

EMERGENCY EVACUATION CONTROLLER LTS.EC2880

Operation manual



Please follow the instructions in this manual to obtain the optimum results from this unit.
We also recommend that you keep this manual handy for future reference.

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1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

Safety symbol and message conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety.

WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

Warning

When installing the unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects (including the unit itself) on the power cord, as doing so may result in fire or electric shock.
- Be sure to replace the unit's terminal cover after connection completion. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
- Be sure to ground to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.
- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down, causing personal injury and / or property damage.

When the unit is in use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest dealer. Make no further attempt to operate the unit in this conditions this may cause fire or electric shock, ...
 - If you detect smoke or a strange smell coming from the unit.
 - If water or any metallic object gets into the unit.
 - If the unit falls, or the unit case breaks.
 - If the power supply cord is damaged (exposure of the core, disconnection, etc)
 - If it is malfunctioning (no tone sounds)

- To prevent a fire or electric shock, never open or remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest dealer.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

Caution

When installing the unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.
- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.

When the unit is in use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest dealer. Make no further attempt to operate the unit in this conditions this may cause fire or electric shock, ...
- To prevent a fire or electric shock, never open or remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest dealer.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.
- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and / or damage.
- Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.
- Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.
- Contact your dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

Note : An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

2. FEATURES

This easy to install controller features Auto, Manual, and Isolate modes.

Auto position : When selected to the auto position the panel will respond to any signal received from the buildings Fire Indicator Board (FIB), if connected. This signal then activates the alert tone. If, after a pre-set time this condition has not been attended to, the panel will change to the evacuation mode. The evacuation tone will continue to sound until the panel has been reset. In the auto position the front panel alert, evac and cancel controls are inoperative. All other functions will work (ie. paging, bell chime and BGM)

Manual position : In the manual position any of the functions may be initiated from the controls on the front panel (i.e. alert, evac, or PA) This allows the operator to select either of these functions as required.

Other functions : Provisions have been made for BGM source to be played through the controller. BGM is automatically muted when any other function is operated. A microphone input has been included on the front panel. This can be used for either general or emergency paging. Paging over-rides all other functions. A pre-announcement chime is available on the microphone input. This can be switched on or off internally as preferred. Included is a unique tone or bell chime for signalling lunch breaks, start of class etc. This can be operated from the front panel or via contacts on the rear panel for remote activation (ie. by a time clock or remote switch)

- 6 zones sources selection and control function.
- Stand alone control unit
- Standard 1U 19" rack mount case
- Interfaces with fire indicator boards
- Remote operation of alert , evac, chime & cancel tones.
- 220V mains and 24V DC operation
- Auto / manual / isolate keyswitch
- Internationally accepted IEC mains socket (220V AC operation)
- Key switch to 003 standard
- Local operation of alert, evac and PA
- Provision for voice over message
- Microphone socket for PA use
- Provision for BGM
- Provision for Auxiliary input with front volume control. Bell chime facility
- Switched 24V DC output for override relays on volume controls
- Switched 24V DC output for strobe operation for Alert mode
- Switched 24V DC output for strobe operation evac mode
- On-board timer for remote alert activation adjustable from 30s to 7.5 min in 30s increments
- Externally operated inputs are activated by switching to ground
- Auxiliary level output
- Suitable for any amplifier with an auxiliary input
- Can be used as a standard PA system.
- 12 month warranty

3. NOMENCLATURE AND FUNCTIONS

Internal Settings

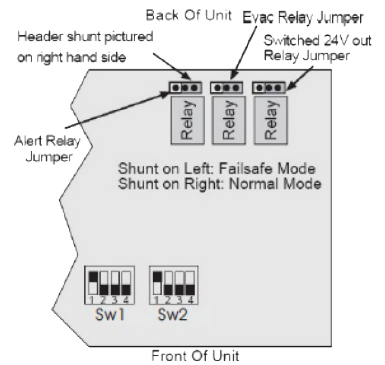
Before connecting the unit to a PA system, we recommend you first set the internal settings. These are as follows :

1. Override relay jumper settings

An override relay is necessary where attenuators are used so that the alert tone, evac tone, or message is broadcast at full volume regardless of the volume setting on the individual volume control.

With the jumper shunt on the right hand side the override relay is set to NORMAL mode. In this position 24V appears at the 24V DC output terminals when any of the alert tone, evac tone, voice over message or paging functions are activated.

