



ZM 107 Audio Mixer

User Manual



Order code: CRAM35

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 between 100-240V, 50/60Hz AC.
- 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!

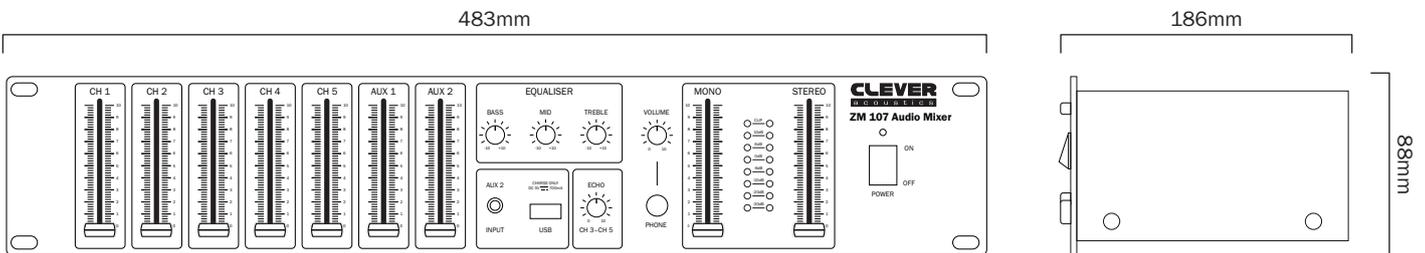
Incorrect installation or use can cause serious damage to people and/or property.

ZM 107 Audio Mixer

This 2U mixer is perfect for public address and background music systems where multiple inputs are required. Suitable for use in a wide range of venues, the ZM 107 offers the user an intuitive control surface with seven 60mm faders while retaining a large number of features for complex audio systems. The ZM 107 mixer has 7 input channels, each with adjustable volume controls. Five of these channels are microphone inputs with XLR/1/4" combo sockets, the other two channels are RCA line level stereo inputs. Adding to the features the ZM 107 has a 3 band EQ, mono output, echo and a front panel mounted AUX input ideal for MP3 players.

