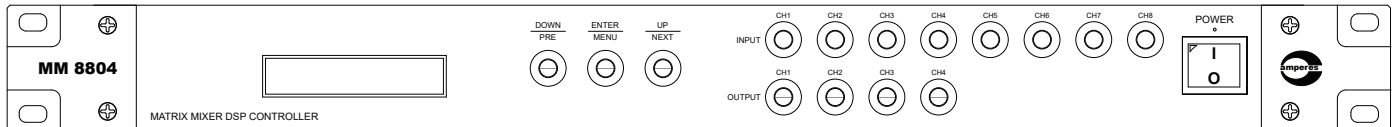




# INSTRUCTION MANUAL

## MM8804

8 In / 4 Out DSP Matrix Controller



Thank you for choosing another quality product from Amperes Electronics

### Product in Summary

MM8804 is a matrix mixer / controller built to provide flexibility of audio mixing and routing to different zones with total 4 outputs. Each output comes with its own audio controls ie. DSP. Delay feature is included to provide audio balancing for uneven ceiling height or different position of speaker along horizontal installation. It has 8 line inputs with one priority control which will bypass all other incoming audio for essential message. As such, EP1200 emergency control panel or Voice Alarm Player ( MR1301 MKII ) can be integrated into the system.

Controls of the device can be done at the unit itself, or through Internet browser for a more thorough access and settings. Dedicated remote control panel, RP1106 can be used alongside the device to control certain parameters of the outputs. This is a convenient and less hassle than accessing the device full control panel, especially for layman.

Remote Control Panel ( RP1106 ) comes with different level of access, so as to protect the integrity of the setting. Refer to the manual of RP1106 for more information. Android Apps will be available in near future.

Among applications are :

- Residential
- Place of worships eg, Mosques, Churches with segmented area of audiences
- Banquet halls with partitions

MM8804 is a device, making delicate audio distribution within the premise simpler.



Scan to view catalogue and latest updates

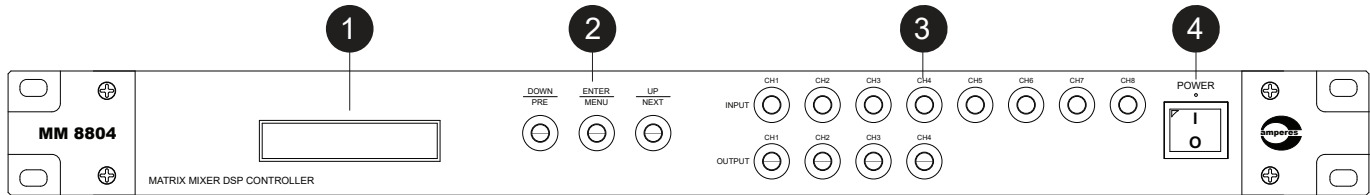
Ver 1 / 1124

In our support towards environment, we shall no longer print manuals to be accompanied with each product. Please view through browser and print them only when necessary.

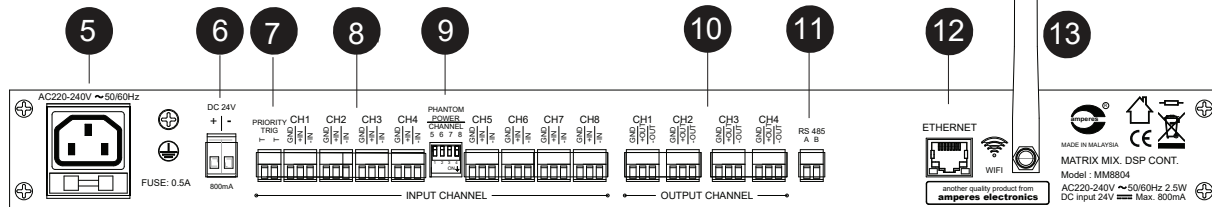


## Parts Identification

### Front View



### Bottom View



#### 1. LCD

2x16 characters LCD to indicate status and to navigate the controls.