With the jumper shunt set to the left hand side position, the override relay is set to the FAIL SAFE mode. In this mode, 24V DC appears at the 24V DC output terminals to allow the fail safe attenuators to operate normally. When any of the alert tone, evac tone, voice over message or paging functions are activated, 24V is removed from the terminals.

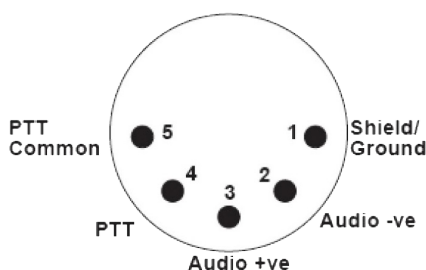


Alert / evac relay settings

Alert / evac switched 24V outputs may be used to run external systems such as strobes in unusually noisy environments. With the jumper set to the right hand position the corresponding relay is set to NORMAL mode.

In this position 24V appears at either the alert 24V Out contacts or the evac 24V out contacts when the alert or evac tone is activated respectively (i.e. setting off the alert / evac will cause the external device to switch on) With the jumper shunt set to the left hand side position, the respective alert / evac relays are set to FAIL SAFE mode.

In this mode, 24V DC appears at the alert / evac 24V Out contacts continuously until the corresponding alert or evac tone is activated for whatever reason. When this occurs the 24V is removed from the corresponding terminals (i.e. an external device connected to the corresponding terminals will cease to function) The factory setting for all jumper settings are NORMAL.



2. Evacuation Timer DIP Switch settings

The left hand DIP switch controls the time period (in AUTO mode) before the unit switches from the alert tone to the evac tone. This time period can be switched from 30s to 7.5m in 30s increments.

Note : The table also appears inside the unit for your convenience when setting up the controller. This option is factory set to 30s.

A 2075 DIP switch settings

Evac timer SW1

Auto evac

DIP switch

Timer	1	2	3.	4.
30 sec	ON	OFF	OFF	OFF
60 sec	OFF	ON	OFF	OFF
90 sec	ON	ON	OFF	OFF
120 sec	OFF	OFF	ON	OFF
150 sec	ON	OFF	ON	OFF
180 sec	OFF	ON	ON	OFF
210 sec	ON	ON	ON	OFF
240 sec	OFF	OFF	OFF	ON
270 sec	ON	OFF	OFF	ON
300 sec	OFF	ON	OFF	ON
330 sec	ON	ON	OFF	ON
360 sec	OFF	OFF	ON	ON
390 sec	ON	OFF	ON	ON
420 sec	OFF	ON	ON	ON
450 sec	ON	ON	ON	ON

Chime options SW2

Bell options SW2

Chime	DIP switch		F r o n t switch	R e a r terminal	DIP switch	
	1	2			3	4
No chime	OFF	OFF	Cont.		OFF	
Single chime	ON	OFF	Mom.		ON	
Dual chime	ON	OFF		Cont.		OFF
				Mom.		ON

3. Chime options DIP switch settings

The right hand DIP switch, SW2, is used to configure the pre-announcement chime and bell options.

Switch 1 is for the paging mic input and is set as follows :

- Set to OFF: No pre-announcement chime when paging.
- Set to ON: Built-in pre-announcement chime is activated immediately upon commencement of paging. This is factory set to ON.

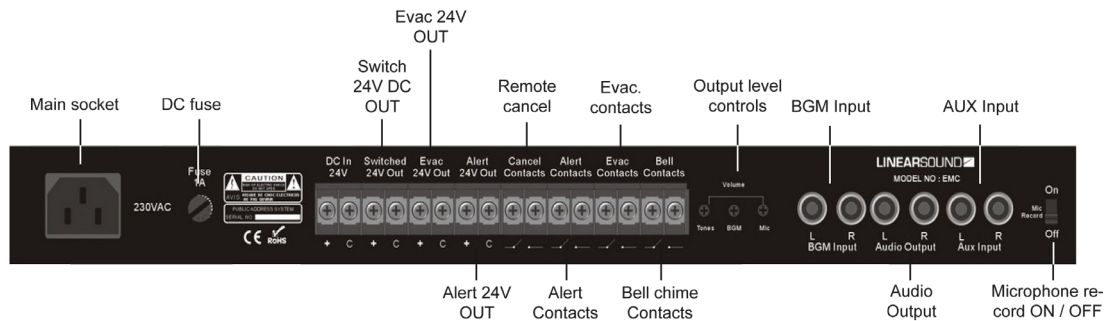
Note that this chime is not activated when the automatic voice over message sounds.