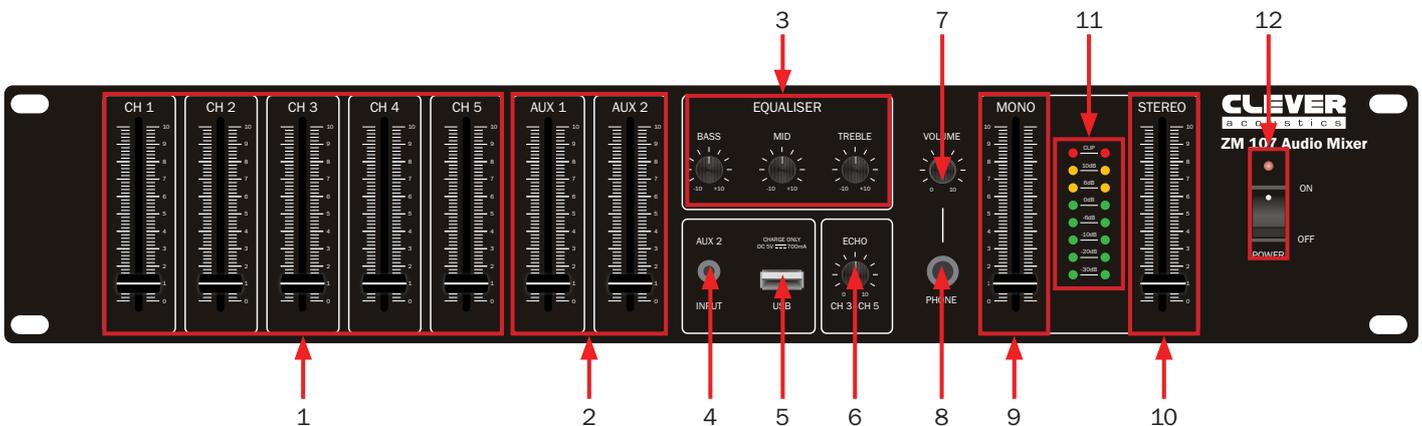


- Five mono channels with combo XLR/Jack input, each with Mic/Mic+Phantom/Line selector
- Two stereo line level inputs via phono sockets
- Low distortion microphone pre-amplifiers with large dynamic range
- Microphone 1 features adjustable priority override
- Echo control for channels 3, 4 and 5
- Front panel AUX input via 3.5mm jack
- USB power port suitable for charging
- Input level control with input signal LED
- Stereo line output via balanced XLRs
- Mono sum output balanced XLRs volume control
- Stereo record output via unbalanced phono sockets
- 3-band EQ for low, mid, high
- Master volume control
- 8-segment LED signal level meters



Specifications	ZM 107 Audio Mixer	
MIC/LINE input channels (CH1-CH5)	Microphone input	XLR balanced
	Frequency response	+1/-3dB at output +4dB sine 20Hz-22kHz
	Distortion (THD)	<0.1% @ +4db. 22Hz~22kHz A-weighted
	Sensitivity	-60dBu
	Max. input	-40dBu
	Signal to noise ratio	<-78dB
	Phantom power	+15V with switch control
	Line input	1/4" TRS, balanced
	Frequency response	+1/-3dB at output +4dB sine 20Hz-22kHz
	Distortion (THD)	<0.1% @ +4db. 22Hz~22kHz A-weighted
	Sensitivity	-20dBu
	Max. input	0dBu
	Signal to noise ratio	<-95dB

Specifications	ZM 107 Audio Mixer	
STEREO/AUX input channels	RCA input	RCA
	Frequency response	+1/-3dB at output +4dB sine 20Hz-22kHz
	Distortion (THD)	<0.1% @ +4db. 22Hz~22kHz A-weighted
	Sensitivity	-20dBu
	Max. input	+20dBu
	Signal to noise ratio	<-95dB
Impedance	Microphone input	1kΩ
	All other inputs	≥10kΩ
	REC output	1kΩ
	All other outputs	120Ω
ECHO	Yes (only CH3-CH5) with knob adjustment variation	
Equaliser	High	±15dB @ 12kHz
	Mid	±12dB @ 2.5kHz
	Low	±15dB @ 80Hz
Main mix selection	Max. output	+26dBu Balanced, +21dBu Un-balanced
	Fader range	Off to +10dB
	Headphone level range	Off to +10dB
	Hum and noise	<-70dB @ 20Hz~22kHz (1 channel & MAIN level at max, other at min)
	Channel crosstalk	<-75dB @ 0dB 20Hz~22kHz (MAIN level at max, other at min)
USB port	5VDC 700mA (max.) (used to charge an MP3 player/phone etc.)	
Power consumption	40W	
Power supply	100-240V AC 50/60Hz	
Fuse	T500mA 250V	
Dimensions	88 x 483 x 186mm	
Weight	2.9kg	
Order code	CRAM35	



- 01 - CH1-5 input level controls
- 02 - AUX 1-2 input level controls
- 03 - Equaliser
- 04 - AUX 2 3.5mm jack input

- 05 - USB input (charging only)
- 06 - Echo control (CH3-5)
- 07 - Headphone level control
- 08 - Headphone output

- 09 - MONO output level control
- 10 - STEREO output level control
- 11 - L/R LED Output Meter
- 12 - Power switch & LED indicator



13 - AC mains power input with fuse
14 - STEREO outputs
15 - MONO output

16 - REC output
17 - AUX 1-2 inputs
18 - CH1-5 inputs

19 - LINE/MIC/PHANTOM Switches
20 - CH1 priority potentiometer

Panel layout identification & operation:

01. CH1-5 input level controls:

Input level control for mic/line channels 1 to 5. Raise the fader to increase the level of the selected channel, lower the fader to reduce the level.

2. AUX1-2 input level controls:

Input level control for mic/line channels AUX 1 to 2. Raise the fader to increase the level of the selected channel, lower the fader to reduce the level.