#### 2. MENU BUTTONS

Used to control the menu on the display and settings. Press ENTER/MENU momentarily to enter setup mode. Use DOWN/PRE and UP/NEXT button to navigate between the menu.

#### 3. INPUT SELECT BUTTON

Input select buttons with back green LED when pressed.

#### 4. MAINS POWER SWITCH

This device operates on dual power mode, ie. AC mains and 24V DC. Default operating power source is AC and DC power will serve as back up. Switching off the switch will cut both AC and DC power supply.

#### 5. AC INLET

This is a fused AC IEC connector with recommended fuse rating of 0.5A. Operating mains AC is 220 - 240V, 50 / 60 Hz.

#### 6. DC POWER CONNECTOR

24V DC supply is used as back up. Use power adaptor or DC source with 800 mA rating.

#### 7. PRIORITY TRIGGER

Priority trigger is available for either one input from IN 1 to IN 4 to override other input sources. The assignment of the priority input can be set through web interface or at the remote control panel at admin level.

#### 8. INPUT CONNECTORS

This device accepts balanced line input ( +4 dBU max ) signal.

#### 9. PHANTOM POWER SWITCH

12V DC phantom power is available for input channel 5 to 8. The power is switchable using this DIP switch. Push down to insert the phantom power to the input channel.

#### 10. OUTPUT CONNECTORS

4 channels of audio outputs are available in balanced line of +4 dBU.

## Parts Identification ( Con't )

### 11. RS485 DATA PORT

This is used to connect to remote control panel ( RP1106 ) with RS485 protocol at 19.2 kbps.

### 12. RJ45 ETHERNET PORT

Connect the device to ethernet for access to configuration page.

### 13. WIFI ANTENNA

The device can connect to network via Wifi as an alternative to using cable.

