



ZM4 4 Zone Mixer

User Manual



Order code: CRAM34

WARNING

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

- Before your initial start-up, please make sure that there is no damage caused during transportation.
- Should there be any damage, consult your dealer and do not use the equipment.
- To maintain the equipment in good working condition and to ensure safe operation, it is necessary for the user to follow the safety instructions and warning notes written in this manual.
- Please note that damages caused by user modifications to this equipment are not subject to warranty.



CAUTION!
KEEP THIS EQUIPMENT
AWAY FROM RAIN,
MOISTURE AND LIQUIDS



CAUTION!
TAKE CARE USING
THIS EQUIPMENT!
HIGH VOLTAGE-RISK
OF ELECTRIC SHOCK!!

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorised modification to the equipment.

- Never let the power cable come into contact with other cables. Handle the power cable and all mains voltage connections with particular caution!
- Never remove warning or informative labels from the unit.
- Do not open the equipment and do not modify the unit.
- Do not switch the equipment on and off in short intervals, as this will reduce the system's life.
- Only use the equipment indoors.
- Do not expose to flammable sources, liquids or gases.
- Always disconnect the power from the mains when equipment is not in use or before cleaning! Only handle the power-cable by the plug. Never pull out the plug by pulling the power-cable.
- Make sure that the available voltage is 240V, 50Hz AC or 24V DC.
- Make sure that the power cable is never crimped or damaged. Check the equipment and the power cable periodically.
- If the equipment is dropped or damaged, disconnect the mains power supply immediately and have a qualified engineer inspect the equipment before operating again.
- If the equipment has been exposed to drastic temperature fluctuation (e.g. after transportation), do not connect power or switch it on immediately. The arising condensation might damage the equipment. Leave the equipment switched off until it has reached room temperature.
- If your product fails to function correctly, stop use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Prolight dealer for service.
- Only use fuses of same type and rating.
- Repairs, servicing and power connection must only be carried out by a qualified technician. **THIS UNIT CONTAINS NO USER SERVICEABLE PARTS.**
- **WARRANTY:** Three years from date of purchase.

OPERATING DETERMINATIONS

If this equipment is operated in any other way, than those described in this manual, the product may suffer damage and the warranty becomes void. Incorrect operation may lead to danger e.g: short-circuit, burns and electric shocks etc.

Do not endanger your own safety and the safety of others!

Incorrect installation or use can cause serious damage to people and/or property.

ZM4 4 Zone Mixer

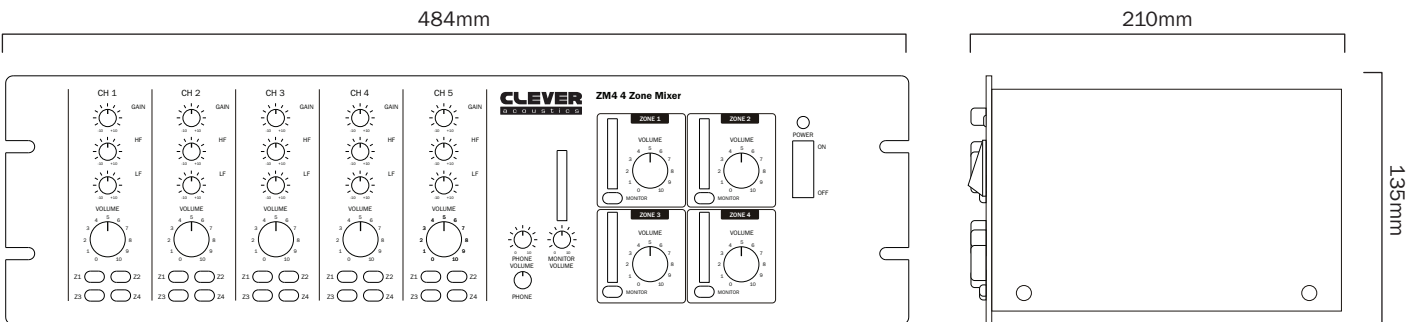
The ZM4 Zone Mixer is ideal for systems where multiple zones are required and will be amplified utilising external amplification. Designed for use in venues such as schools, churches, entertainment venues or commercial buildings. The ZM4 zone mixer has five input channels, each with selectable independent output routing, input gain, treble bass and volume controls. Input channels 1-4 are via XLR/Jack combo sockets, each with Line/Mic/Mic+Phantom selection, input channel 5 is via a stereo line level input.