3. Equaliser

Turn these knobs to increase (“boost”) or reduce (“cut”) the amount of bass frequencies (LOW), mid-range frequencies (MID), and treble frequencies (HIGH) of the main mix.

LOW - This is the bass control. It is used to boost male voice, kick-drum or bass guitar.

Your system will sound much bigger than what it is. The gain range goes from -15dB to +15dB with a centre frequency of 80Hz.

MID - This is the midrange control. It provides -12dB to +12dB boost or cut with a centre frequency of 2.5kHz. It can affect most fundamental frequencies of all musical instruments and human voice.

HIGH - This is the treble control. You can use it to get rid of high frequency of human voice or instruments. The gain range goes from -15dB to +15dB with a centre frequency of 12kHz.

4. AUX 2 3.5mm jack input:

A 3.5mm stereo mini jack socket for the connection of an MP3 player or tablet PC/Phone. NOTE: The front and the rear panel AUX 2 sockets are connected in parallel and cannot be used simultaneously.

5. USB input (charging only):

A handy USB socket used to power an MP3 player or mobile phone. The USB delivers 5V - 700mA. There is no data transmission to/from this socket.

6. Echo control (CH3-5):

The ECHO effect control can be activated for input channels CH3-5.

The range goes from 0 (off) to 10 (max.).

7. Headphone level control:

Output volume for the headphone output. Turn the knob clockwise to increase the volume of the headphone output. Care should be taken to adjust the level in small increments to avoid sudden increases in the volume. Caution: Listening to music volumes within headphones

8. Headphone output:

6.35mm (1/4") stereo output jack for headphones.

9. MONO output level control:

Output level volume control of the MONO OUT. To avoid unexpected noise or bursts of audio, the level should be set to minimum when the power is switched on or off.

10. STEREO output level control:

Output level volume control of the STEREO OUT. To avoid unexpected noise or bursts of audio, the level should be set to minimum when the power is switched on or off.

11. L/R LED Output Meter

The LED meter indicates the level of output signal, this will illuminate green under normal conditions or amber when the signal is high. Also a clipping indicator will indicate red when the output is too high.

12. Power switch & LED indicator:

This switch controls to power on/off the unit. When the unit is switched on, the LED will light up. Before powering the ZM 107 on or off, it is best practice to reduce the input and output levels to their minimum to avoid any unwanted or sudden bursts of noise from the outputs.

13. AC mains power input with fuse:

This connector is meant for the connection of the supplied power cord. Please check the supply voltage accepted by the unit (100-240V AC~50/60Hz) and the voltage available from AC sockets before connecting the unit to the mains power. This product falls under CLASS 1 and must have a protective earth connection at all times.

14. STEREO outputs:

Balanced XLR outputs for connection to amplification sources.

15. MONO output:

Balanced XLR outputs for connection to amplification sources.

16. REC output:

Unbalanced RCA stereo output. To be used with external processing devices or power amplifiers. There is no EQ and level adjustment on this output.

17. AUX 1-2 inputs:

Unbalanced RCA stereo inputs. To be used with sound sources like CD, DVD, MP3, etc. The front and the

rear panel AUX 2 sockets are connected in parallel and cannot be used simultaneously.

18. CH1-5 inputs:

Balanced mic/line inputs equipped with combo XLR / 6.35 mm Jack sockets.

19. LINE/MIC/PHANTOM switches:

Use these switches to set what type of audio source is connected to each MIC/LINE input: a microphone without phantom power (MIC), a microphone with +15V of phantom power (PH), or a line-level device (LINE).

Note: Most dynamic microphones do not require phantom power, while most condenser microphones do. Consult your microphones documentation to find out whether it requires phantom power.

20. CH1 priority potentiometer:

MIC CH1 would have priority over other input channels. This function can be disabled by adjusting the MIC priority knob at the back of the unit. When the knob is turned anti-clockwise to the leftmost position, a signal received by the CH1 MIC/LINE input will not affect the other input signals at all. Turning the knob from the leftmost position towards the right position will gradually have the CH1 MIC/LINE input volume have priority over all other input signals. When the knob is turned to the rightmost position, a signal received by the CH1 MIC/LINE input will mute all other input signals entirely.

