selected in Command.
  - Select the audio file by pressing the In source button.
  - Select the output channel to be played (multiple selection is available).
- **Logic output:** GPO(General Purposed Output) has 6 outputs. Unselected or multiple can be selected. When Active, the contact of the output is switch on and the contact of the output is switch off when inactive. It is driven by Toggle type. The voltage applied to the logic output is 24V maximum.



Command	Description
-----	Not available
Bypass	Use only Logic Output
All Output Mute	All Output Mute
Power On	Power on from standby mode
Preset #1 ~ #8	Run Preset #1 ~ #8
Matrix P Wake up	Power on to Matrix P amp
Play single	Play once
Play repeat	Repeat play
Output CH#1~8 Mute	Output CH#1~8 Mute
Output CH#1~8 Volume up	Output CH#1~8 Volume up
Output CH#1~8 Volume down	Output CH#1~8 Volume down

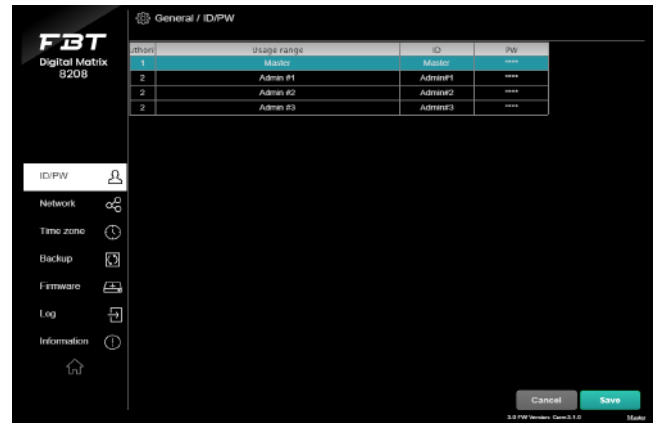
### COMMAND

## GENERAL

### ID/PW

This page is for setting user grade. You can set up 1 Master and 3 Admins. Master grade can be configured and operated for all functions, and Admin can only operate operation and DSP.

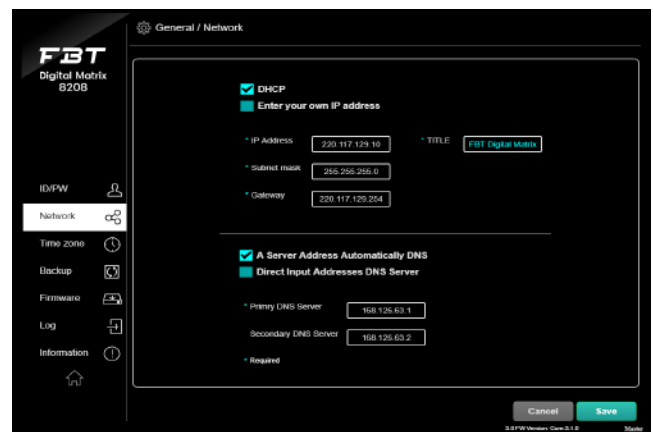
- Change ID name and PW and click 'Save'.



## NETWORK

This page is for network setting. You can set the DM-C8208's detailed IP address here.

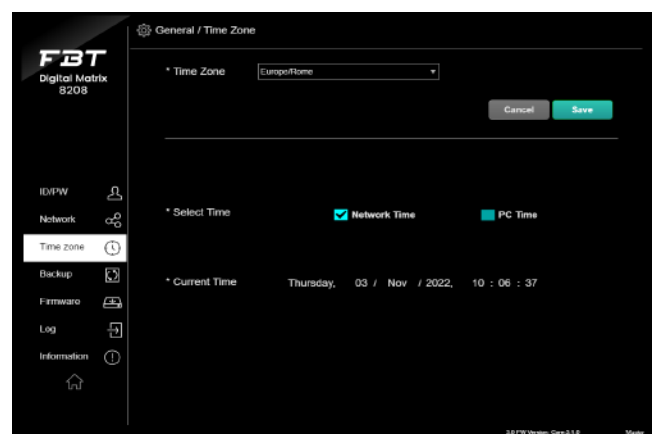
- Select DHCP or Direct IP. IP stands for Internet Protocol.
- If you select Direct IP Write, enter the IP address, Subnet Mask, and Gateway values.
  - IP address: DM-C8208's unique IP address.
  - Subnet Mask: The range of the IP address you fill in.
  - Gateway: This is the gateway to another network. Write the gateway's unique IP address.
- Select either Obtain DNS server address automatically or enter your own DNS server address. DNS stands for Domain Name System.
- If you select Enter direct DNS server address, enter the values of primary DNS server and secondary DNS server.
  - Primary DNS server: Enter the IP address of DNS.
  - Secondary DNS server: Enter the IP address of the secondary DNS.
- The asterisk ( \* ) marked section is required.
- After entering the required information, press the 'Save' button to save the settings.