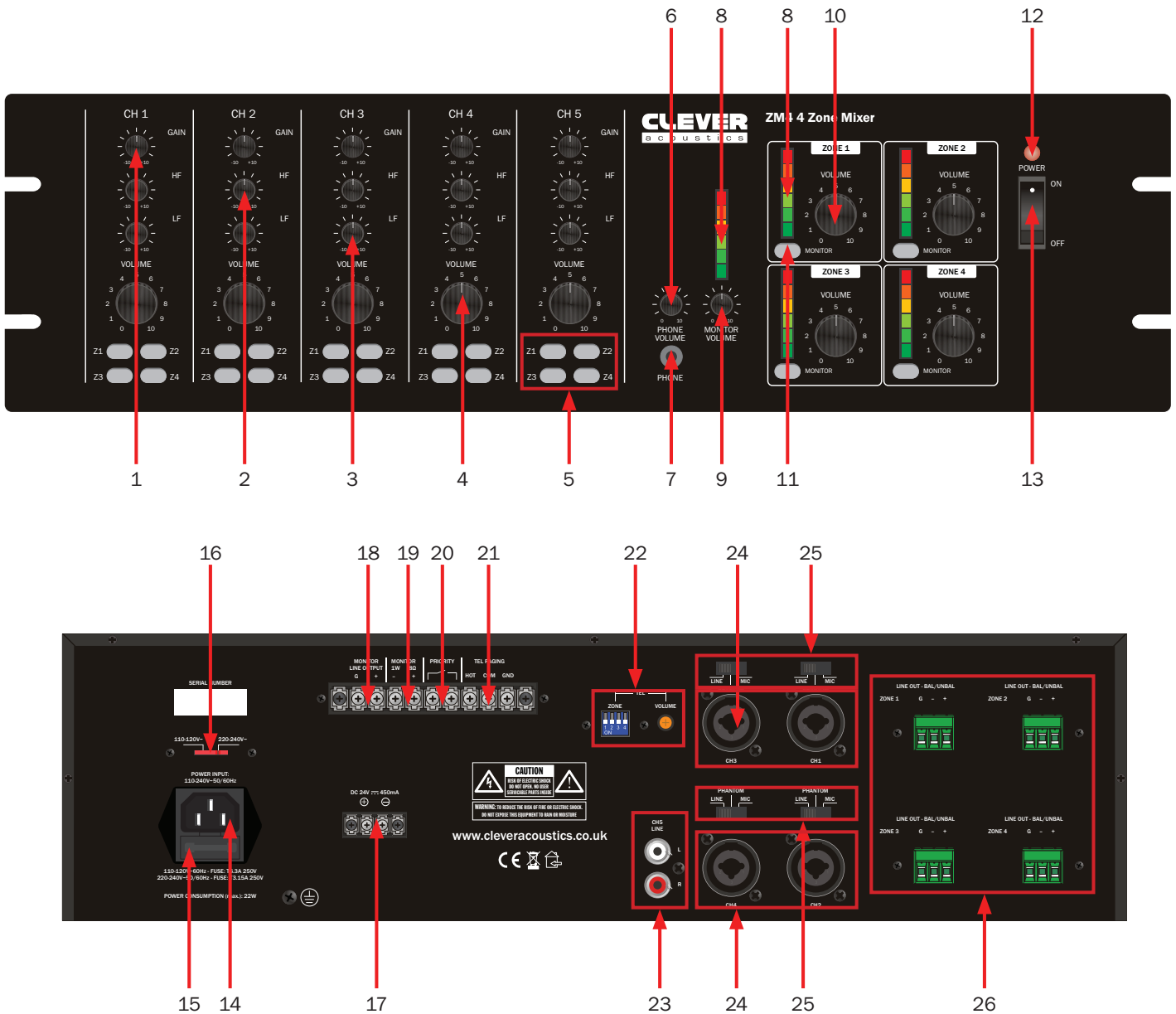
Four output zones each feature LED VU indicators, monitor selection and volume controls. The on-board monitor facility, selectable for each zone output features a 1W 8Ω loudspeaker output suitable for driving a loudspeaker local to the ZM4 zone mixer. For ease of installation, the output connectors for each zone feature phoenix style screw terminals offering a balanced signal for output to external amplification.