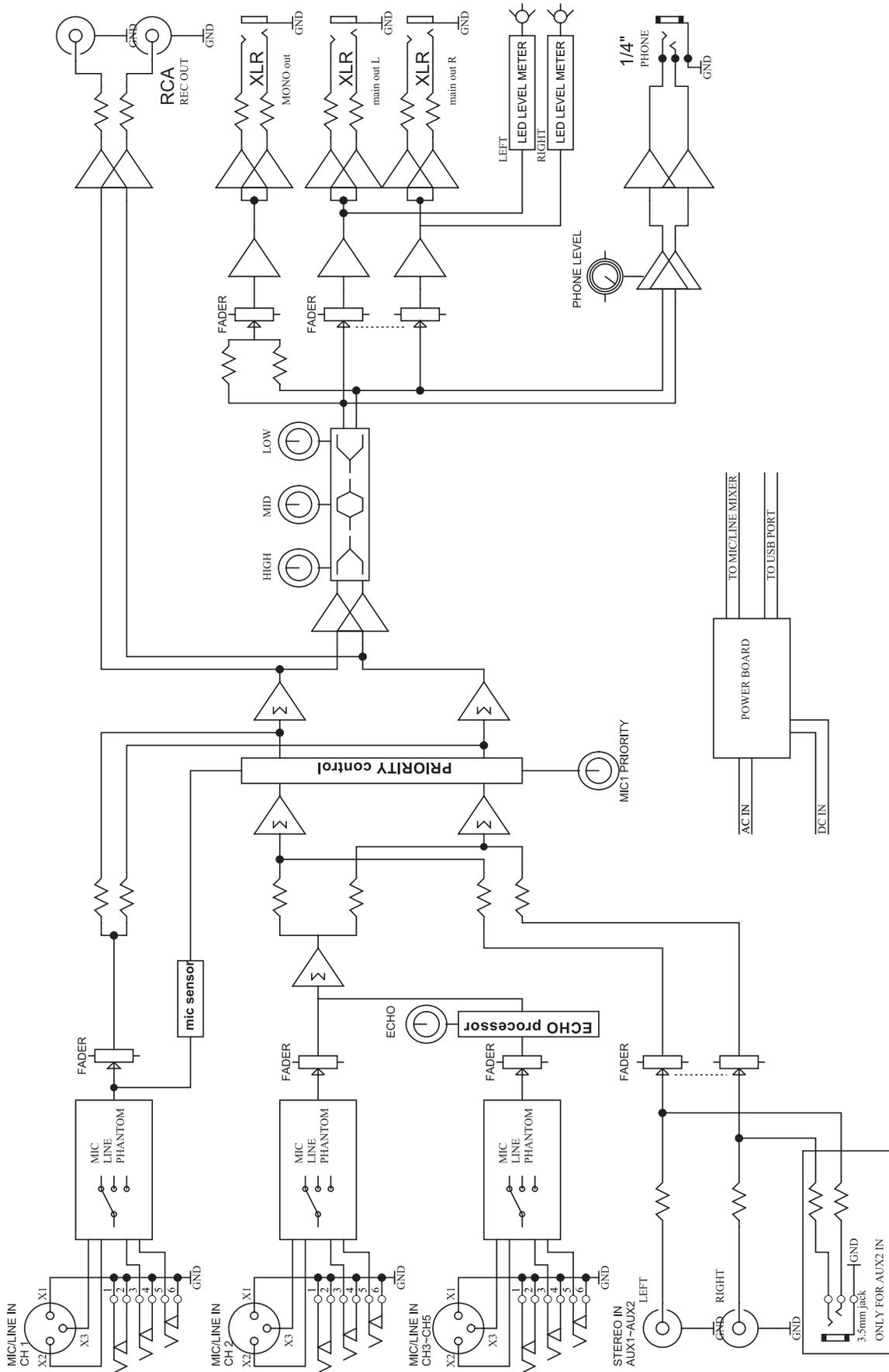
Power on/off procedure:

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.

