MZ-140DX

INSTALL AMPLIFIER

USER MANUAL

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MZ-140DX OVERVIEW

The MZ-140DX is a compact yet versatile 2-channel installation amplifier that delivers 140W RMS per channel with a total system power of 280W RMS. The dynamic power allocation of the MZ-140DX allows channel 1 to draw up to the full 280W RMS, this enables the MZ-140DX to provide efficient power management uniquely tailored to each system. The MZ-140DX offers flexibility for a wide range of applications supporting both 70/100V (Hi-Z) and 4/8Ohm (Lo-Z) systems.

Equipped with two balanced Euroblock 3.5mm input connectors, the MZ-140DX offers flexibility with input assignment enabling the user to assign inputs 1:1 + 2:2 or 1:All. A rear mounted USB Type C input allows class-compliant audio at 48kHz and usage of the bespoke MZ-CTRL desktop application, enabling deep customisation of the MZ-140DX. This opens up a world of customisation never seen in MZ models and enables the installer to integrate an audio system tailor-made to the application and in some cases avoid the need for external processing.

The compact half-rack 1U form factor of the MZ-140DX makes it a perfect choice for installation in tight spaces, with hardware included to surface-mount the unit or to connect two units side by side in a 1U 19-inch rack. The MZ-140DX gives you everything you need from a compact installation amplifier in a small system but has still been designed with system expansion in mind. The MZ-140DX makes the perfect companion for the MZ-64P zone controller and preamplifier, giving you greater dexterity with expanded input options, the possibility of adding MZ-C2 wall controllers to your system, emergency override input and manual paging input, all of which are easy to configure and control.

FEATURES

- 2x 140 Watts RMS Power Output.
- Full Power Sharing of up to 280W into Channel 1
- 70V/100V or Min 4 Ohm Impedance Speaker Outputs (Configurable per Output)
- 2x Balanced audio inputs
- USB Type C Class Compliant Audio
- HH MZ-CTRL APP for deep configuration of EQ, Limiter and Installer Settings adjustment
- Compact 1U ½ rack size, Wall or rack mountable
- Low power standby mode
- Universal ~100-240V worldwide operation
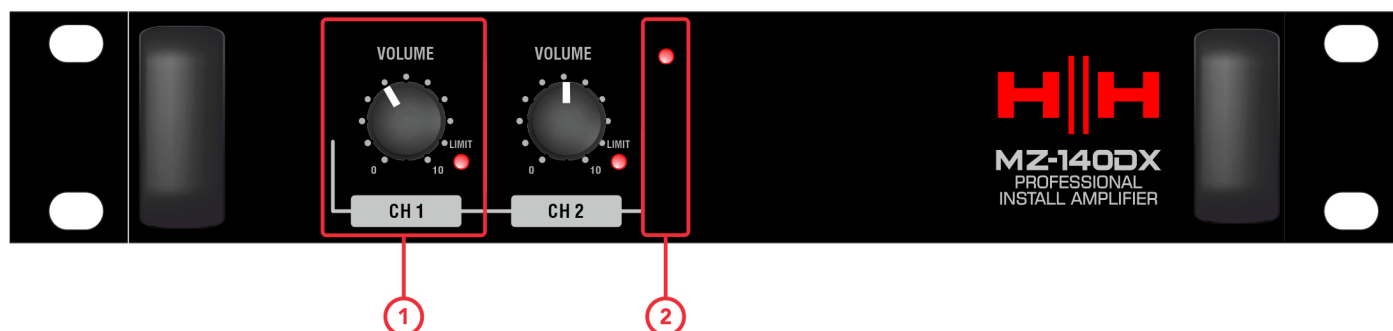
WHAT'S INCLUDED

- As well as your MZ device, the box will also contain:
- IEC Mains Lead (Country specific).
- User Manual download card and safety warning information.
- A: 2 x Joining /Wall Mounting Plates
- B: 1 x Small Rack Wing
- C: 1 x Large Rack Wing
- D: 2x 3 Way 3.5mm Euro Plug
- E: 1x 6 Way 5.08mm Euro Plug
- 10x M4 x 10mm - CSK Head - Cross - Machine Screw – Black
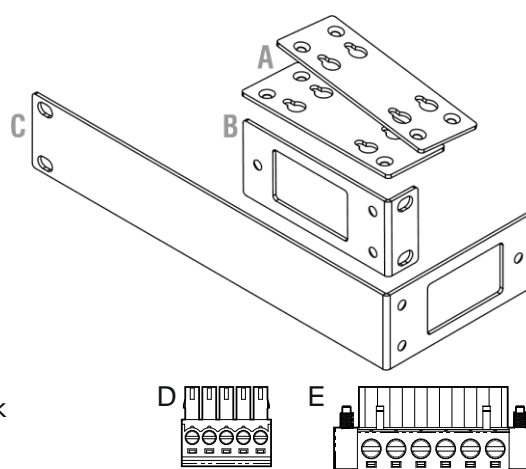
CONTROLS

FRONT PANEL

Each channel has an independent VOLUME and LIMIT led indicator.

1. VOLUME

- Volume attenuates the power amplifier for that output. The bicolour LIMIT LED near the volume control illuminates GREEN when a signal is present and RED when the onboard limiter is active. Avoid the RED LED being on continuously, but illuminating on peaks is perfectly fine for maximum headroom. The limiter settings may be adjusted in the app. Note, the signal present led is fed directly from the input, pre-volume.

2. POWER LED

- Lights up GREEN to indicate the amp is connected to mains power and switched on via the power switch on the back. The power led will go red when auto standby mode is set and activated. See POWER SAVING MODE for more information.

REAR PANEL
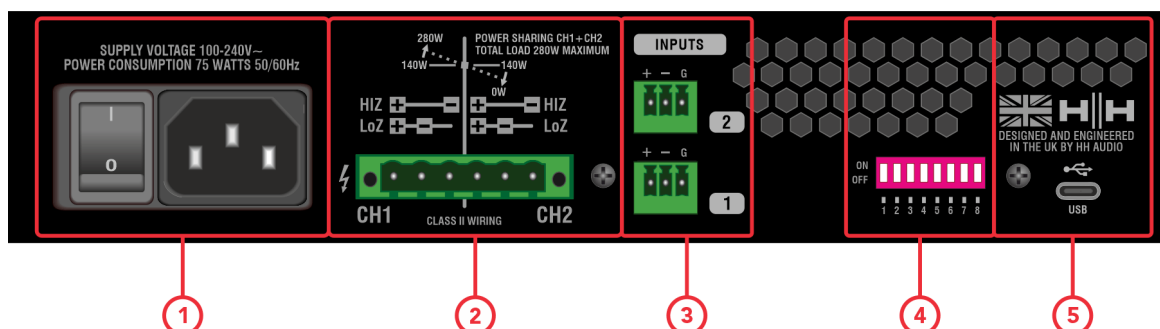
1. POWER SOCKET

- Connect the included IEC power cable here. The MZ-140DX includes a universal AC 100-240V~ 50/60Hz power supply and can be used worldwide without adjustment. The power switch will isolate the mains power from the unit.

2. SPEAKER OUTPUTS

- A 5.08mm Euro block connector is provided to connect the amplifier to your loudspeakers. Ensure you wire the plugs correctly depending on the amplifier mode. See OUTPUTS for further information

3. INPUT 1 AND 2

- Balanced 3.5mm Euro block inputs are provided per input channel to connect to a line level output. Use both inputs for stereo operation. Alternatively, DIP switch #7 optionally allows input 1 to be routed to both outputs. When DIP #7 is on, Input 1 is routed to both output channels while input 2 is unused. When DIP #7 is off input 1 is routed to output 1 and input 2 is routed to output 2.
- You may connect balanced signals (wired Hot +, Cold – and ground) or unbalanced signals (wired either as Hot +, Cold – with ground unused or Hot + and Cold Ground) depending on your system.   You can enable USB audio input in the MZ-CTRL app to override these inputs.
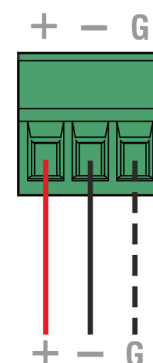
4. DIP SWITCH SETTINGS

- Use the DIP switches to configure the output mode, input routing, toggle power saving mode and set the front panel lock. These settings are detailed throughout the manual in the relevant sections.

	ON	OFF
1.	CH1-HiZ MODE	CH1 LoZ MODE
2.	CH1 HiZ 70V / 4 OHM	CH1 HiZ 100V / 8 OHM
3.	CH2 HiZ MODE	CH2 LoZ MODE
4.	CH2 HiZ 70V / 4 OHM	CH2 HiZ 100V / 8 OHM
5.	POWER SAVING MODE ON	POWER SAVING MODE OFF
6.	FRONT PANEL LOCK ON	FRONT PANEL LOCK OFF
7.	INPUT 1:ALL	INPUT 1:1, 2:2
8.	N/A	
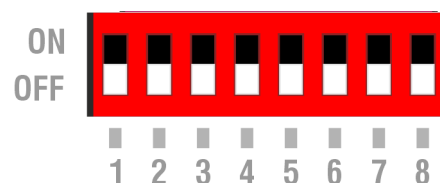
5. USB

- The MZ-140DX allows system settings to be changed and supports USB as an audio input via the free **MZ-CTRL** app.   See USB and MZ-CTRL APPLICATION

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INSTALLATION GUIDE

We recommend following the installation procedure below in the order it is written to ensure safe use of your MZ product. Pay attention to any notes or warnings throughout this document to keep your devices protected.

It is advisable to perform a test installation before making any permanent installation measures. Fully wire up all input devices, speaker connections to ensure full functionality beforehand. The following sections will guide you through this.

PRIOR CHECKS

After unboxing your MZ product check it over for any damage that may have occurred in transit.

Plan out which cables are required, as well as the length these will need to be and the routes they will have to take through your space. Ensure the maximum loading specs are adhered to.

Further guides may be found on the website, including MZ-Series Max Loading documents.

POWER SUPPLY

Your MZ-140DX is powered by an IEC power cable and contains a universal 100-240V~, 50-60Hz power supply. Connect the included IEC cable to the MZ amplifier and the other end to a suitable power source. Don't turn on the MZ until all input and output connections are made.

Once turned on, the power LED on the front will light a solid green to indicate its ready.