## TIME ZONE

Setting for the current time of each country can be made on this page. It is necessary to set it for accurate schedule broadcast according to country.

- In the Time zone tab, select the city / country where the user is located and press SAVE to complete the setting.
- When the setting is completed, you can check the current time based on day / date / month / year : minute : second.
- If you select Network Time, the time is automatically synchronized periodically over the network. However, an external network must be connected to the DM-C8208 Ethernet port for accurate time synchronization. Regular Internet access is recommended for accurate synchronization.
- If you select PC Time, the time of the connected PC / Mac will be synchronized. Regular PC / Mac synchronization is recommended.



## BACKUP & RESTORE

You can back up the setting contents of DM-C8208 to the computer and restore the settings made on the computer to DM-C8208. It is a function that can be applied to system operation easily and quickly by going to the installation place after setting in advance.

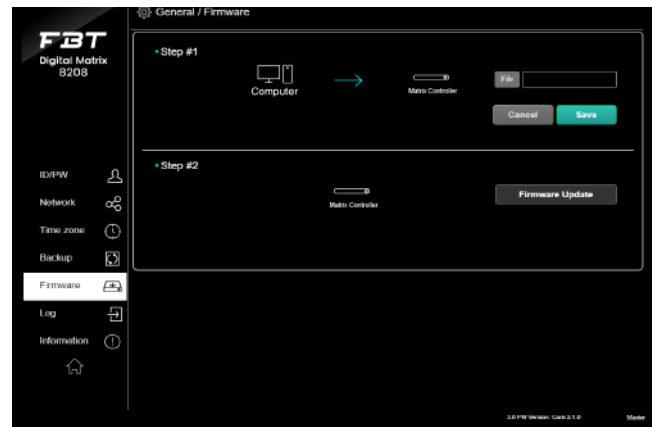
- **Backup:** It is a function to backup setting contents of DM-C8208 to computer. If you press the SAVE button, you can save it to the computer.
- **Restore:** This function saves DM-C8208 setting contents stored in user's computer in DM-C8208. Select a file on your computer and press SAVE to save it to the DM-C8208.
- **Note.** The scheduler and network information are not saved.



## FIRMWARE

Setting for updating the firmware of DM-C8208 can be made on this page. The latest firmware version can be found at FBT website (www.fbt.it).

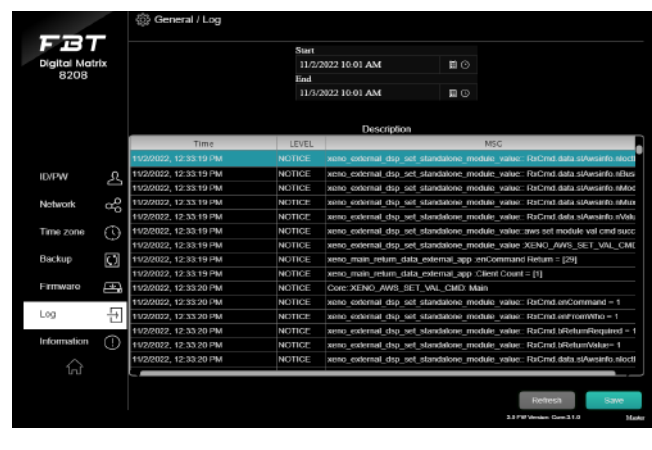
- **Step 1:** Save the latest firmware to DM-C8208. Press the File button to select firmware on your computer. Press the SAVE button to save to the DM-C8208.
- **Step 2:** When the Firmware Update button is activated with highlight, Firmware Update Press the button to start the update.
- **Step 3:** DM-C8208 automatically restarts when update is complete.