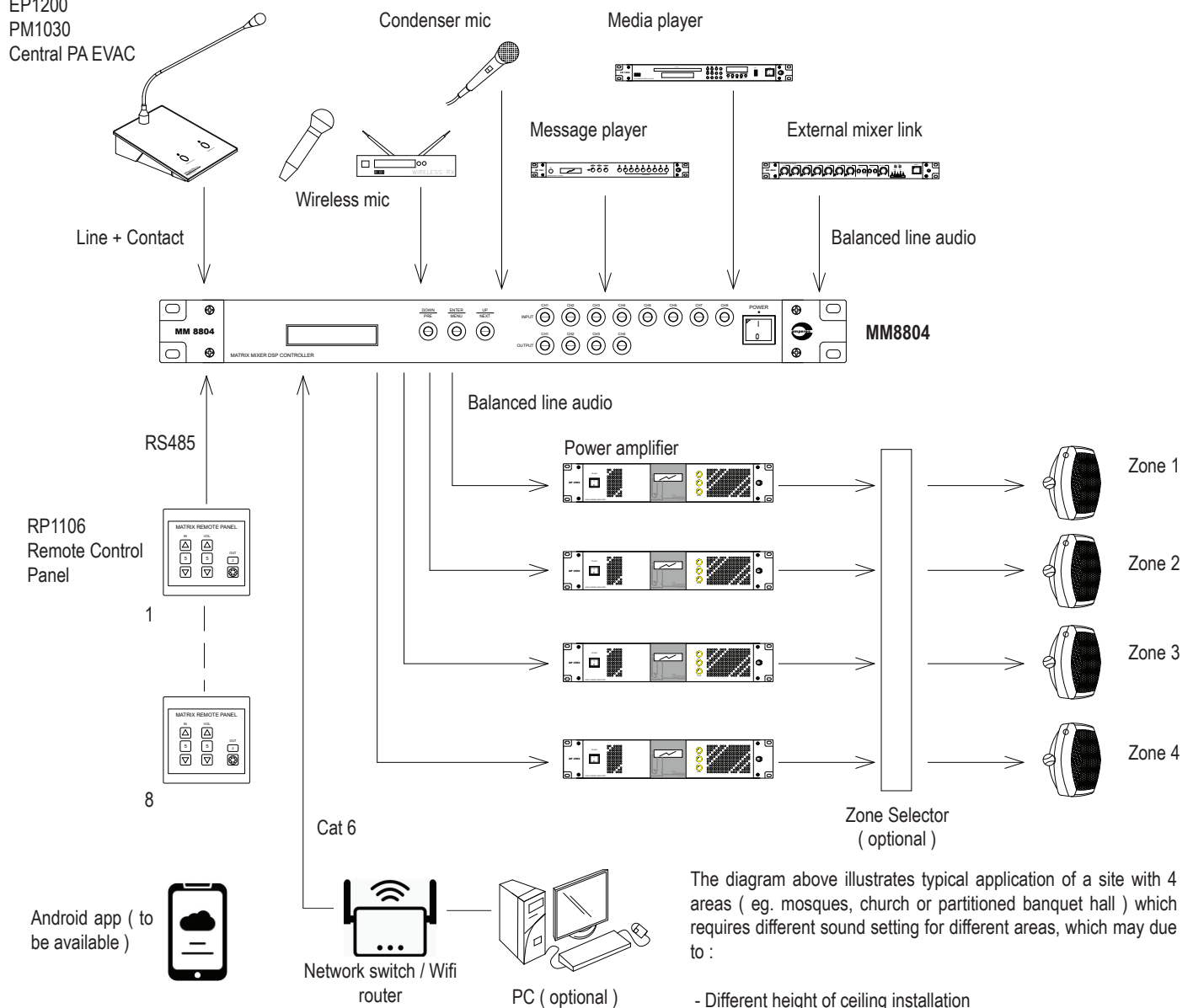
## Schematic Diagram

Priority input source:

EP1200

PM1030

Central PA EVAC



The diagram above illustrates typical application of a site with 4 areas ( eg. mosques, church or partitioned banquet hall ) which requires different sound setting for different areas, which may due to :

- Different height of ceiling installation
- Acoustic difference or environment
- Speaker type ( horn / ceiling speaker / wall full range speaker )

## Web Setup

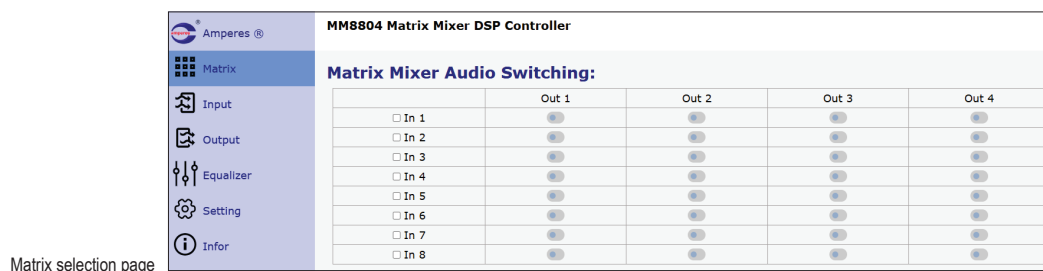
Setup through web is required for the first time. Connect the device to the network or connect directly to a notebook using a non crossed network cable.

Access the default IP address 192.168.0.100 ( this can be changed later ), and enter the username and password as :

Username : Admin

Password : Admin

Once access is allowed, the landing page shall appear showing matrix configurations.



Matrix selection page

### INPUT - OUTPUT SELECTIONS



MM8804 is a matrix mixer which means an output channel can have several audio signals mixed. Use this page to choose which inputs to be routed to the 4 outputs. Slide the oval buttons to activate.

Alternatively, the selection can be performed using RP1106.