POWER SAVING MODE

The MZ-140DX supports power saving mode to shut down the unit after a period with no signals. Power saving mode can be turned on from the back panel by setting DIP 5 to on. After 15 minutes without any audio signal on any of the inputs, all outputs will mute and the amplifier will enter standby mode, greatly reducing its power consumption to <0.5W.

To exit out of standby, reintroduce an audio signal to any analogue input and the device will wake up after a few seconds.

Note, the system cannot wake via USB audio, only from the analogue inputs. If you need instant on functionality or wake on USB audio, then it is suggested to leave POWER SAVING MODE turned off. Additionally, the app can't be used when the device has entered power saving mode.

See DIP SWITCH SETTINGS for further details
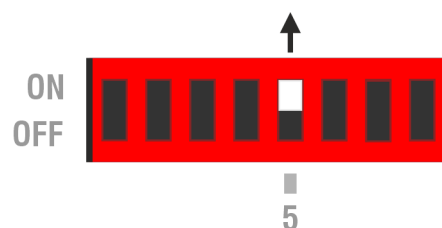
MOUNTING

- When choosing a location for mounting your amplifier, make sure you are choosing a rack location away from other heat sources, as well as preventing any foreign bodies from entering the chassis. The amplifier must have sufficient airflow, leaving enough room for ventilation and cooling. See notes on COOLING
- NOTE: Before mounting, easy access to the back panel is useful should any changes to your setup be required.

1. SINGLE MZ-140DX - RACK

For single rack mounting, 1 x Small Rack Wing and 1 x Large Rack Wing are required.
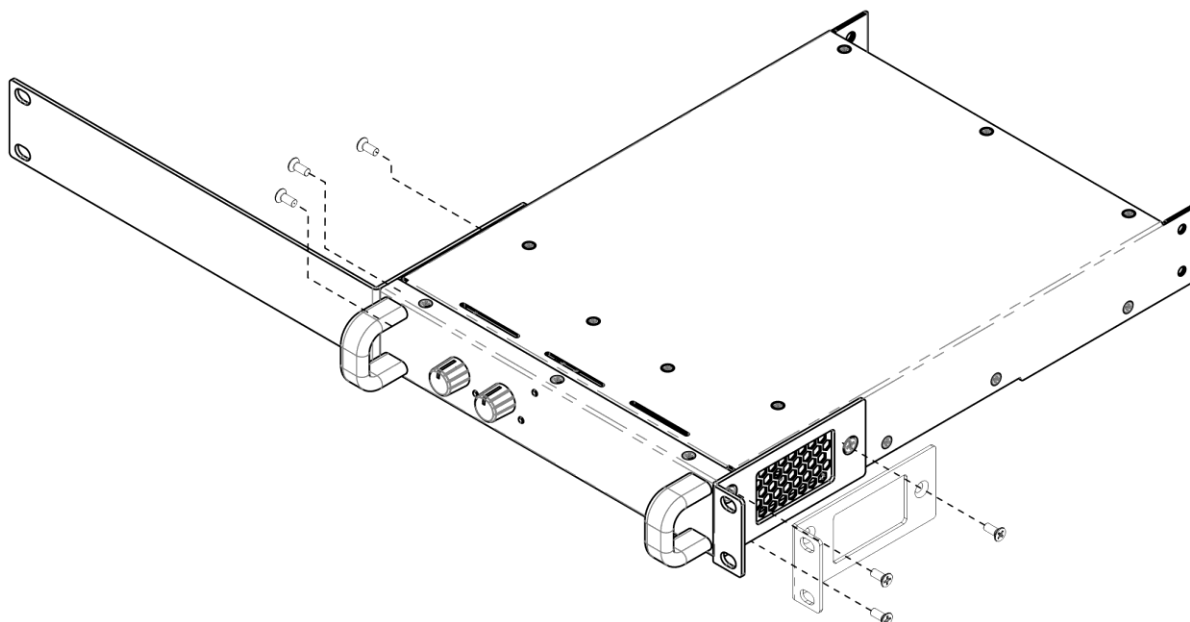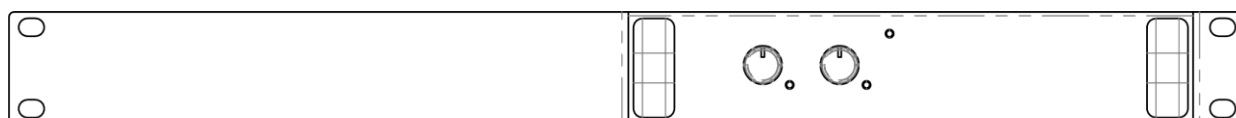
These are secured three M4 x 10mm CSK Head Machine screws per side.

The rack wings are interchangeable so, if required could be fitted with the Rack Wing to the Left and the Large Rack Wing to the right of the MZ-140DX. Depending on your rack rear support may be required.

2. SINGLE MZ-140DX - WALL MOUNTING

MZ-140DX supports mounting to a wall or under counter.

To Wall Mount the MZ-140DX, two Joining/Wall Plates are required. They are attached to the MZ-140DX with two M4 x10mm CSK head Cross – Machine screws per side.

The required wall fixings (not included) will vary, and it is the responsibility of the installer to ensure the point of fixing is structurally adequate.

M4 x 10mm - CSK Head
Cross - Machine Screw

M4 x 10mm - CSK Head
Cross - Machine Screw
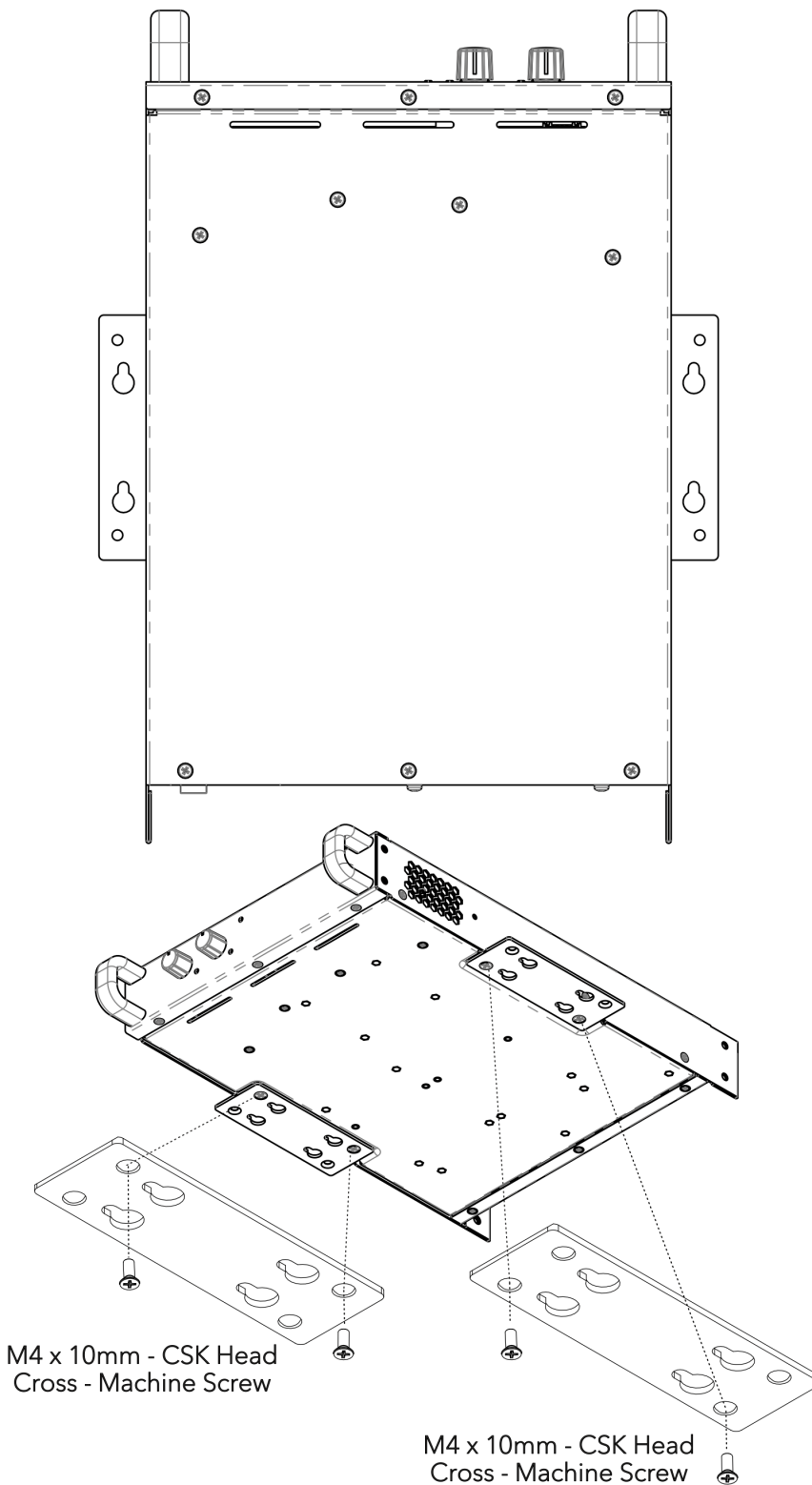
3. DUAL MZ-140DX - RACK

Two MZ-140DX amplifiers may be mounted side by side in a standard 1U rack.

For dual rack mounting, two Small Rack Wings and one Joining Plate is required. These are secured with three M4 x 10mm CSK Head Machine screws per rack wing, and four of the same for the joining plate.