## LOG

This page is used to check the status of Matrix System. You can use it when you need to re-check the past broadcasting status.

- You can set the start date and end date.
- You can set it by day, time zone. You can set the day by pressing the calendar button. The time can be set by pressing the clock button. You can set it by yourself.
- If you want to save the result of log status, press 'Save' button to save.
- If you want to reset it, press 'Refresh' button.

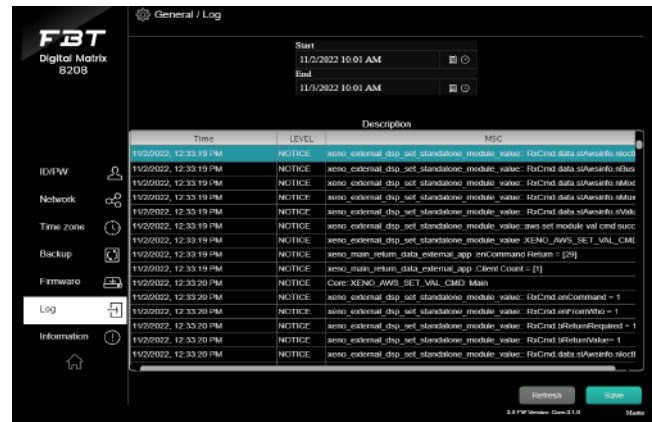




### INFORMATION

This is a page you can check specific information of software(DM-C8208).

- Software and Firmware version can be checked.
- You can check the address, contact information and website of FBT.



### DM-C8208

Digital Matrix Controller

#### DSP

Signal processing /CPU	32-bit ARM CORTEX A9
------------------------	----------------------

#### AUDIO SPECIFICATIONS

Frequency response	20Hz to 20kHz, +/-3dB
--------------------	-----------------------

THD+Noise	<0.01% @ 1kHz
-----------	---------------

Crosstalk	>80dB @ 1kHz
-----------	--------------

#### MIC/LINE INPUTS

Number of Inputs	8 balanced mic/line level
------------------	---------------------------

Connectors	3.5mm terminal blocks
------------	-----------------------

Input Sensitivity	-10dBV (LINE)/-55dBV ( MIC )
-------------------	------------------------------

Maximum Input Level	+5.5dBV(+7.7dBu) at THD 0.1%
---------------------	------------------------------

Phantom Power	+48VDC
---------------	--------

#### PAGING INPUTS

Number of Inputs	2
------------------	---

Connectors	RJ45
------------	------

#### WALL PANEL

Number of Inputs	1
------------------	---

Connectors	RJ45
------------	------

#### OUTPUTS

Number of Outputs	8 balanced line level
-------------------	-----------------------

Connectors	3.5mm terminal blocks ( available Audio Link connection 2xRJ45)
------------	---

Nominal Output Level	0dBV
----------------------	------

Maximum Output Level	+16.5dBV(+18.7dBu)
----------------------	--------------------

#### GENERAL PURPOSE I/O

inputs	12 logic ( configurable by GUI )
--------	----------------------------------

outputs	6 logic
---------	---------

#### INDICATORS

Leds	Link/Ethernet/DM-P/DM-S/Stand-by
------	----------------------------------

Power	Power ON / OFF Button
-------	-----------------------

#### CONTROL

Software	GUI for PC / App for iOS/Android
----------	----------------------------------

Ethernet	10/100/1000 Mbps, 1xRJ45
----------	--------------------------

#### CONTROL GENERAL

Power Supply	AC 100-240V, 50/60Hz or +24VDC
--------------	--------------------------------