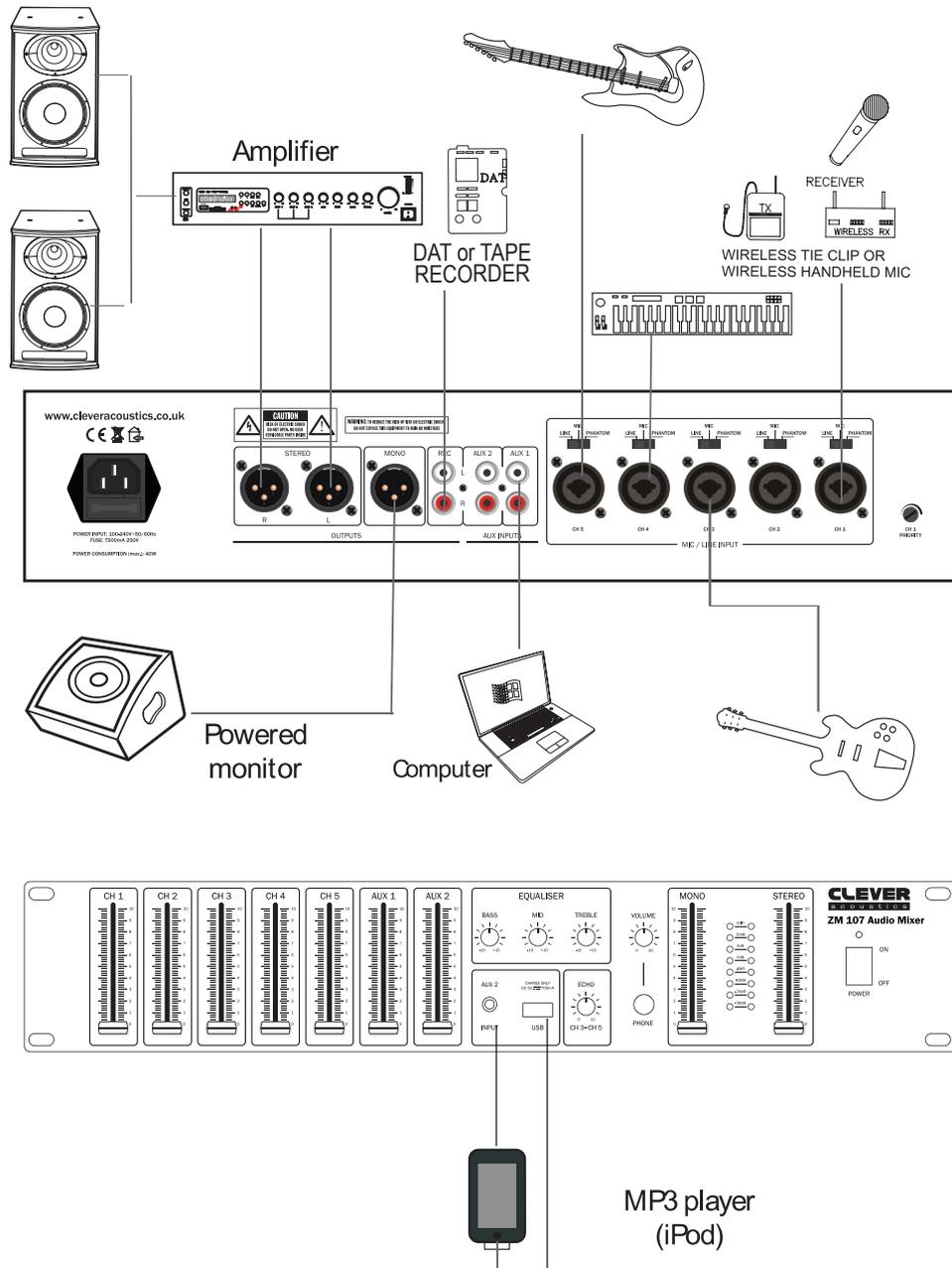
Switch on the zone mixer and any audio sources (MP3 players, CD players, Microphones etc) before powering the systems amplifier ON. The last product to be switched on should be the power/slave amplifiers to prevent any unwanted noise or potential damage to speakers or amplifiers. If you wish to power 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.