M4 x 10mm - CSK Head
Cross - Machine Screw

M4 x 10mm - CSK Head
Cross - Machine Screw

M4 x 10mm - CSK Head
Cross - Machine Screw

8
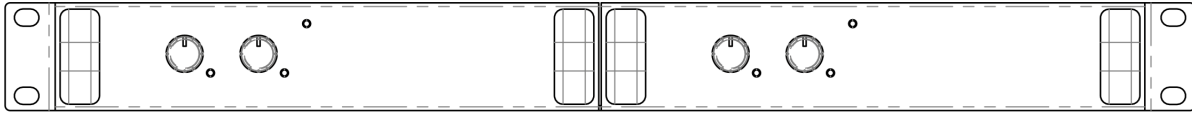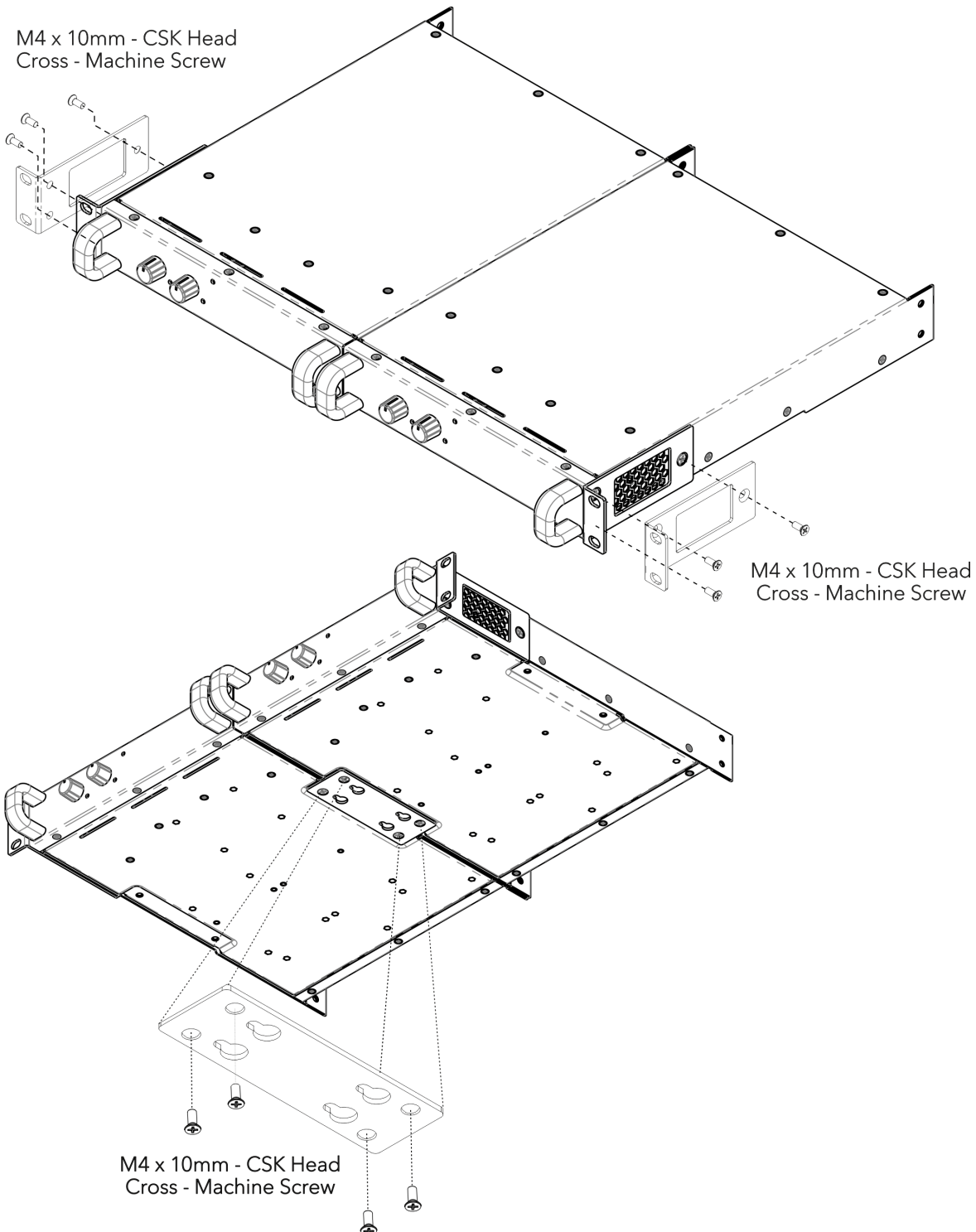
4. COOLING

The MZ-140DX comes with inbuilt automatic fan cooling should the amplifiers get too hot during operation. The MZ amplifier sucks cool air in through the front side mounted vents and expels warm air from the rear panel.

WARNING: Ensure the amplifier is securely fastened and any air vents on the sides and back are not obstructed in any way.

WIRING

EUROBLOCK WIRING

1. Follow these steps when wiring up a Euroblock connector. You will need a flathead screwdriver with a 1.2mm or smaller head, as well as wire strippers (not provided).
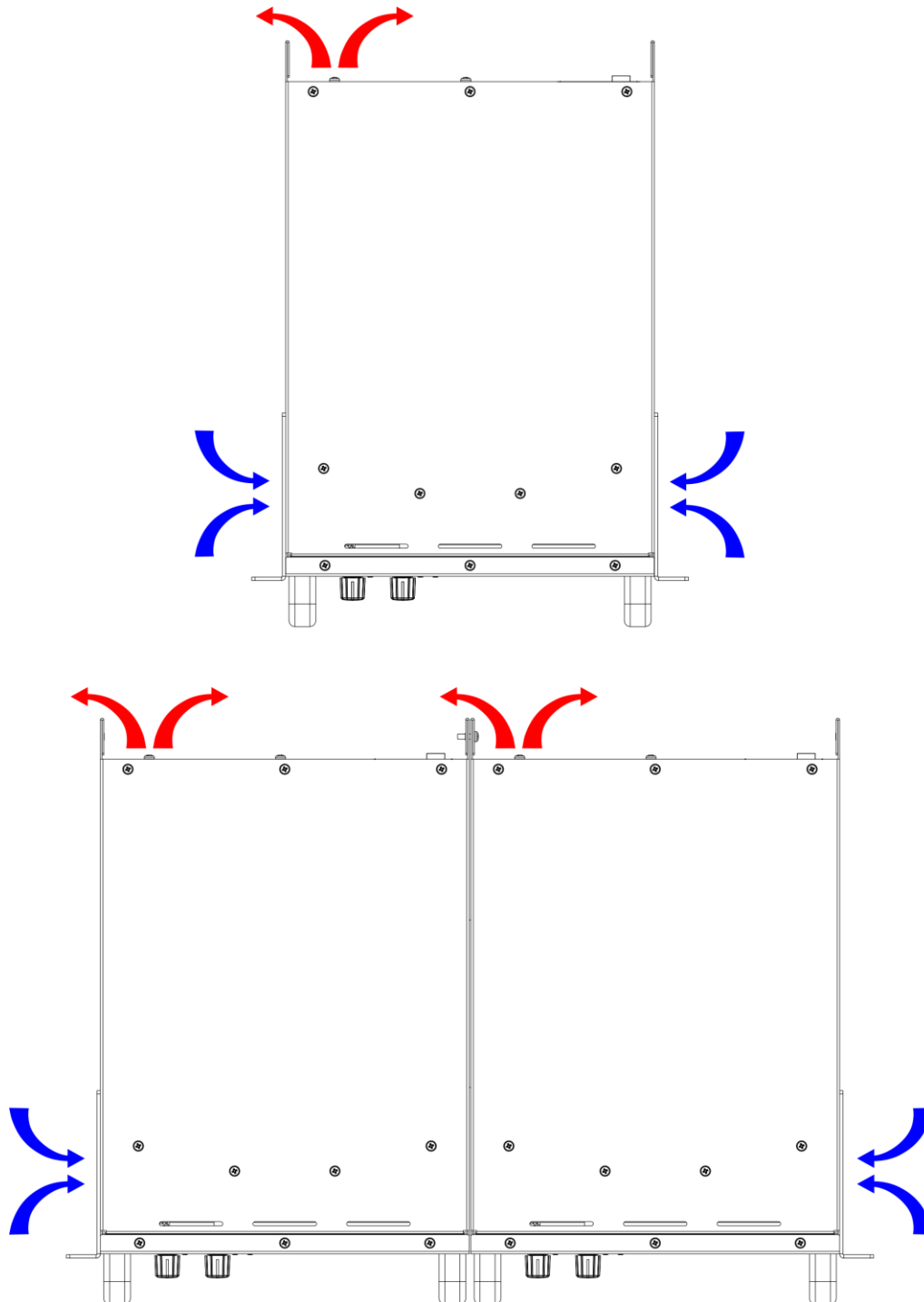2. Strip back the insulation using wire strippers, leaving around 7-10mm of exposed cable to allow ample wire to go into the plug. Twist the strands tightly so there are no loose wires. Ferrules are advisable.
3. Fully unscrew the plug screws for the pins you will be using.
4. Insert each cable to the correct pin and proceed to tighten the screws for all sockets with wires inside – it is easiest to do one wire at a time.
5. Check there are no stray strands of cable sticking out of the connector which could cause a short circuit.
6. Test each wire is securely fastened by gently tugging on it. Do not perform this step whilst the connector is plugged into the rear panel of the amplifier.
7. Plug in the Euroblock connector to its corresponding socket.
8. For the speaker connectors, you should tighten the two horizontal fixing screws on either side of the plug to ensure it cannot come loose.
9. Ensure the wires aren't too tight nor pulling on the connector, additional support may be required depending on the installation location and type.
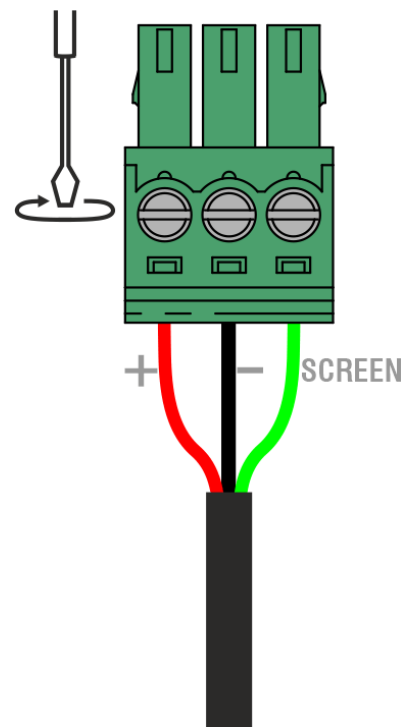
Use either single-core or multi-core cables, avoid plating cables with solder as this can lead to unreliable connections. If a plug is to be frequently connected and disconnected a crimped rod terminal with insulation may be preferred.

For 3.5mm EUROBLOCKS we recommend using wire gauges between 16 - 28AWG (0.14 - 1.5mm2). For 5.08mm EUROBLOCKS we recommend using wire gauges between 14 - 24AWG (0.2 - 2.5mm2). These guides prevent potential loose connections and shorts with cables falling out of pins.