	Out 1	Out 2	Out 3	Out 4
<input type="checkbox"/> In 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In 5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> In 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Input channels

Output channel

Input active

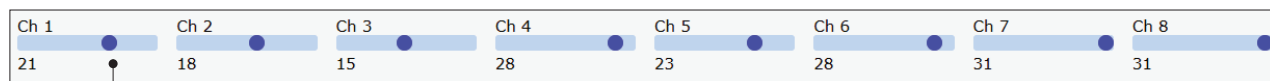
Input not active

### INPUT CHANNEL VOLUME SETTING



The input signal volume can be adjusted here with divisions from 0 to 31.

Alternatively, the selection can be performed using RP1106.



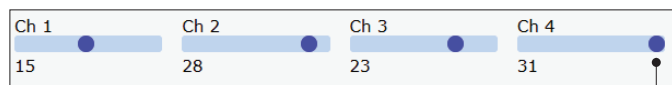
Slide left / right to adjust the volume

### OUTPUT CHANNEL VOLUME SETTING



The output signal volume can be adjusted here with divisions from 0 to 31.

Alternatively, the selection can be performed using RP1106.



Slide left / right to adjust the volume

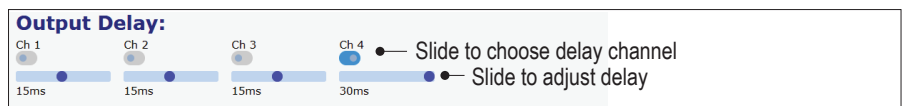
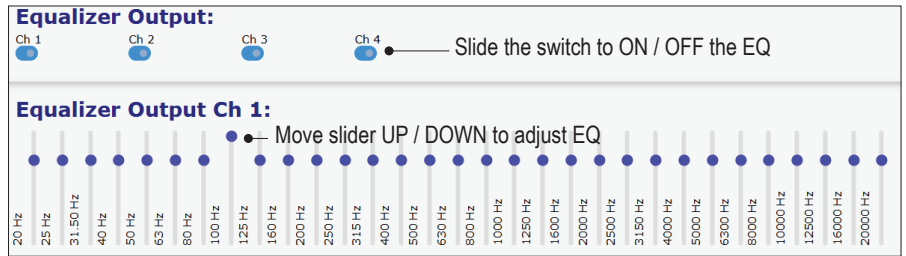
## EQUALISER SETTING



The output of each channel can be tuned to fit the speaker type and also to perform equalization to the installed area to get optimum sound reproduction.

31 Band EQ is available from 20 Hz to 20 kHz for each channel. If the channel is to go without equalization, unslide the channel button.

Output delay is available only for one channel. You can select the channel required and set the delay of up to 30 ms. This is the delay for approximately 10 meters.



## PARAMETER SETTINGS



Access this page to change Username, passwords as well as LAN connectivity parameters. Device firmware updates is available by clicking "Update Device"

Login

Username: 
Password:

WiFi AP Password

Password:

WiFi STA

Status: Connecting..
Enabled: ☒
Use Static IP: ☒
SSID: 
Password: 
Static IP Address: 
Gateway Address: 
Subnet Mask:

Ethernet

Status: Connected
Enabled: ☒
Use Static IP: ☒
Static IP Address: 
Gateway Address: 
Subnet Mask:

Default Audio Setup

Firmware & Webpage Update:

[Update Device](#)