Operating Temperature	-10° to +40°
-----------------------	--------------

Storage Temperature	-20° to +60°
---------------------	--------------

Cooling	Convectional with ventilation holes
---------	-------------------------------------

Net Dimensions (WxHxD)	482(19.0) x 44(1.7) x 300.5(11.8)mm(Inch) (19" wide, 1RU high)
------------------------	--

Mounting	Stand-alone, 19" rack
----------	-----------------------

Net Weight	3.4kg(7.5 lb)
------------	---------------

### DM-S8208

Mic Station

#### AUDIO SPECIFICATIONS

Audio output	1.2V +/-200mV balanced
Input Sensitivity/impedance	MIC: -60dB/600Ω ( balanced ) AUX: -10dB/10KΩ ( unbalanced )
Frequency response (+/- 3dB)	MIC: 100Hz-15KHz ; AUX: 20Hz-20KHz
T.H.D	MIC: < 0,5% ; AUX: <0,2 %
S/N	MIC: >50dB ; AUX: >80dB

#### INPUTS / OUTPUTS

Aux IN	XLR connector
Mic IN	3,5mm jack
Link IN	1x RJ45
Link OUT	1x RJ45

#### MICROPHONE SPECIFICATIONS

Directional Characteristics	Cardioid Electret Condenser
Frequency Response	30Hz-20KHz
Output Impedance	200Ohm
Sensitivity	-40dB±2dB(0dB=1V/Pa at 1KHz)
Current Consumption	Max. 0.5mA

#### GENERAL

Control Protocol	RS-485
Power Supply	24VDC 500mA
Operating Temperature	-10° to +40°
Storage Temperature	-20° to +60°
Net Dimensions	264x135x62mm ( 10,4x5,3x2,4 inch ) [WxHxD]
Net Weight	1020g ( 2,2lb )