OUTPUTS

The MZ-140DX amplifier can drive either LoZ (4 or 8 Ohm) or HiZ (70V or 100V) loudspeakers via a 5.08mm EUROBLOCK connector. Each output will need two connections, positive and negative. The positive connection is always on the left most pin of each output, but the negative connection changes depending on which mode you are using HiZ or LoZ.
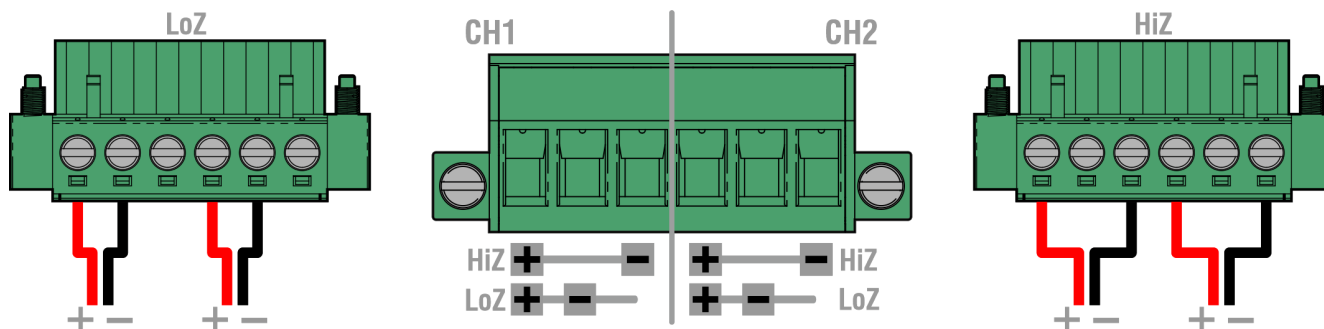
The speaker connector mode is determined by the type (HiZ Voltage / LoZ Impedance) for speakers connected and is configured by the settings of DIP switches 1, 2, 3 and 4 on the rear panel.

1. POWER RATINGS

The table below should be used for reference when working out the total power ratings of speakers:

HIZ / LOZ MODE	MZ-140DX POWER RATING
4 Ohm	95W
8 Ohm	140W*
70V	140W*
100V	120W

*130W max when running from a 120V mains voltage

The Power Sharing feature (enabled in the MZ-CTRL app) allows the unit to use all available system power increasing the available audio output power from CH1. This will provide an impressive 240W into a 4 Ohm or 280W into an 8 Ohm load. Please note, the total system power (Ch1 + Ch2) should not exceed 280W. For the full 280W on Ch1 to be achieved, the output from CH2 must be 0W.

You can download the free **MZ-CTRL** app from the HH Audio website. Goto HHAUDIO.COM, or scan the QR code:

HiZ MODE

Connect to a 70/100V speaker line, which can be distributed around a large area. The total power consumption of all speakers on same output, plus 10-20% for cable losses, must add up to less than the amplifiers rated output power at the chosen mains voltage.

For example, if the output is rated at 140W in 100V mode, a max 20% derating is around 112W. If the speakers are rated at 20W then 112W/20W = 5 speakers allowing a safe margin. In practice you may not need a 20% margin but it is good practice.

The total number of speakers you can connect on a single output is determined by the power output of the amplifier. See POWER RATINGS for more details on the maximum power outputs.

HiZ mode uses the two outer pins marked HiZ ±. Below shows a parallel connection for high impedance speakers. Each speaker you use will be equipped with a step-down transformer that will determine that speaker's power level.
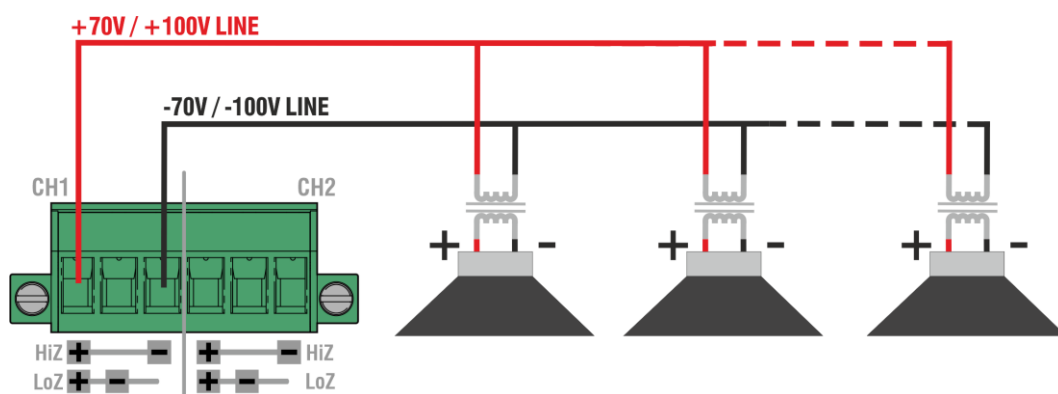
1. 70V

For 70V line speaker systems.

- For output 1
    - Set mode to HiZ by setting DIP #1 ON
    - Set sub mode to 70V by setting DIP #2 ON
- For output 2
    - Set mode to HiZ by setting DIP #3 ON
    - Set sub mode to 70V by setting DIP #4 ON
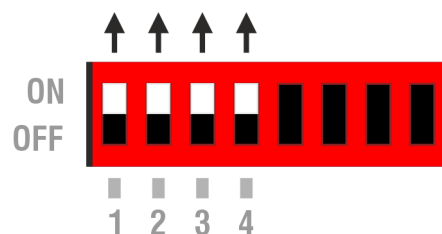
2. 100V

For 100V line speaker systems.

- For output 1
    - Set mode to HiZ by setting DIP #1 ON
    - Set sub mode to 100V by setting DIP #2 OFF
- For output 2
    - Set mode to HiZ by setting DIP #3 ON
    - Set sub mode to 100V by setting DIP #4 OFF

LoZ MODE

Low impedance speakers should be connected to the left and centre pins marked LoZ ±.

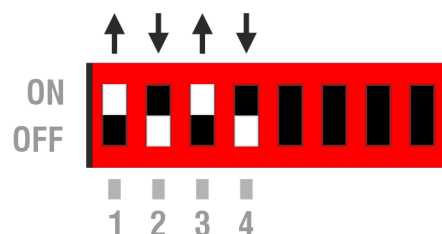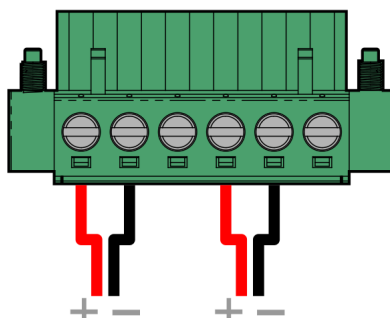Make sure to check the combined impedance of all the speakers you are connecting to the output channel – this should be equal to (or more than) the LoZ setting (4 or 8 Ohm) that it's set to.

WARNING: Connecting a total impedance lower than the setting could damage the amplifier

Doing so will affect how the total impedance of that zone should be calculated. For speakers connected in series, simply add the impedances of all speakers together. For speakers connected in parallel, use the following equation (Z = individual speaker impedance):

$$\frac{1}{\frac{1}{Z_1} + \frac{1}{Z_2} + \frac{1}{Z_3} + \frac{1}{Z_n}}$$

Knowing the combined impedance will allow you to choose one of the two LoZ settings:

1. 4 Ohm

Ensure the speaker(s) connected have a minimum collective impedance of 4 Ohms. For example, two 8-Ohm cabinets in parallel, or one 4-Ohm cabinet.

- For Output 1
  - Set mode to LoZ by setting DIP #1 OFF
  - Set sub mode to 4 Ohm by setting DIP #2 ON
- For Output 2
  - Set mode to LoZ by setting DIP #3 OFF
  - Set sub mode to 4 Ohm by setting DIP #4 ON
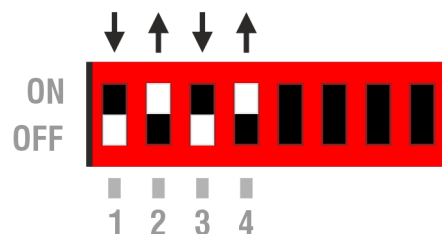
2. 8 Ohm

Ensure the speaker(s) connected have a minimum collective impedance of 8 Ohms. For example, two 16-Ohm cabinets, or one cabinet of 8-Ohm.

- For Output 1
  - Set mode to LoZ by setting DIP #1 OFF
  - Set sub mode to 8 Ohm by setting DIP #2 OFF
- For Output 2
  - Set mode to LoZ by setting DIP #3 OFF
  - Set sub mode to 8 Ohm by setting DIP #4 OFF

FRONT PANEL LOCK

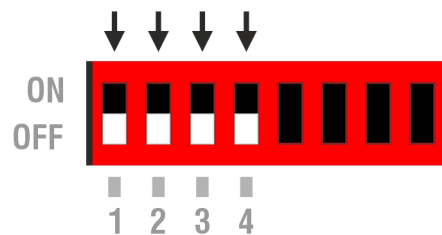When the Panel Lock function is turned on, a snapshot of the current settings is stored based on the amplifier settings and front panel Volume settings at the time. Whilst the panel lock is active, the front Volume controls are disabled. The only way to override this setting is to turn the function off again from the back panel switch.

Front panel lock may be enabled by setting DIP #6 to ON. Set to OFF for normal operation.

NOTE: When turning off this setting, the current front panel controls are not refreshed to the active position. They are only updated when they are next moved. This allows you to increase one level without worrying that the controls may have been moved since last locking the panel.