- Four output zones each with level control and monitor selection
- Five input channels:
Channels 1-4 are via XLR/Jack combo sockets, each with Line/Mic/Mic+Phantom selection
Channel 5 is via phono (RCA) stereo line level input
- 3U, 19" rackmount chassis
- Input gain, treble, bass and level controls
- Selectable output routing for all input channels
- Monitor function with level control and LED VU meter
- Output for monitor loudspeaker: 1W, 8Ω
- Headphone output with level control
- Telephone/paging input (zone selectable) with adjustable level
- Priority input for telephone and MIC1 (music mute facility)
- Line level MIX output

Specifications	ZM4 4 Zone Mixer
Input sensitivity/impedance	- CH1-3: 5mV/4kΩ (Mic), 100mV/10kΩ (line) via combi XLR/6.35mm (1/4") jack - Phantom power: 15V - CH4-5: 100mV/30kΩ (line) unbalanced stereo phono - TEL. paging - 40mV - 1.5V/5kΩ unbalanced screw terminals
Frequency response	20Hz-22kHz (±2dB)
THD	<0.03% (@1kHz 1W output)
Power consumption	22W (max.)
Power supply	110-240V~50/60Hz AC or 24V DC
Fuse	T3.15A 250V
Dimensions	135 x 484 x 210mm
Weight	4.6kg
Order code	CRAM34





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|----------------------------------|---|---|
| 01 - Gain control | 11 - Monitor output selector | 20 - Priority control terminals |
| 02 - HF level control | 12 - Power LED | 21 - Telephone/paging input (TEL) |
| 03 - LF level control | 13 - Power switch | 22 - Telephone/paging input zone selection & volume control |
| 04 - Input channel level control | 14 - AC mains power input | 23 - Stereo LINE inputs |
| 05 - Zone selection switches | 15 - AC mains fuse | 24 - Mono MIC/LINE inputs |
| 06 - Headphone level control | 16 - AC voltage selector | 25 - Input sensitivity and phantom power control |
| 07 - Headphone output | 17 - 24V DC power input | 26 - Balanced line level zone outputs |
| 08 - LED VU output meter | 18 - Monitor (MIX) line output | |
| 09 - Monitor level control | 19 - Monitor loudspeaker output (1W 8Ω) | |
| 10 - Zone output level control | | |

Layout identification:**1. Gain control:**

The gain control is used to adjust the input gain (level) for each of the zone mixers input channels. Turn the level control anti clockwise to the lowest setting, or turn clockwise to adjust to the highest setting. Adjustments should be made gradually to avoid any sudden changes to the audio output. If the audio source appears to sound distorted, a reduction in gain may be required.

2. HF level control:

During initial setup the high frequency tone adjustment should be set to the zero point (12'o'clock position). Turn the level control anti clockwise to reduce the high frequency tones, or turn clockwise to adjust the increase the high frequency tones. Adjustments should be made gradually to avoid any sudden changes to the audio output.

3. LF level control:

During initial setup the low frequency tone adjustment should be set to the zero point (12'o'clock position). Turn the level control anti clockwise to reduce the low frequency tones, or turn clockwise to adjust the increase the high frequency tones. Adjustments should be made gradually to avoid any sudden changes to the audio output.