Switch 2 sets the pre-announcement chime to either a single chime or a dual chime. This is factory set to OFF.

Switch 3 sets the bell front panel switch to either continuously sound or momentarily sound. In the OFF position, the tone will sound for as long as the button is depressed. In the ON position, the bell tone will sound for a short moment irrespective of how long the button is held down. This is factory set to OFF.

Switch 4 sets the Bell tone rear panel switch to either a continuous tone or a momentary tone. In the OFF position, the tone will sound for as long as the rear panel bell contacts are closed. This is ideal for a school siren or end-of-shift bell. In the ON position, the bell tone will sound for a short moment irrespective of how long the contacts are closed. This is factory set to ON.

These chime options are also included on the inside of the unit to assist you when setting up the unit.



Wiring up the unit

Microphone input : For use with an unbalanced microphone, short pins 1 and 2 together on the mic plug.

Remote cancel : These contacts are for remote cancelling of alert / evac tones in auto mode.

Rear connector : The “24V DC IN” is for connection to a 24V power supply (battery backup) so that the unit will function in case of a mains power failure.

24V switched out : These contacts are for connection to override relays in remote volume controls. Refer to “Internal settings” for details.

Alert contacts : These contacts are for remote triggering of the alert tone in the auto mode (ie. for interfacing to fire indicator boards, “Break glass” alarms etc) Connecting these terminals together will activate the alert tone.

Alert 24V out : These contacts are for connection to external devices operating from 24V DC. Refer to “Internal settings” for details.

Evac contacts : These contacts are for remote triggering of the evac tone in auto mode. Connecting these terminals together will activate the evac tone.

Evac 24V out : These contacts are for connection to external devices operating from 24V DC. Refer to “Internal settings” for details.

Bell chime contacts : These contacts are for remote triggering of the bell chime sound. This bell chime can be used for signalling lunch breaks, start of classes, and can be triggered from a time clock or similar device. For details of this, see Installation instructions for the bell tone. Connecting these terminals will activate the bell.

BGM input : This input is for connecting a background music source to the controller. The stereo RCA sockets are combined internally to form a mono signal.

Auxiliary Input : This input is for connecting to an auxiliary source to the controller where the source is to be controlled via the front volume. The stereo signal is combined internally to form a mono signal.

Audio output : This consists of stereo RCA sockets with an output of 0 dBm into a 600Ω input.

This is suitable for most PA amplifier auxiliary inputs.

Instructions for use

Mains power switch : This switches mains power to the unit on and off. When switched to the off position; 24V DC connected to the unit's rear panel terminal will still power the unit.

LED power indicator : This LED will be lit when the unit is being powered by either 240V AC or 24V DC.

Key switch : The unit features 3 modes of operation. These are auto, manual and isolate, selectable via the key switch. The switch is keyed to a 003 standard key profile and will allow removal of the key in the Auto position only.

Isolate position : This isolates the unit so that the alert, evac and bell will not function.

Auto position : In the auto position the unit will respond to the rear panel alert or evac contact inputs. The front panel alert, evac and cancel switches are inoperative in this mode. This is designed for interfacing to fire indicator boards or "Break glass" alarms, ect. If the alert tone is triggered the unit will sound for a preset time, and will change to the evacuation mode. This preset time is determined by the internal DI" switch settings (see internal settings) The evacuation tone will continue to sound until the panel has been reset.

Once the alert tone has been triggered, triggering, the evac contact will automatically change the unit from alert to evac mode.

Where the voice-over module option is fitted and the alert is triggered, the unit will sound the alert tone for a preset time, then the evac tone for four cycles, sound the voice over message twice, then sound the evac tone for four cycles, and continue in this evac / voice over sequence.

- Note 1 : The tone that is being sounded (ie. alert, evac, bell) will be indicated by the illumination of the relevant front panel indicator.
- Note 2 : In the auto position, all other functions will work, eg. BGM, bell chime, and paging.
- Note 3 : To cancel a tone in a Auto mode, either use the remote cancel contacts or the key switched to manual mode and the cancel button. Note the cancel button will need to be depressed for 2 seconds. This is to prevent accidental cancelling of a tone.

Manual position : In the manual position any of the functions may be initiated from the front panel controls (ie alert, bell chime, evac and cancel). This allows the operator to select any of the functions as required.*

In this position the rear panel alert and evac contacts are inoperative. Depressing the alert will activate the alert tone until it is reset. The alert tone is reset by depressing the cancel button. Note the cancel button will need to be depressed and held in for 2 seconds.