Update your new Username and Password

Enter the Wifi password if the device is to connect to network via Wifi

Wired LAN connection IP address parameters

Click this if new firmware updates are available  
See Page 8

## DEVICE INFORMATION



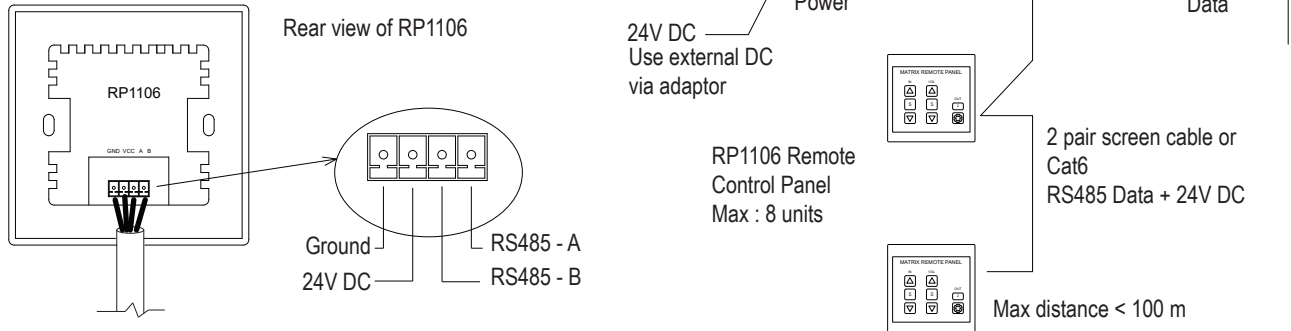
Click this tab to view the device's information such as firmware version, IP address, etc.

Firmware Version:	V1.00
Web Firmware Version:	V1.00
Webpage Firmware Date:	18-JUNE-2024
Webpage Version:	V1.00
Network Connection Mode:	[WiFi AP][Ethernet]
Wifi MAC:	34:98:7A:6E:25:7C
Wifi AP IP:	192.168.4.1
Wifi STA Enable:	Yes
Wifi STA SSID:	MM8804 Test
Wifi STA Rssi Signal:	
Wifi STA IP:	
Wifi STA Gateway:	
Wifi STA Subnet Mask:	
Ethernet Enable:	Yes
Ethernet IP:	192.168.0.88
Ethernet Gateway:	192.168.0.1
Ethernet Subnet Mask:	255.255.255.0
Ethernet MAC:	34:98:7A:6E:25:7F
Hostname:	MM8804-6E257C

## Connecting RP1106

Remote control panel ( RP1106 ) can be connected directly to MM8804 with a maximum of 8 panels and the longest distance should be less than 100m.

Details on operating RP1106 is available in the model's instruction manual.