4. Input channel level control:

The gain control is used to adjust the input gain (level) for each of the zone mixers input channels. Turn the level control anti clockwise to the lowest setting, or turn clockwise to adjust to the highest setting. Adjustments should be made gradually to avoid any sudden changes to the audio output. If the audio source appears to sound distorted, a reduction in gain may be required. The input channel level control adjusts the level of the selected input channel within the main mix.

5. Zone selection switches:

Each of the five input channels may be routed to any of the four output zones.

Press the switch to the IN position to route the selected input channel to the chosen output zone.

6. Headphone level control:

The headphone output volume is adjustable. Turn the level control anti clockwise to the lowest setting, or turn clockwise to adjust to the highest setting.

7. Headphone output:

Utilising a standard 3.5mm stereo jack socket, the headphone output is used alongside the monitor function to check the output of individual output zones. If none of the output zones are selected using the monitor selection switches, the headphone output will be muted.

8. LED VU output meter:

The output to each zone may be monitored visually on the amplifier. The VU meter has three green stages, followed by amber and then red. Care should be taken to avoid the signal level reaching the amber or red zones as this will indicate a clipped signal within the zone mixer. In this instance, the Input Channel and/or Zone Output Level should be reduced.

9. Monitor level control:

The monitor output volume is adjustable. Turn the level control anti clockwise to the lowest setting, or turn clockwise to adjust to the highest setting. This is used to control the volume for the 1W 8Ω loudspeaker output on the rear panel of the zone mixer.

10. Zone output level control:

The master volume control affects all audio sources within the amplifier, routed to the selected zone. Turn the level control anti clockwise to the lowest setting, or turn clockwise to adjust the overall output to the highest setting. Adjustments should be made gradually to avoid any sudden changes to the audio output.

11. Monitor output selector:

To route one of the output zones to the monitor & headphone outputs, press the Monitor selection button. The monitor output volume can then be adjusted using the Monitor Volume Control.

12. Power LED:

The Power LED will illuminate to indicate the zone mixer is powered on. If the power LED is not illuminated, check first the position of the on/off switch and then check the mains (including fuse) or DC power supply.

13. Power switch:

On/Off control for the zone amplifier. Note: The on/off power switch does not have any control over the 24V DC power input.

14. AC mains power input:

Before connecting the amplifier to the local mains voltage outlet should be checked to ensure the available supply is 240V~AC 50Hz. This product is CLASS1 and requires a protective mains earth to be connected at all times. DO NOT remove or disconnect the earth.

15. AC mains fuse:

Disconnect from the mains power supply before attempting to replace the mains fuse. Replacement mains fuses must be the same rating as the original. T3.15AL 250V for 220-240V AC mains supply or T6.3AL 250V for 110-120V AC mains supply.

16. AC voltage selector:

The ZM4 zone mixer features a dual voltage mains input. Disconnect the unit from the mains voltage power supply before attempting to change the mains input voltage. Care should be taken to select the appropriate mains input voltage to match that of the mains supply voltage.

17. 24V DC power input:

The ZM4 zone mixer features a 24V DC (600mA) power input for operation from a DC backup power supply. When both the DC and AC power inputs are connected, the ZM4 will operate using the AC mains power input and automatically switch to DC operation should the AC power supply fail. Care should be taken to observe the polarity and fuse requirements when connecting the DC power source.

18. Monitor (MIX) line output:

The monitor line output can be used to feed external amplification or recording equipment. The Monitor line output provides an unbalanced (4V) signal following the front panel “monitor” selection. If several zones are selected, the output will be a mixed signal of all the selected zones.

19. Monitor loudspeaker output (1W 8Ω):

Auxiliary connection for the connection of a small external loudspeaker for local monitoring purposes. The nominal output is 1W with a minimum impedance of 8Ω. If none of the output zones are selected using the monitor selection switches, the monitor output will be muted.

20. Priority control terminals (Music Mute):

When the terminals are short-circuited by means of a switch or relay (ie fire alarm panel), input channels CH4 and CH5 will be muted, leaving input channels CH1, CH2 and CH3 with priority status. Note: The TEL input carries highest priority and will override the Priority (Music Mute) function.