ON
OFF

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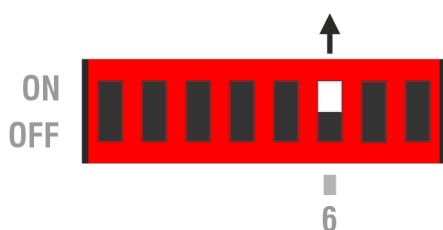
EXAMPLE CONNECTIONS

1. 4 Ohm Mode

DUAL 8 OHM SPEAKER OR 4 OHM LOAD PER CHANNEL
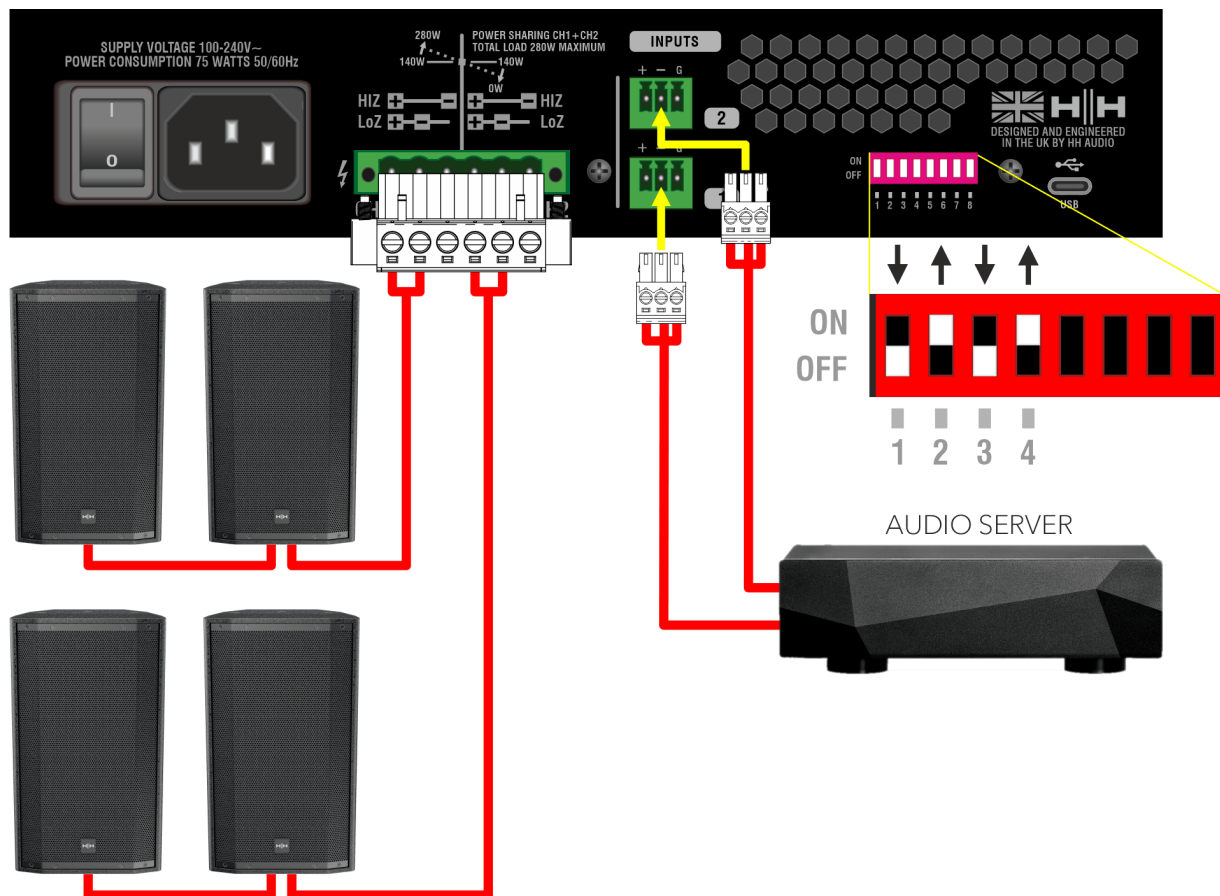
TNi-W8/12PRO SPEAKERS IN PARALLEL

In this example, the MZ-140DX is used to power a stereo low impedance system. The input comes from an audio server plugged into the 3.5mm Euroblock inputs.

2. 100V Mode

A SERIES OF 100V HIGH IMPEDANCE SPEAKERS WITH INTERNAL TRANSFORMERS

ZONE 1 - HiZ 100V

ZONE 2 -HiZ 100V

AUDIO SERVER

ON OFF

1 2 3 4
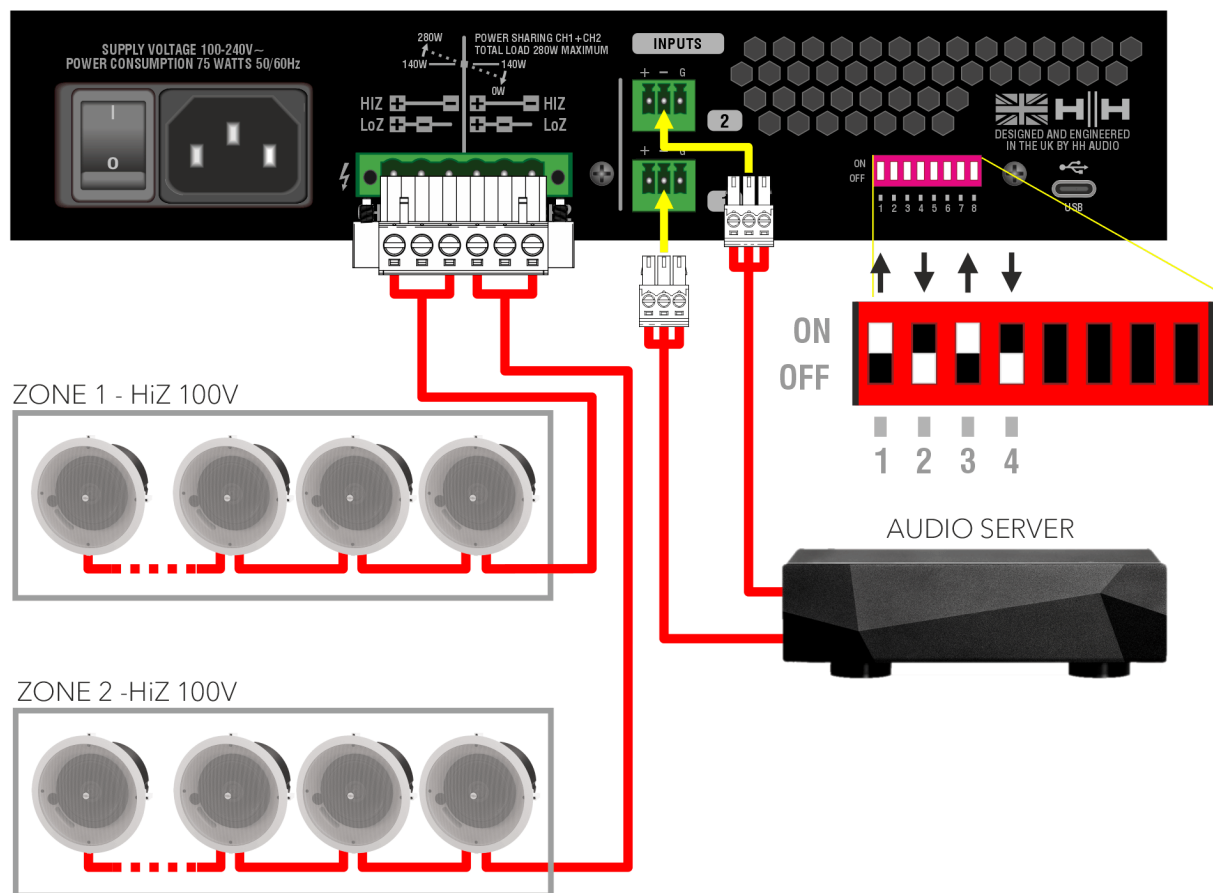
In this example, both channels are connected to high impedance ceiling speakers at 100V line level.

3. Mixed 100V and 8 Ohm

MIXED 100V HIGH IMPEDANCE AND LOW IMPEDANCE SPEAKERS

TNi-W SERIES
SATELLITE

TNA-1200S
SUBWOOFER

AUDIO SERVER
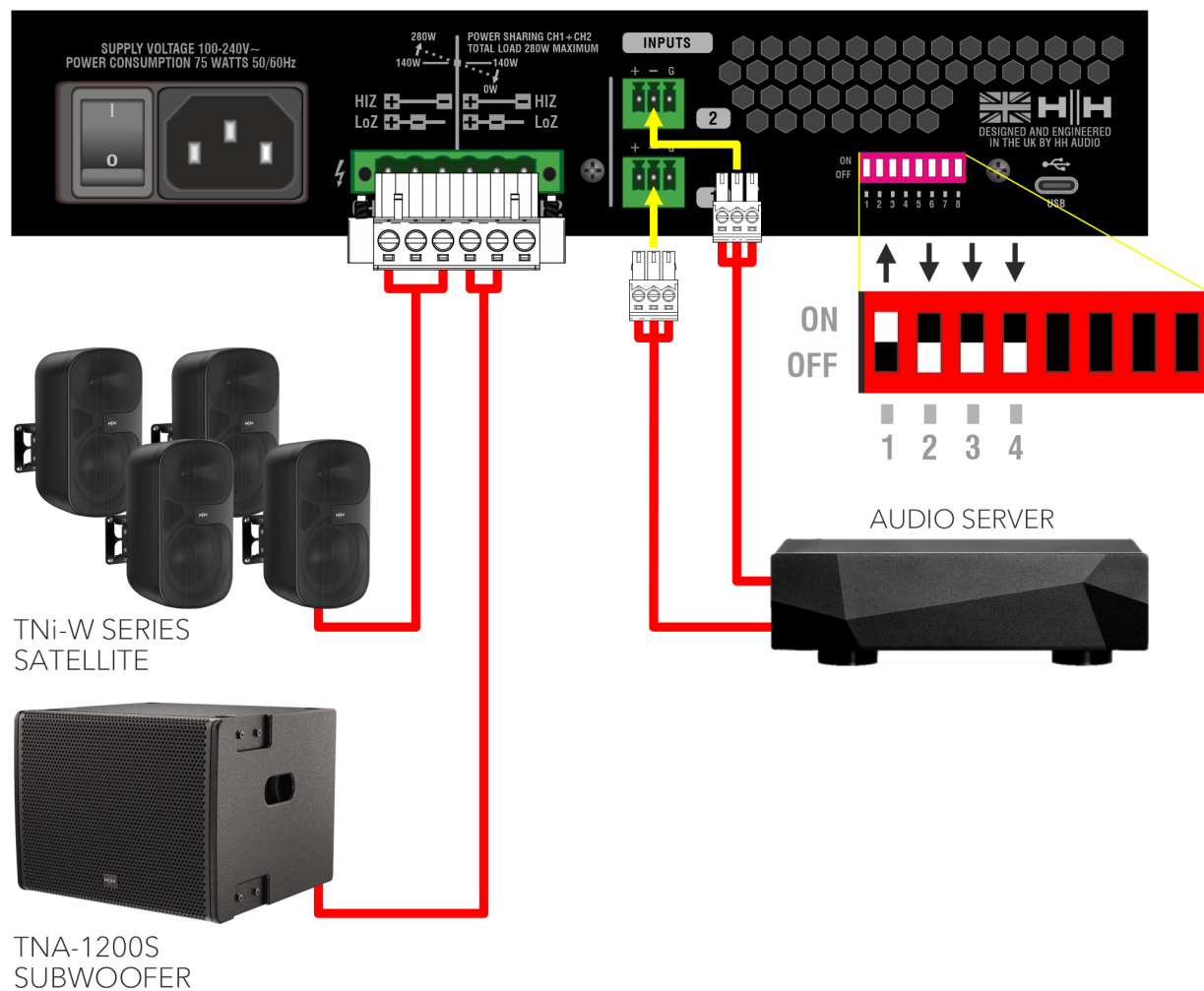
Here the MZ-140DX is used to run both LoZ and HiZ at the same time.