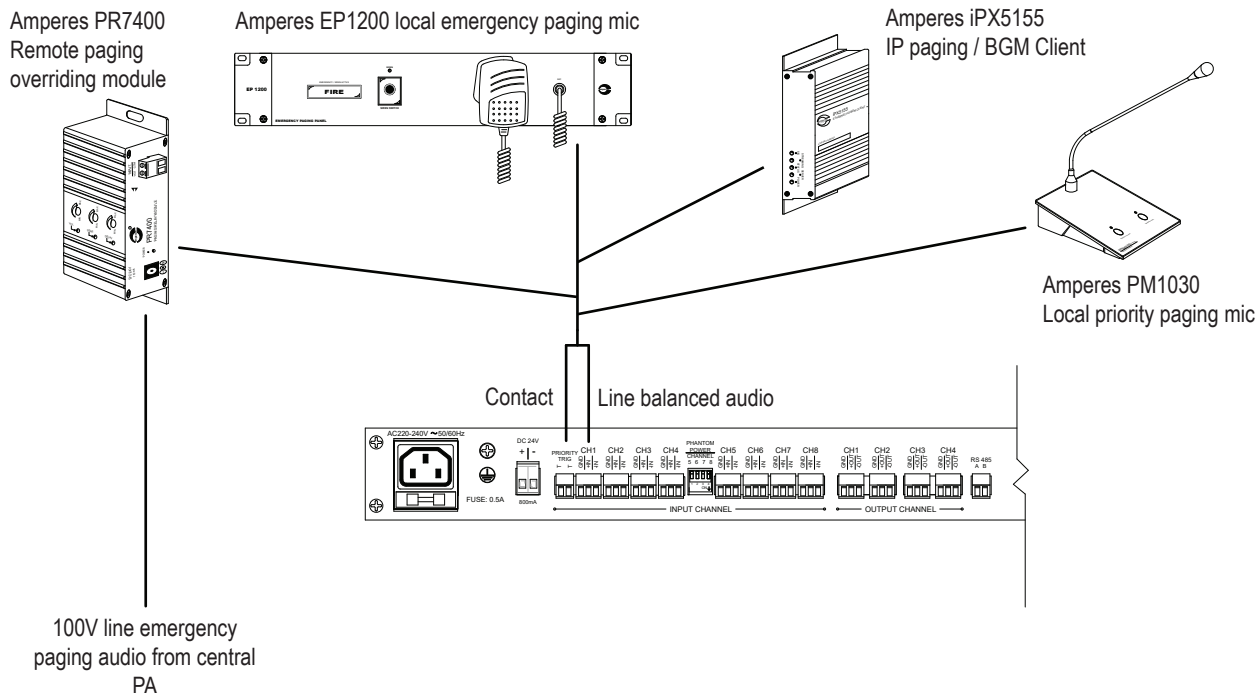


## Interface with Main PA System - Priority Override

In cases that priority override is required, it will bypass all inputs using priority trigger port which a dry contact is required to activate it. You can assign any of the input channel 1 to 4 at the web setting.

This feature is useful when :

- Installation in large complex with main PA system needs to override this local installation for emergency paging / announcement via Amperes PR7400.
- A localised setup which a mic shall have priority over others, such as emergency paging mic.