21. Telephone/paging input (TEL):

For emergency paging, the ZM4 is equipped with a balanced audio TEL input, activated automatically upon the ZM4 detecting an audio signal present on the TEL input terminals. The input carries the highest priority and will override all other inputs & priority functions on the amplifier.

22. Telephone/paging input zone selection & volume control:

The TEL input features zone control and input volume control. To route the TEL signal to a desired output zone, move the corresponding DIP switch to the down (ON) position. The input volume for the TEL signal may be controlled by the recessed volume control potentiometer. For most applications, it may be best practice to set the minimum possible level to prevent unwanted activation of the priority input. Turn the potentiometer clockwise to increase the volume.

23. Stereo LINE inputs:

A stereo audio input is provided for sources such as FM Tuners, CD Players or MP3 Players. The input features a pair of unbalanced phono (RCA) inputs suitable for line level audio input.

24. Mono MIC/LINE inputs:

Channels 1, 2, 3 & 4 all feature mono audio inputs, each with selector for use with MIC/MIC+Phantom/Line signals. The audio input is designed to accept a balanced audio signal via XLR or 6.35mm (¼”) TRS jack.

25. Input sensitivity and phantom power control:

Channels 1, 2, 3 & 4 each feature switchable inputs for use with MIC/MIC+Phantom/Line signals. The MIC position is designed to accept a balanced, low level signal from a standard dynamic microphone (5mV/1kΩ). The PHANTOM position is designed to provide 15V phantom power across XLR pins 2 & 3 for use with condenser microphones. The LINE position is for use with line level sources such as radio microphone receivers, CD players and FM tuners (100mV/10kΩ), the signal may be inputted using either the balanced XLR or balanced TRS 6.35mm (¼”) jack.

26. Balanced line level zone outputs:

The ZM4 features four, independent zone outputs each utilising a phoenix type terminal block for the balanced audio output (1.7V). If the amplifier connected only requires an unbalanced signal, the output contacts “+” and “G” should be used. When connecting the outputs, the terminal block may be removed from the ZM4 for ease of termination.

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Power on/off procedure:

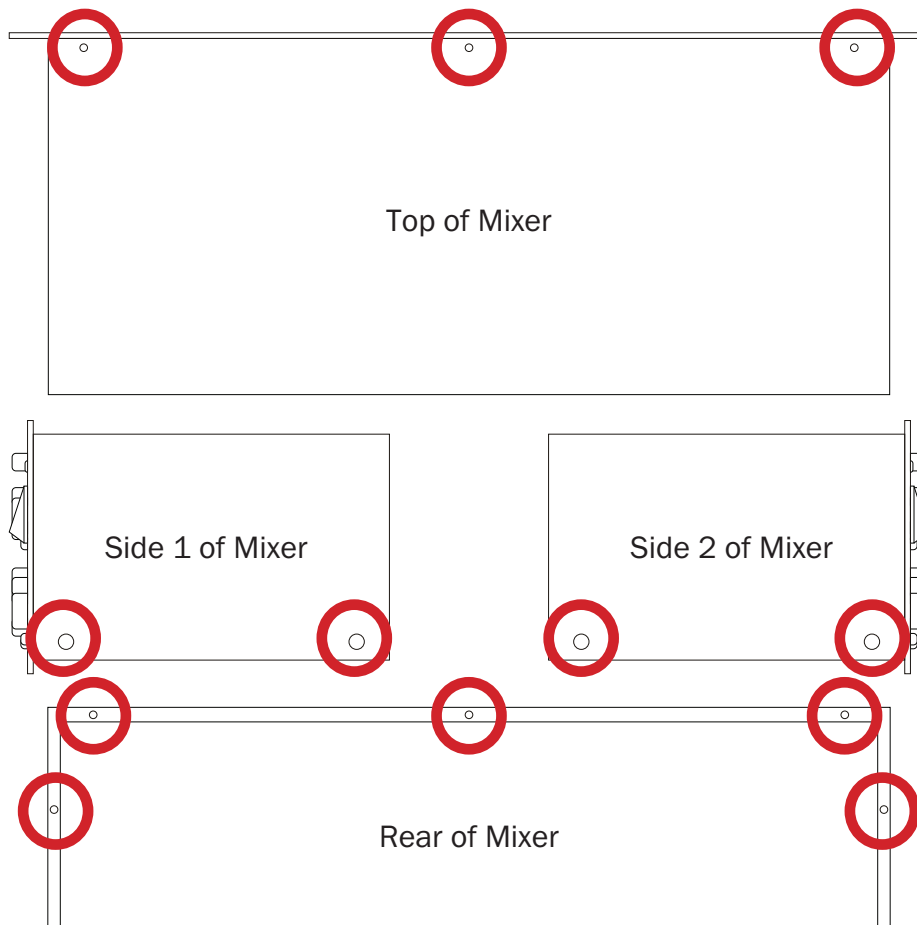
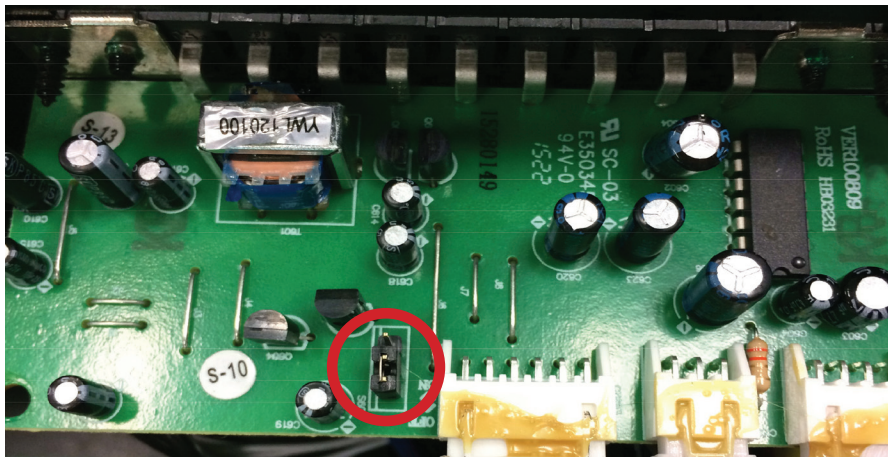
Prior to making any connection to the mains power or audio inputs/outputs, turn all level controls counter clockwise to the “0” position and all tone (equaliser) controls to the mid (zero) point. Deselect all monitor and zone selection controls.