4. Input 1 to both outputs, 100V

70V/100 HIGH IMPEDANCE SPEAKERS – INPUT 1: ALL

TNi-W SERIES
SATELLITE

ON
OFF

1 2 3 4   7

AUDIO SERVER

In this mode, the audio signal connected to CH1 Input will be routed to both CH1 and CH2 outputs.

NOTE: CH2 Input is disabled, so even if a signal is connected, it will not be heard from CH2 Output.

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USB
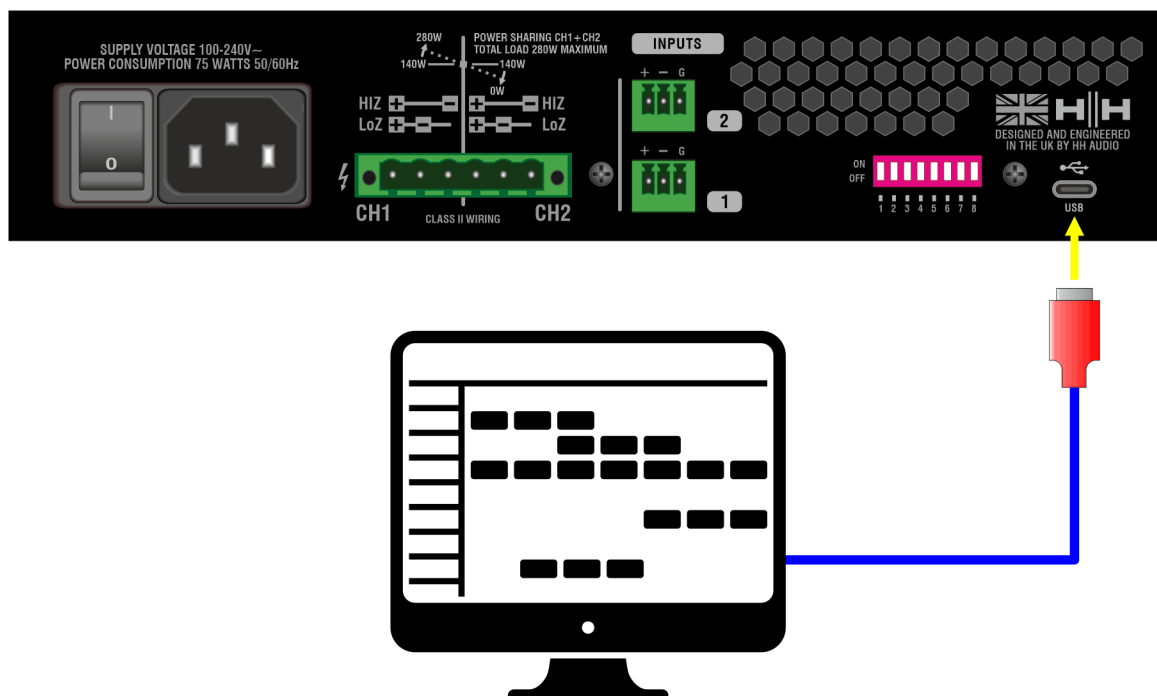
The MZ-140DX is equipped with a USB Type C port to allow for connection to a computer.

USB can be used as an audio source on the MZ-140DX, but this input must be enabled via the MZ-CTRL application. By default the rear analogue line ins are used. USB also allows deep customisation via our **MZ-CTRL** app, see MZ-CTRL APPLICATION

MZ-CTRL APPLICATION

The MZ-140DX is enabled for USB control and configuration via our MZ-CTRL application. MZ-CTRL is available for both Windows® and macOS® and enables deep editing and installer configuration of the MZ-140DX settings.

You can download the free **MZ-CTRL** app from the HH Audio website. Goto HHAUDIO.COM, or scan the QR code:
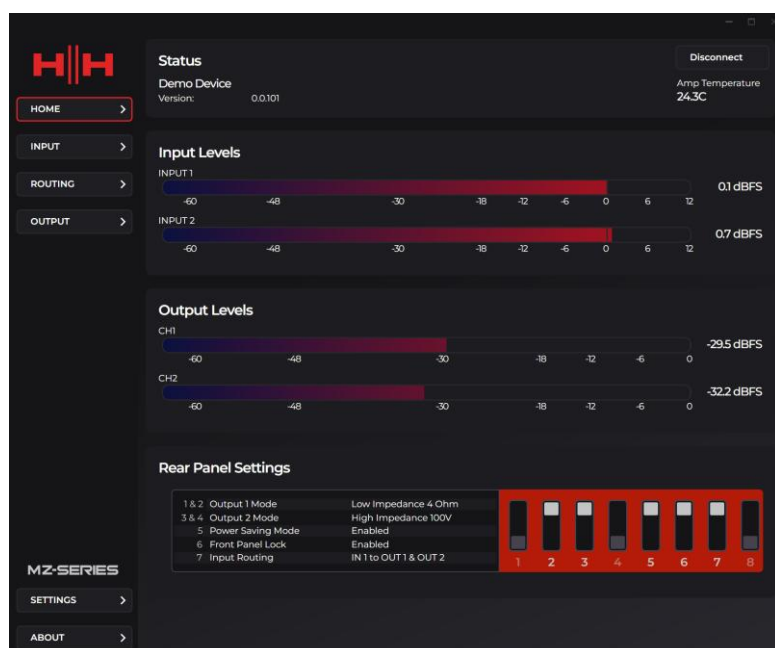
HOME – Provides a brief overview of the current status of the MZ-140DX. Including input and output levels and current DIP switch settings.

INPUT – View and edit controls for both inputs individually. Options include input sensitivity, delay, EQ and compressor.
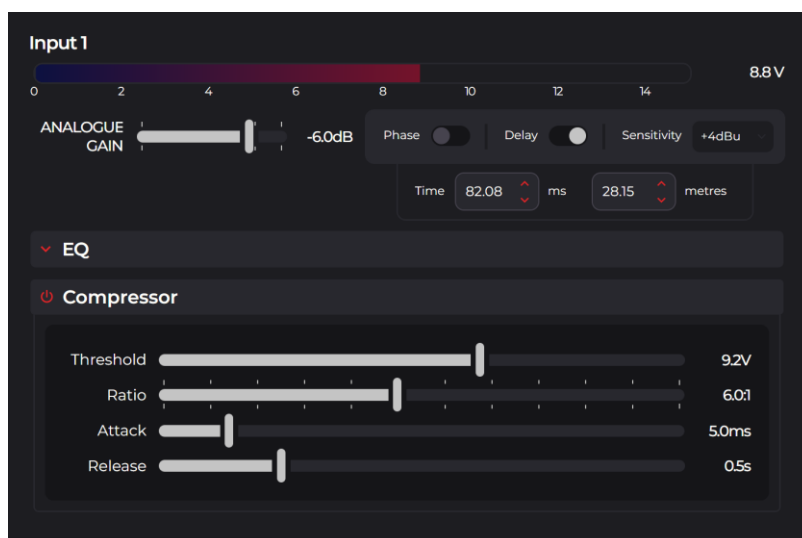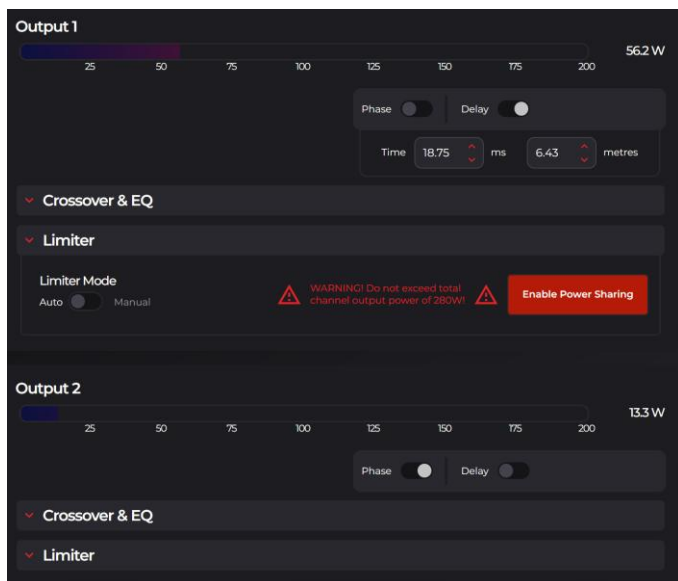
OUTPUT – View the status of both output channels. Various controls allow for customisation of peak & RMS limiters, Crossover, EQ and the ability to enable power sharing mode.