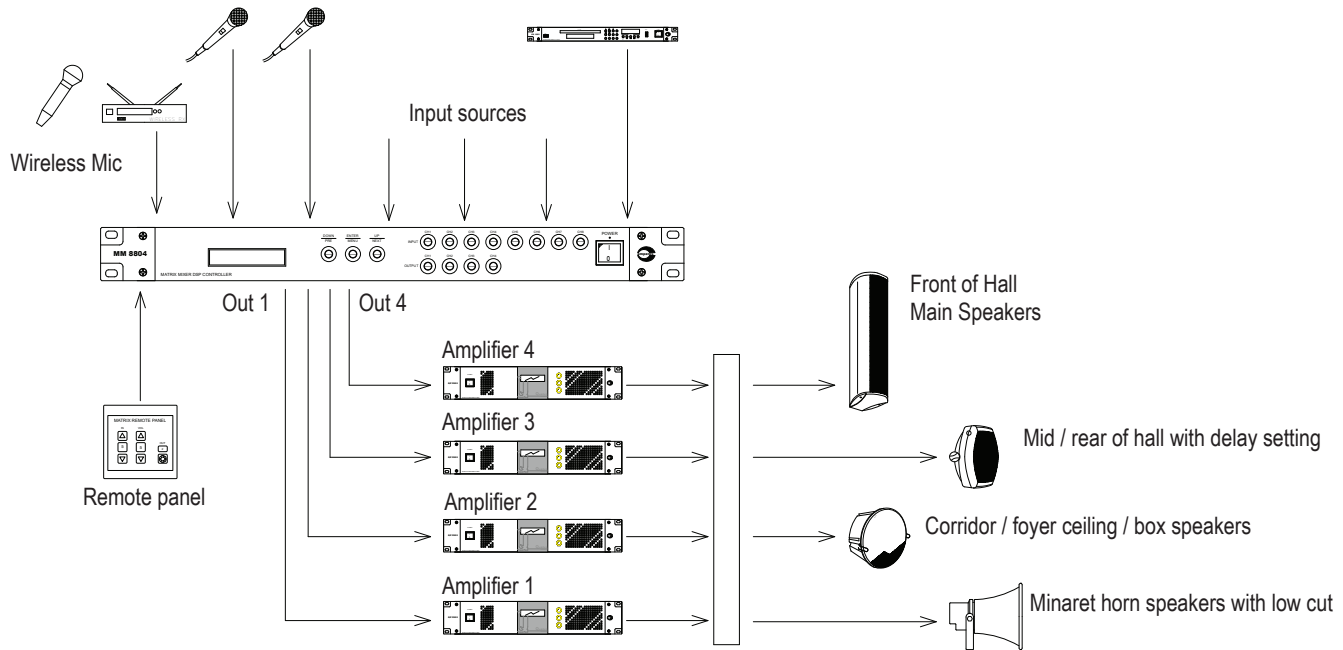
## Application Example

### HOUSE OF PRAYER

In such venues, a mosques as an example, they may install several types of speakers for different locations.

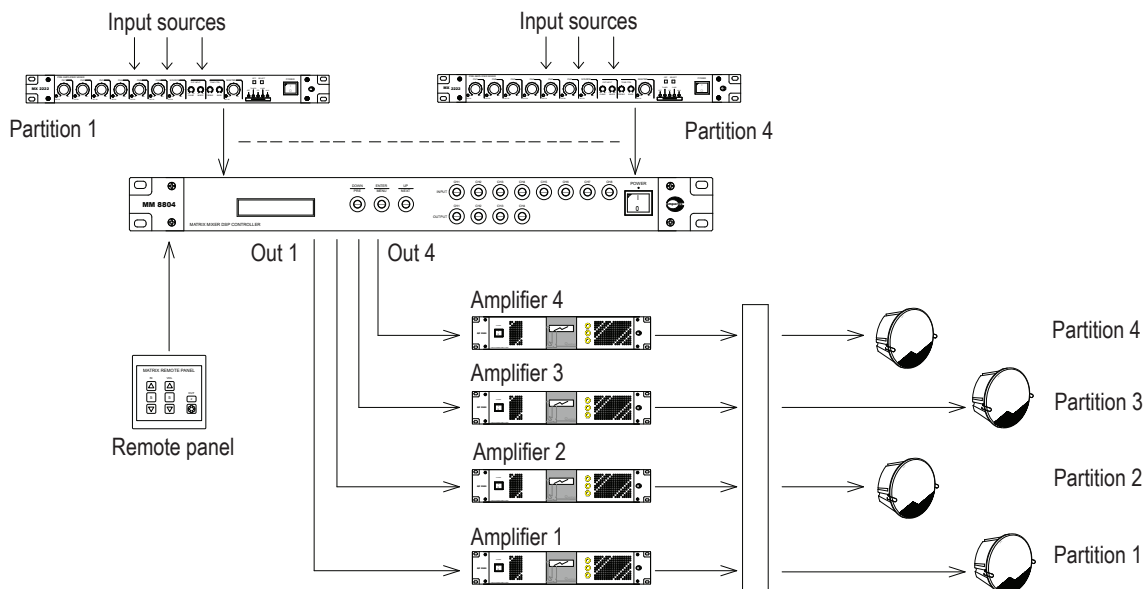
- Frontal speakers ( full range, cluster speakers or column with high power ratings )
- Rear / mid speakers as reinforcement by ceiling or additional column speakers
- Corridor / external box or ceiling speakers
- Minaret horn speakers

Different speakers may need different set of signal calibrations. Horn speakers may need to cut lower frequencies to avoid damage to the coils whereas hall speakers may need to fine tune to reduce feedback or humming. In this situation, using MM8804 with different output calibrations will be able to optimize the sound delivery.



### HALL COMBINER

Partitioned halls such as banquet halls, exam halls or function rooms may have individual audio system but at times one or more of the partitions may combine to form a larger hall. MM8804 can be used to be the combiner device. The application is illustrated below.



## Device Updates

Firmware & Webpage Update:

[Update Device](#)

Under the setting tab, click this to perform updates on the device.




ElegantOTA

☒ Firmware
☐ Filesystem

Choose File
No file chosen

There are two files that can be updated.