**DM-P8208**

Wall Panel

**INPUTS / OUTPUTS**

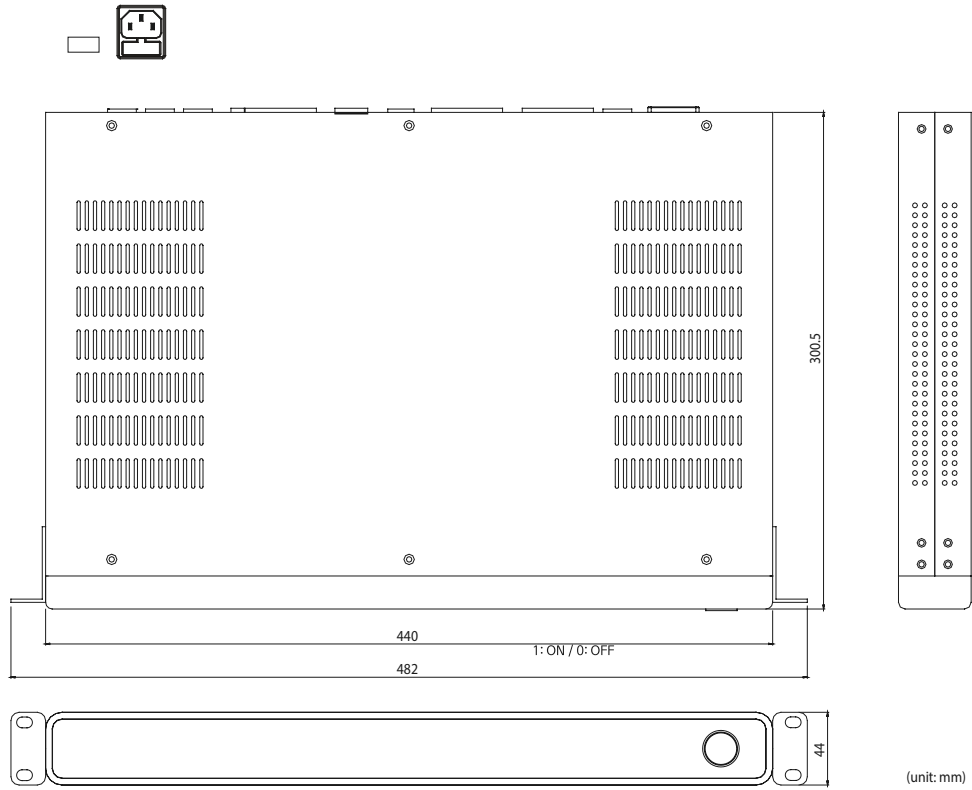
Link IN	1x RJ45
Link OUT	1x RJ45

**GENERAL**

Control Protocol	RS-485
Power Supply	24VDC 15mA W( provided by DM-C8208 )
Operating Temperature	-10° to +40°
Storage Temperature	-20° to +60°
Net Dimensions	115 x 78 x 17 mm ( 4,5x3,1x0,7inch ) [WxHxD]
Net Weight	110g ( 0,24lb )

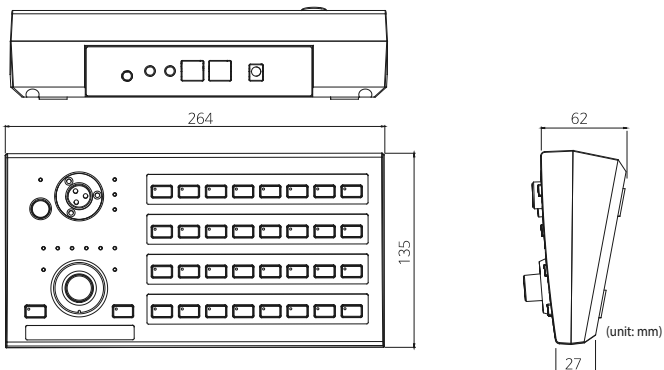
### DM-C8208

Digital Matrix Controller



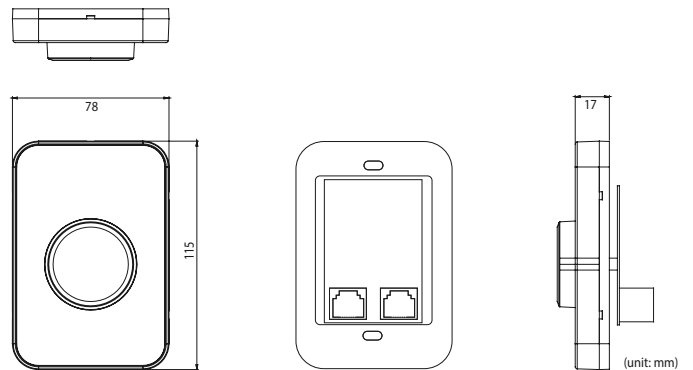
### DM-S8208

Mic Station



### DM-P8208

Wall Controller



**TO PURCHASE ADDITIONAL FBT GEAR AND ACCESSORIES**

To purchase FBT gear and optional accessories, contact any authorized FBT distributor. For a list of FBT distributors please visit our website at [www.fbt.it](http://www.fbt.it)

**SERVICE AND REPAIR**

For replacement parts, service and repairs please contact the FBT distributor in your country.

FBT does not release service manuals to consumers, and advice users to not attempt any self repairs, as doing so voids all warranties.

You can locate a dealer near you at [www.fbt.it](http://www.fbt.it)

**WARRANTY INFORMATION**

Warranty terms and conditions vary by country and may not be the same for all products.

Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

To obtain specific warranty information and available service locations contact FBT directly or the authorized FBT distributor for your specific country or region.

**CUSTOMER SERVICE AND TECHNICAL SUPPORT**

We encourage you to visit our online help and support at [www.fbt.it](http://www.fbt.it).

There you can find answers to frequently asked questions, tech tips, downloads, returns instruction and other helpful information.

We make every effort to answer your questions within one business day.







***FBT***

**FBT ELETTRONICA SPA**  
Via Paolo Soprani 1 - 62019 RECANATI - Italy  
Tel. 071750591 - Fax. 071 7505920  
email: [info@fbt.it](mailto:info@fbt.it) - [www.fbt.it](http://www.fbt.it)