EQ – Both inputs and outputs all have their own adjustable EQ. Inputs have a high pass filter whilst the outputs have a crossover control.
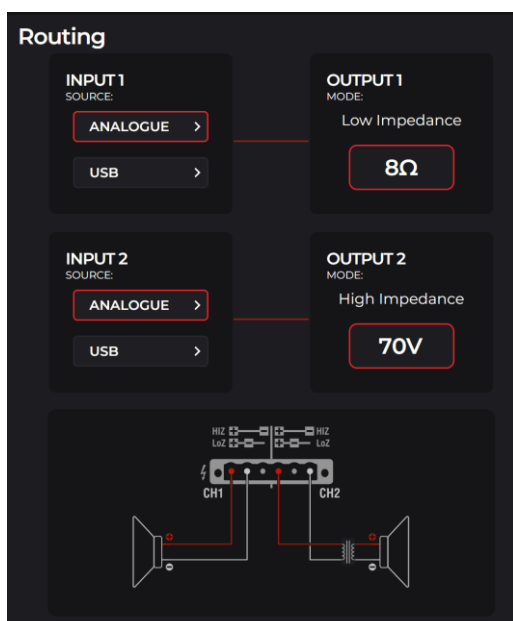
ROUTING – View the current configuration of the MZ-140DX. Allows you to switch the input source to USB as well as view the correct wiring setup for each channel output. Routing changes should be made on the device via the DIP switch settings.

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TROUBLESHOOTING

If reading through this manual doesn't solve any problems you may have, here are some common issues that could occur if the MZ is not setup properly.

- Signal Present light not coming on or flashing:
  - Check the APP has not been used to change input sensitivity or routing modes.
  - Check it is plugged into the correct input and the level from your input device is high enough
- No output from speakers:
  - Turn off front panel lock and check the Volume levels are high enough.
  - Check the app is configured for the correct input.
- General points to check:
  - The front panel lock can easily be left on accidentally when trying to make changes – nothing on the front panel will have any effect with this setting on.

SPECIFICATIONS

Model	*MZ-140DX*
System type	*2 CHANNEL INSTALL POWER AMPLIFIER*
Analogue Inputs	*2x Balanced 3.5mm Euroblock connectors (Configurable 1:1 or 1:ALL via dip switches)*
Digital Inputs	*USB Type C Class Compliant Audio streaming @ 48kHz*
Output Channels	*2*
Total System Power Output	*280W*
Power Per Output Channel @ 4/8Ω	*140W RMS* into 8Ω. 95W into 4Ω. (*130W max when running at 120V mains voltage)*
Power Per Output Channel @ 70/100V	*140W RMS* into 70V. 120W into 100V (*130W max when running at 120V mains voltage)*
Power Output Channel 1 Only @ 4/8Ω	*Up to 280W achievable on Channel 1 when system power does not exceed 280W total. (User configurable via MZ-CTRL Application)*
Minimum Drive Impedance	*4Ω*
Output Limiter	*Per Channel, PEAK and RMS (User configurable via MZ-CTRL Application)*
Frequency response	*20-20KHz ±0.25dBu*
Input Sensitivity CH1 & 2	*+4dBu Default (User configurable via MZ-CTRL Application)*
Maximum Input Level	*+21dBu*
Input Impedance	*10KΩ*
THD+N	*< 0.01% @ 1KHz 0dBu in, maximum volume.*
Crosstalk	*< -98dB crosstalk between channels, maximum volume.*
Noise Floor (A-weighted)	*< -70dBu (unmuted) < -110dBu (standby)*
SNR (A-weighted)	*> 108dB*
Cooling	*Thermally controlled 40x20mm low noise brushless dual bearing fan for reliable performance in high ambient temperatures.*
Output Connectors (Amplifier)	*1x 5.08mm 6-Way Euroblock connector.*
Controls	*Each amplifier output features master volume controls. Rear panel includes front panel lock, input routing and per-channel amplifier mode options via dip switches.*
EQ	*Available in the MZ-CTRL Application.*
Indicators	*Power/Standby, all outputs feature signal present and amp clip LEDs.*
AC Power	*Universal AC 100-240V~ 50/60HZ. IEC C14 Inlet*
Power Consumption	*17W Idle, 150W Typical, <0.5W Standby.*
Standby Modes	*Individual channel standby and power saving mode, both with signal override. Energy Star & ErP 1275/2008/EC Compliant.*
App	*Dedicated MZ-CTRL application available for Windows® and MacOS®*
Dimensions	
Unit dimensions (HWD)	*44 x 220.5 x 350 mm, (1.7" x 8.7" x 13.8")*
Net Weight	*2.8Kg, 6.2 lbs*
Carton dimensions (HWD)	*145 x 470 x 305 mm, (5.7" x 18.5" x 12") (0.021 M3)*
Gross Weight	*3.7Kg, 8.2 lbs*
Master Carton dimensions (HWD)	*325 x 490 x 320 mm (12.8" x 19.3" x 12.6") (0.051 M3) (2pcs)*
Gross Weight	*8.1Kg, 17.9 lbs*
Accessories	*Rack Mounting Kit included. Country specific mains Lead included. 2x 3.5mm 3-way, 1x 5.08mm 6-way Euro Plugs included.*
EAN13	*5060109459593*

BLOCK DIAGRAM

1
BALANCED
USB AUDIO *

SIGNAL
CLIP
VOLUME

Hi / Lo Z
70V / 100V

CH 1
OUTPUT
140W
+POWERSHARE
280W

2
BALANCED
USB AUDIO *

INPUT 1:1

SIGNAL
CLIP
VOLUME

Hi / Lo Z
70V / 100V

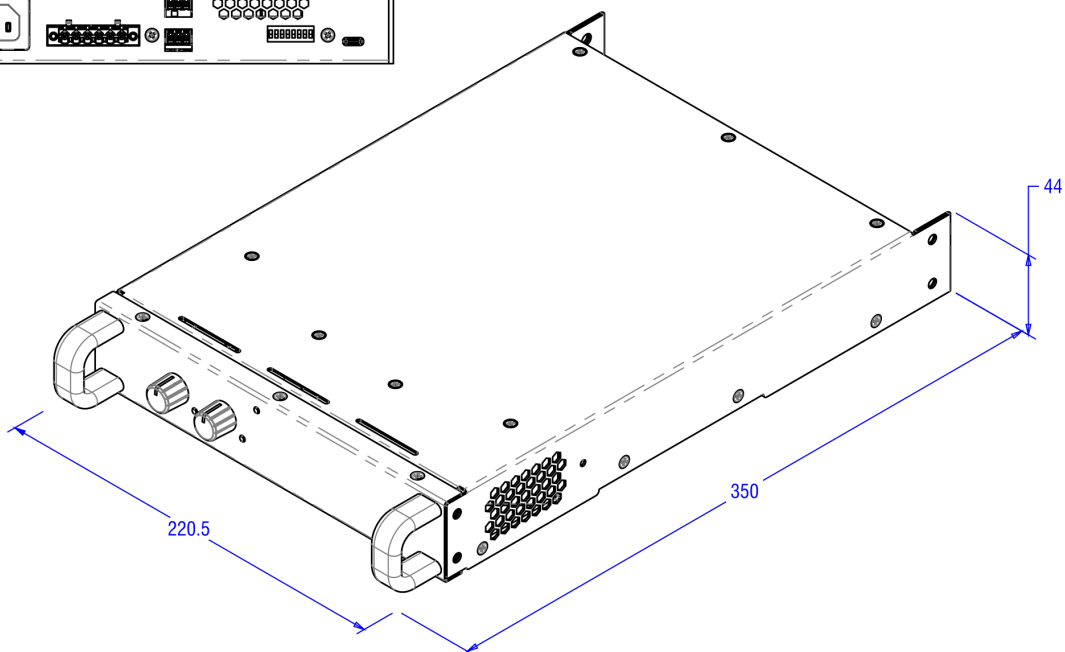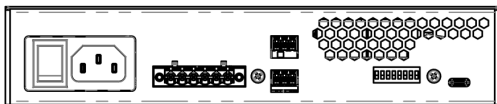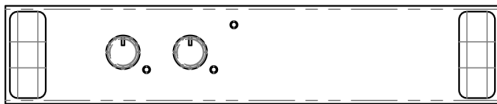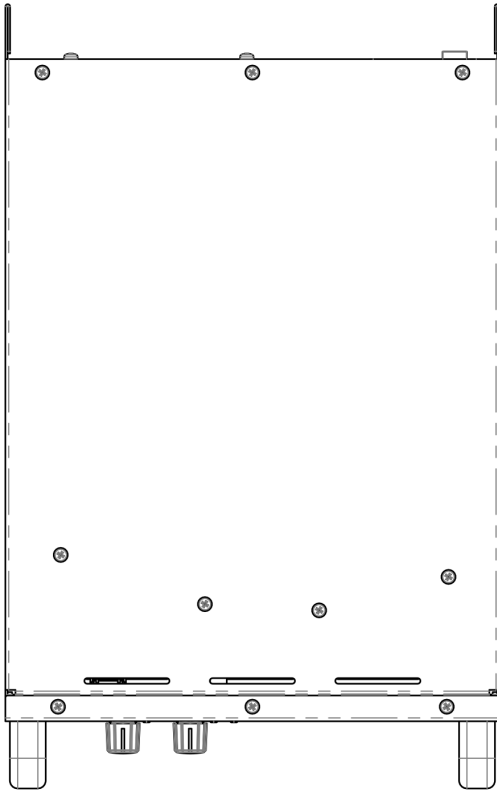OUTPUT
140W
CH 2