Firmware - to operating system

Filesystem - webpage design

Click Choose File to perform update.

## Technical Specifications

Operating voltage	220 - 240 V AC, 50 / 60 Hz, 24V DC back up
Power consumption ( 240V AC )	4.8W ; 20 mA
Current consumption ( 24V DC )	4.6W ; 190 mA
Configuration	8 in / 4 outputs
Input channels	8 line balanced with flexible priority selection ( Ch 1 to 4 )
Input connections	Mini Phoenix jack
Input impedance	10 k Ohm
Priority	Dry contact
Output channels	4 outputs : balanced line 1.25 V rms ( +4 dBU )
Output level / impedance	600 Ohm
Controls	Front panel / web interface / RP1106
DSP control parameters	Tone, volume, delay, 31 band EQ
User interface	Web browser - Google Chrome preferred
Connectivity	LAN cable, Wifi, RS485 to RP1106
THD + N at rated power	< 1%
S/N ratio	> 60 dB
Frequency response	20 - 20 kHz
Operating temperature / humidity	-10 to 60 C
Dimensions ( W x H x D ) mm	482 x 44 x 180 mm
Weight ( kg )	2.5 kg

Due to continuous product improvement policy, the specification parameters may be changed , added or omitted without prior notice.



## Warranty Conditions

Only Amperes Electronics Service Centres are allowed to make warranty repairs : a list of Amperes Electronics authorized service centres may be asked by the purchaser or send directly to Amperes Electronics Sdn Bhd at 70 Jalan Industri PBP3, Tmn Perindustrian Pusat Bandar Puchong, 47100, Puchong, Selangor. This warranty is not valid if repairs are performed by unauthorized personnel or service centres.

### Eligibility

Amperes Electronics' Service Center will accept any device send in for repair / checking purchased from any of our dealers. Some dealers may have the right to refuse repair / service / checking for any device not purchased from them directly.

### Coverage

This warranty covers only repairs and replacement of defective parts, due to defects of components or workmanship during product warranty period. For any product purchased exceeding the warranty period, a cost of repair shall be presented and will only proceed to rectifications upon agreed value. If the owner decides not to proceed, a minimal checking fees will be applied.

### Exclusions

This warranty does not cover damages caused by misuse, negligence in application as well as using the product with power supply voltage other than shown on the product, or any other power supply source / adapter not recommended by the manufacturer.

This warranty does not cover damages caused by fire, earthquakes, floods, lightning and every cause not directly related to the unit.

This warranty certificate is valid only for the described product, and is not valid if modifications are made on this certificate or identification labels applied to the unit or any other modifications to the physical unit other than its intended usage.

### Duration / Warranty Period

This warranty covers all the material and manufacturing defects and is valid for a period of 36 months from the date of purchase or for a specified period in countries where this is stated by a national law. In this case, the extension is valid only in the country where the product is purchased.

### Cost of Claiming Warranty

Cost and risk of transportation as well as removal and installation of the product from the main system are for the account of the purchaser. This warranty shall not extend to the replacement of the unit.

### Limitations

This warranty does not include any indemnity in favor of the purchaser or the dealer for the period out of use of the unit, moreover the warranty does not cover any damages which may cause to the people and things during the use of the product. Our liability is limited to the cost of the product

Amperes Electronics Sdn Bhd is not obliged to modify previously manufactured products under warranty if the design changes or improvements are made.

The purchaser is deemed to agree to the above warranty conditions once the product packaging is unpacked., Otherwise the product shall be returned to the seller in proper original condition.

## Disclaimer

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It is recommended that all services and repairs of this product to be carried out by Amperes Electronics or its authorized service agents.

Amperes products must only be used for the purpose they were intended by the manufacturer and in conjunction with this operation manual.

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AMPERES ELECTRONICS SDN BHD  
MADE IN MALAYSIA  
Published : Nov 2024