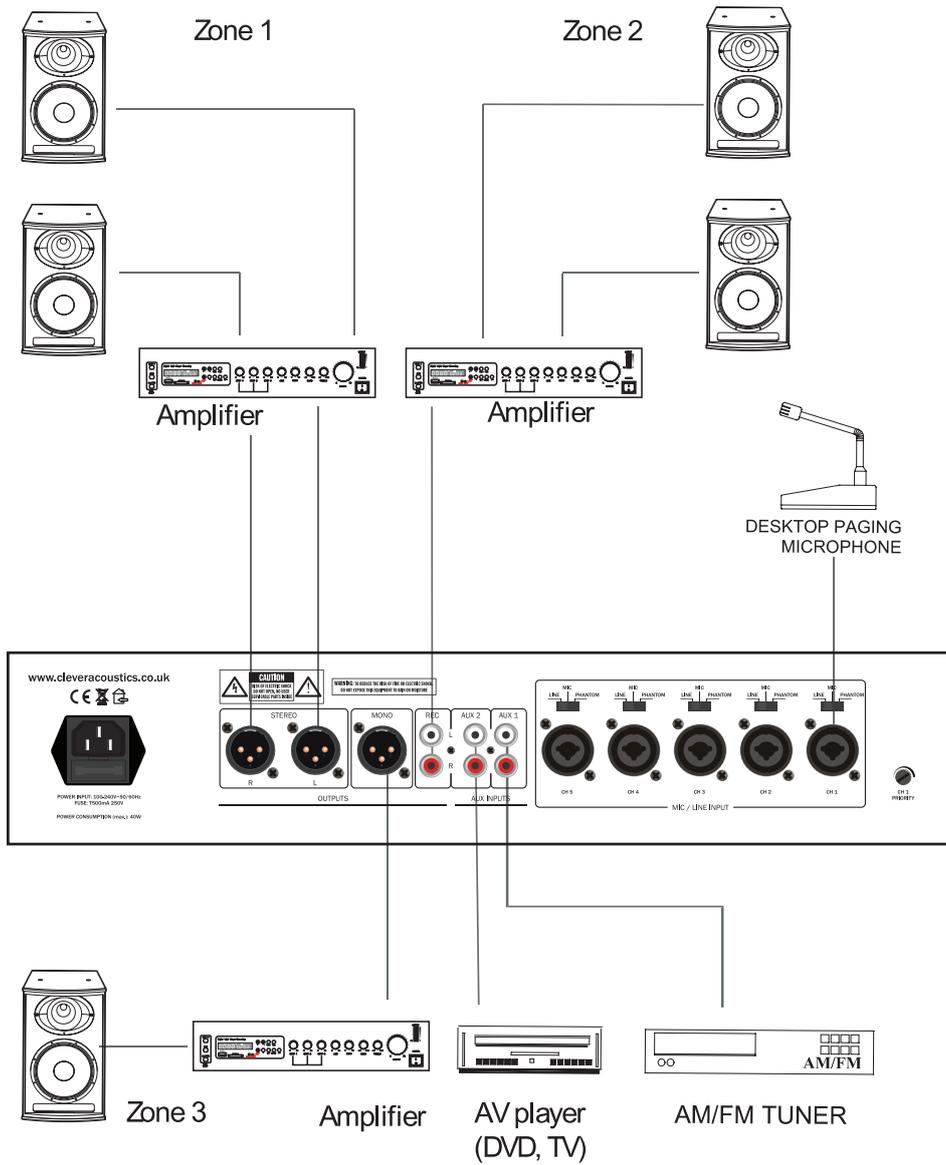
Block Diagram:



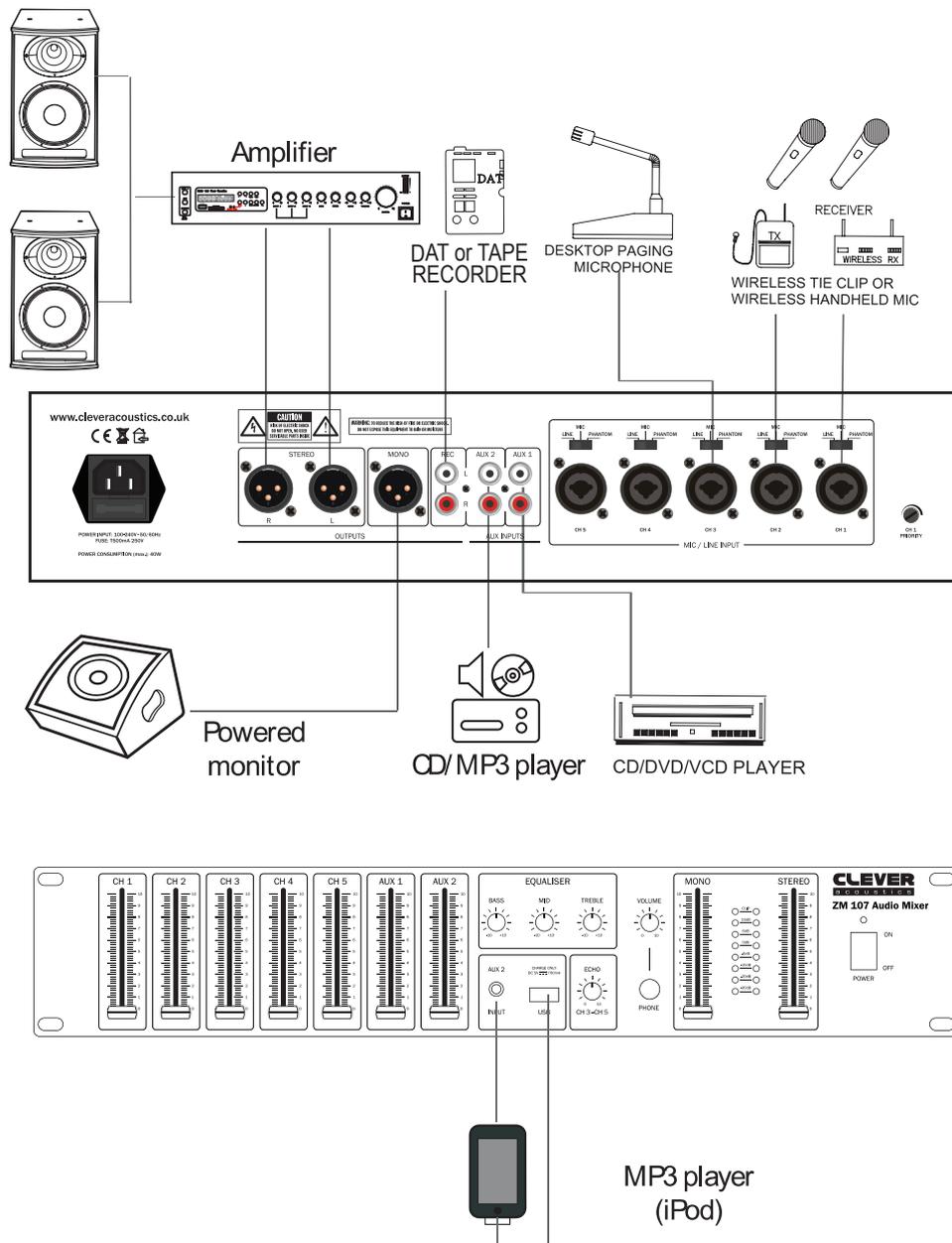
Application example - Live Music:



Application example - Bar/Hotel/Restaurant/Shop:



Application example - Conference/presentation:





***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.