*
EXTRA
CONTROLS
VIA USB

POWER
SAVING
MODE

FRONT
PANEL
LOCK
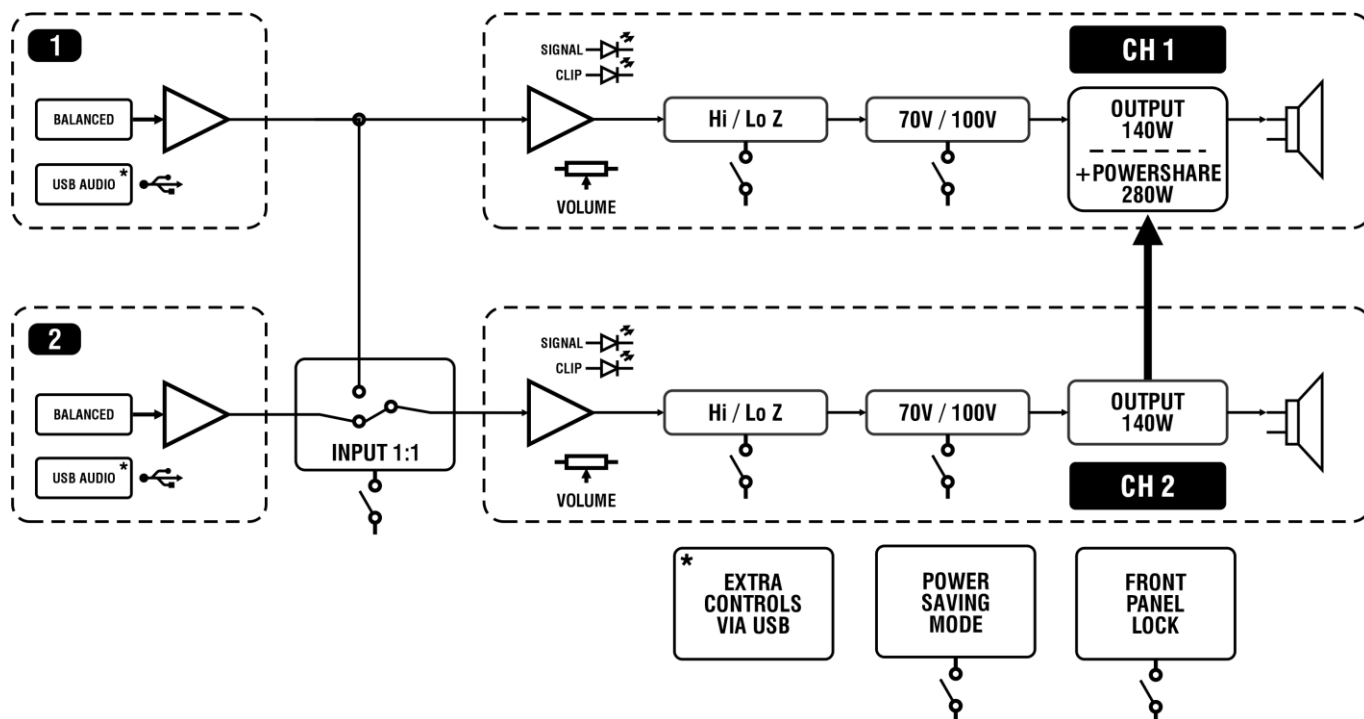
DIMENSIONS

Note: All dimensions shown are in millimetres.

44

350

220.5

SAFETY AND WARNINGS

MANUFACTURER: HEADSTOCK DISTRIBUTION LTD. STEELPARK ROAD, COOMBS WOOD BUSINESS PARK WEST, HALESOWEN, B62 8HD, UK

To take full advantage of your new product and enjoy long and trouble-free performance, please read this owner's manual carefully, and keep it in a safe place for future reference.

1) Unpacking: On unpacking your product, please check carefully for any signs of damage that may have occurred whilst in transit from the HH factory to your dealer. In the unlikely event that there has been damage, please re-pack your unit in its original carton and consult your dealer. We strongly advise you to keep your original transit carton, since in the unlikely event that your unit should develop a fault, you will be able to return it to you dealer for rectification securely packed.

2) Amplifier Connection: To avoid damage, generally it is advisable to establish and follow a pattern for turning on and off your system. With all system parts connected, turn on source equipment, mixers, effects processors etc, BEFORE turning on your amplifier. Many products have large transient surges at turn on and off which can cause damage to your speakers. By turning on your amplifier LAST and making sure its level control is set to a minimum, any transients from other equipment should not reach your loudspeakers. Wait till all system parts have stabilised, usually a couple of seconds. Similarly, when turning off your system always turn down the level controls on your amplifier and then turn off its power before turning off other equipment.

3) Cables: Never use shielded or microphone cable for any speaker connections as this will not be substantial enough to handle the amplifier load and could cause damage to your complete system. Use good quality shielded cables everywhere else.

4) Servicing: The user should not attempt to service these products. Refer all servicing to qualified service personnel.

5) Heed all warnings.

6) Follow all instructions.

7) Do not use this apparatus near water.

8) Clean only with a dry cloth.

9) Do not block any of the ventilation openings. Install in accordance with manufacturer's instructions.

10) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

11) An apparatus with Class I construction shall be connected to a mains socket outlet with a protective connection. 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 third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

12) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point they exit from the apparatus.

13) Only use attachments/accessories provided by the manufacturer.

14) Use only with a 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.

15) The mains plug or appliance coupler is used as the disconnect device and shall remain readily operable. The user should allow easy access to any mains plug, mains coupler and mains switch used in conjunction with this unit thus making it readily operable. Unplug this apparatus during lightning storms or when unused for long periods of time.

16) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when 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.

17) Never break off the ground pin. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.

18) If this product is to be mounted in an equipment rack, rear support should be provided.

19) Note for UK only: If the colours of the wires in the mains lead of this unit do not correspond with the terminals in your plug, proceed as follows:

   o The wire that is coloured green and yellow must be connected to the terminal that is marked by the letter E, the earth symbol, coloured green or coloured green and yellow.

   o The wire that is coloured blue must be connected to the terminal that is marked with the letter N or the colour black.

   o The wire that is coloured brown must be connected to the terminal that is marked with the letter L or the colour red.

20) This electrical apparatus should not be exposed to dripping or splashing and care should be taken not to place objects containing liquids, such as vases, upon the apparatus.

21) Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures: According to OSHA, any exposure more than the above permissible limits could result in some hearing loss. Earplugs or protectors to the ear canals or over the ears must be worn when operating this amplification system to prevent a permanent hearing loss, if exposure is more than the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.

Duration Per Day in Hours	Sound Level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ ou inférieur	115

22) If your appliance features a tilting mechanism or a kickback style cabinet, please use this design feature with caution. Due to the ease with which the amplifier can be moved between straight and tilted back positions, only use the amplifier on a level, stable surface. DO NOT operate the amplifier on a desk, table, shelf or otherwise unsuitable non-stable platform.

23) Symbols & nomenclature used on the product and in the product manuals, intended to alert the operator to areas where extra caution may be necessary, are as follows:

CAUTION:	Intended to alert the user to the presence of uninsulated 'Dangerous Voltage' within the products enclosure that may be sufficient to constitute a risk of electrical shock to persons. Ce symbole est utilisé pur indiquer a l'utilisateur de ce produit de tension non-isolée dangereuse pouvant être d'intensité suffisante pour constituer un risque de choc électrique. Este símbolo tiene el propósito de alertar al usuario de la presencia de '(voltaje) peligroso' que no tiene aislamiento dentro de la caja del producto que puede tener una magnitud suficiente como para constituir riesgo de corrientazo. Dieses Symbol soll den Anwender vor unisolierten gefährlichen Spannungen innerhalb des Gehäuses warnen, die von ausreichender Starke sind, um einen elektrischen Schlag verursachen zu können.
WARNING:	Intended to alert the user of the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product. Destiné à alerter l'utilisateur de la présence d'instructions importantes d'exploitation et de maintenance (entretien) dans la documentation accompagnant le produit. Este símbolo tiene el propósito de la alertar al usuario de las presencias de instrucciones importantes sobre la operación y mantenimiento en la literatura que viene con el producto. Dieses Symbol soll den Benutzer auf wichtige Instruktionen in der Bedienungsanleitung aufmerksam machen, die Handhabung und Wartung des Produkts betreffen.

CAUTION:	Risk of electrical shock - DO NOT OPEN. To reduce the risk of electrical shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified personnel.
ATTENTION :	Risques de choc électrique - NE PAS OUVIRIR. Afin de réduire le risque de choc électrique, ne pas enlever le couvercle. Il ne se trouve a l'intérieur aucune pièce pouvant être réparée par l'utilisateur. Confier l'entretien a un personnel qualifié.
PRECAUCION:	Riesgo de descarga eléctrica - NO ABRIR. Para reducir el riesgo de descarga eléctrica, no quite la cubierta. No hay piezas reparables por el usuario en el interior. Remita el servicio a personal calificado.
VORSICHT:	Risiko - Elektrischer Schlag! Nicht offen! Um das Risiko eines elektrischen Schlages zu vermeiden, nicht die Abdeckung entfernen. Es befinden sich keine Teile darin, die vor Anwender repariert werden konnten. Reparaturen nur von qualifiziertem Fachpersonal durchführen lassen.

WARNING:	To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture. Before using this appliance, please read the operating instructions for further warnings.
ADVERTISSEMENT :	Afin de prévenir les risques de décharge électrique ou de feu, n'exposez pas cet appareil a la pluie ou a l'humidité. Avant d'utiliser cet appareil, lisez les avertissements supplantais situes dans le guide.
ADVERTENCIA:	Para evitar descargas eléctricas o peligro de incendio, no exponga este aparato a la lluvia ni a la humedad. Antes de usar este aparato, lea las instrucciones de funcionamiento para conocer más advertencias.
ACHTUNG:	Um einen elektrischen Schlag oder Feuergefahr zu vermeiden, sollte dieses Gerat nicht dem Regen oder Feuchtigkeit ausgesetzt werden. Vor Inbetriebnahme unbedingt die Bedienungsanleitung lesen.

FCC	This device complies with Part 15 of the FCC rules Operation is subject to the following two conditions: 1) This device may not cause harmful interference. 2) This device must accept any interference received, that may cause undesired operation. Warning: Changes or modification to the equipment not approved by HH can void the user's authority to use the equipment. Note: This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures. Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.
CE	This product conforms to the requirements of the following European Regulations, Directives & Rules: CE Mark (93/68/EEC), Low Voltage (2014/35/EU), EMC (2014/30/EU), RoHS (2011/65/EU), ErP (2009/125/EU) SIMPLIFIED EU DECLARATION OF CONFORMITY Full text of the EU declaration of conformity is available at the following internet address: http://support.hhelectronics.com/approvals
UKCA	The object of the declaration described above is in conformity with the relevant statutory requirement Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016, The Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, The Ecodesign for Energy-Related Products and Energy Information, (Amendment) (EU Exit) Regulations 2012
WEEE	In order to reduce environmental damage, at the end of its useful life, this product must not be disposed of along with normal household waste to landfill sites. It must be taken to an approved recycling centre according to the recommendations of the WEEE (Waste Electrical and Electronic Equipment) directive applicable in your country.

V1.0

IN THE INTEREST OF CONTINUED DEVELOPMENT, HH RESERVES THE RIGHT TO AMEND PRODUCT SPECIFICATION WITHOUT PRIOR NOTIFICATION

V1.0