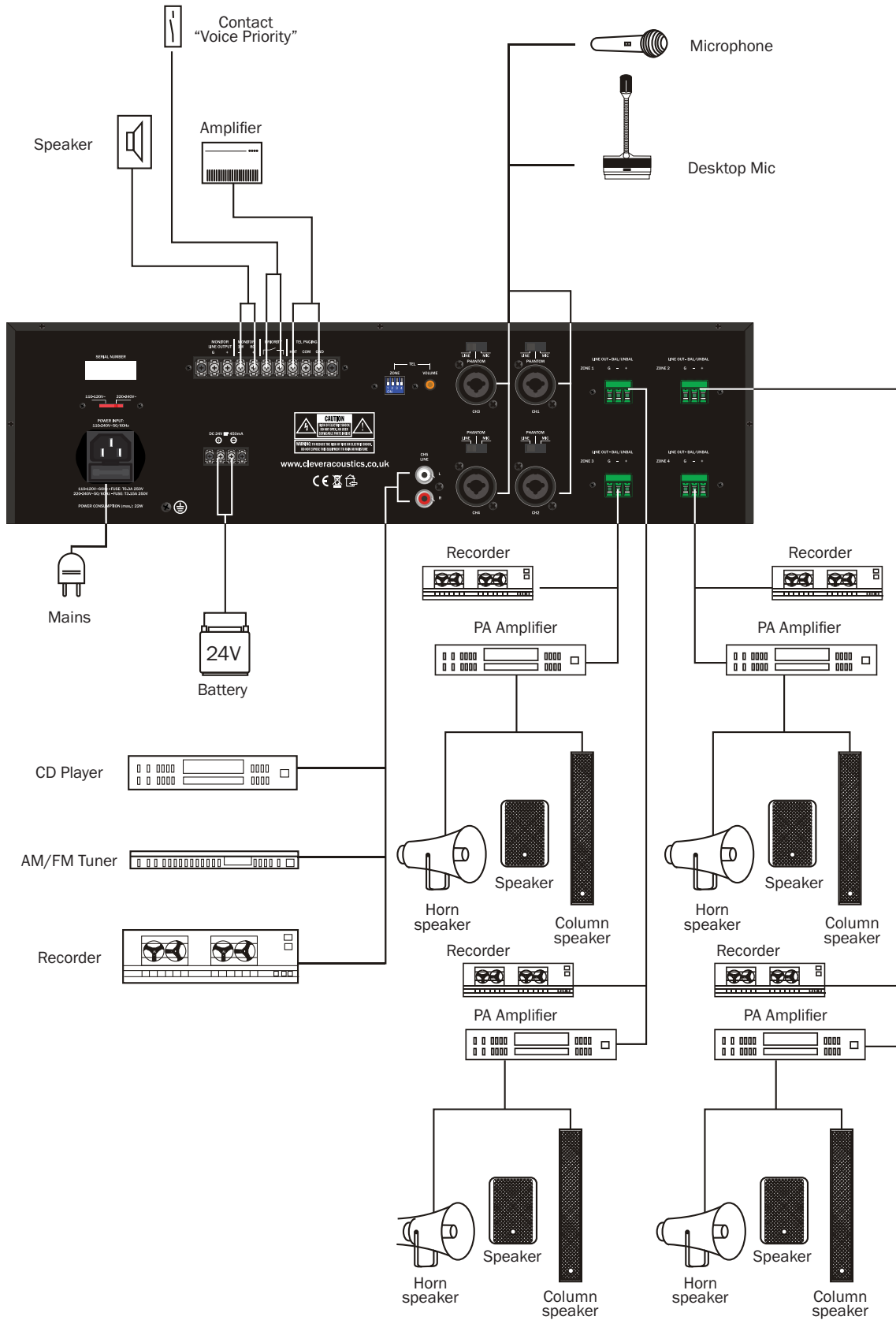
Switch on the zone mixer and any audio sources (MP3 players, CD players, Microphones etc) before powering the systems amplifier ON. The last product to be switched on should be the power/slave amplifiers to prevent any unwanted noise or potential damage to speakers or amplifiers. If you wish to power off the system, turn the amplifier’s master volume control counter clockwise to the “0” position before switching the amplifier OFF before any audio sources are switched off. By following this procedure it will prevent acoustic shocks to the speakers or potential damage to system components. After connecting all audio sources and powering on the system, adjust the level of each audio input, select the zone routing in order to achieve the desired “mix” for each zone. Care should be taken to when adjusting microphone input volumes and the master volume, adjust both of these in small increment’s to avoid feedback (howl around). The goal is to achieve a clear balance between music and voice ensuring announcements can be clearly heard.

MIC priority:

During normal operation the ZM4 features priority for MIC1 over the other microphone and line inputs. For certain applications, the installation engineer may need to defeat the MIC1 priority function. In order to do this, the product must be fully disconnected from any AC or DC power sources, and disconnected from all inputs/outputs.

Remove the 12 screws from the outer casing as per the diagram below and keep in a safe location. Remove the upper casing and place to one side. Locate the PCB towards the rear of the unit as pictured below. Carefully move the jumper from the "ON" position to the "OFF" position. Refit the outer casing, taking care to avoid damaging the unit. Refit all of the screws to fully secure the outer casing.







***Correct Disposal of this Product
(Waste Electrical & Electronic Equipment)***

**(Applicable in the European Union and other European countries
with separate collection systems)**

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