The alert tone can be changed to an evacuation tone simply by depressing the evac switch. Note the evac button will need to be depressed and held in for 2 seconds.

Where the unit is fitted with a voice over module the evacuation tone will sound for four cycles, then play the voice over message twice, and repeat this sequence until it is cancelled.

Microphone input : This microphone input can be used for either general or emergency paging. Paging overrides all other functions. A pre-announcement chime is available on the microphone input (refer Installation Instructions) Note that a push to talk microphone is required.

Background music : BGM is automatically muted when any other function is operated

Rear panel volume controls : Volumes are set as follows tones : This sets the output level of the alert, evac and belle chime tones and the voice over message. Set this volume control first.

- **BGM :** This sets the outputs level of background music source connected to the BGM input RCA sockets.
- **Mic :** This sets the paging output level. Set this control after setting the tones volume control as the mic volume is relative to the tones volume, and adjusting the tones volume down will decrease the mic volume.

Function priority

The order of priority for the functions on the unit is as follows :

Key switch in Auto position :

1. Paging
2. Alert / evac tone
3. Bell chime
4. BGM / AUX

Key switch in manual position :

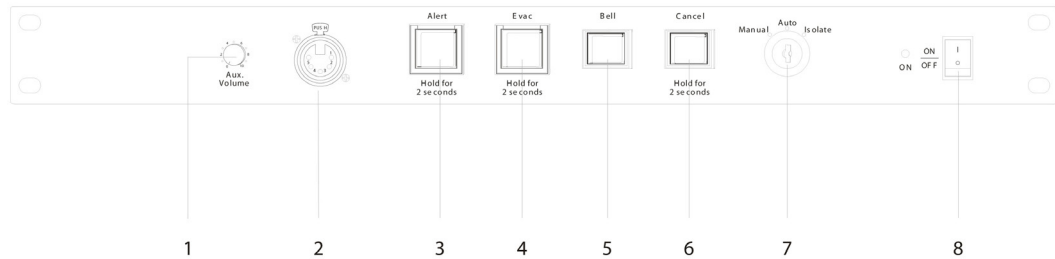
1. Paging
2. Bell chime
3. Evac
4. Alert
5. BGM / AUX

Recording of voice over message :

1. Connect a push to talk microphone to the front panel XLR input socket
2. Set the rear panel MIC record switch to OFF. Recording is now complete.
3. Use the microphone PTT button to start recording your message. The message can be any length from to 16 seconds.
4. Once the message is recorded set the MIC record switch to OFF. Recording is now complete.
5. To re-cord the message simply follow steps 2 to 4 again.

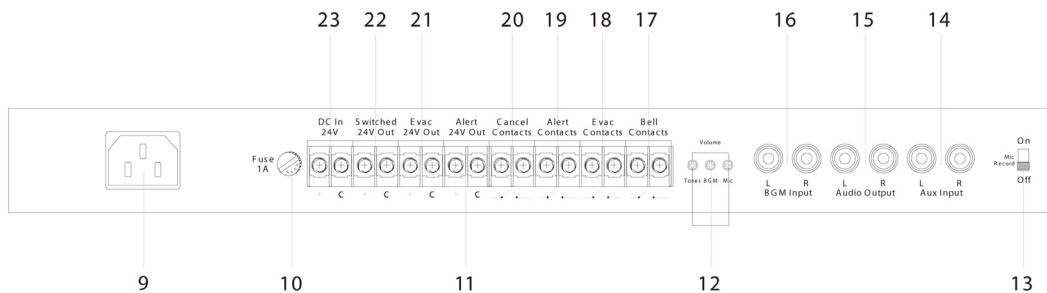
<u>Troubleshooting</u>	
Symptom	Solution
Unit does not function	Ensure MIC record switch is OFF
Low level recording	Ensure that a good quality mic is being used and the operator is speaking clearly into the mic
MIC volume level is low	Adjust MIC volume
Alert / evac tone levels are low	Adjust tone volume
No power to unit from AC mains	Check power to unit. If power is OK and unit still fails to power up, refer to authorised servicing centre
No power to unit from 24V DC	Check fuse and replace with M205 type 1A fuse if required
Front volume control not functioning	Volume control functions on AUX, input only, check connections ti rear of unit

a. Front panel



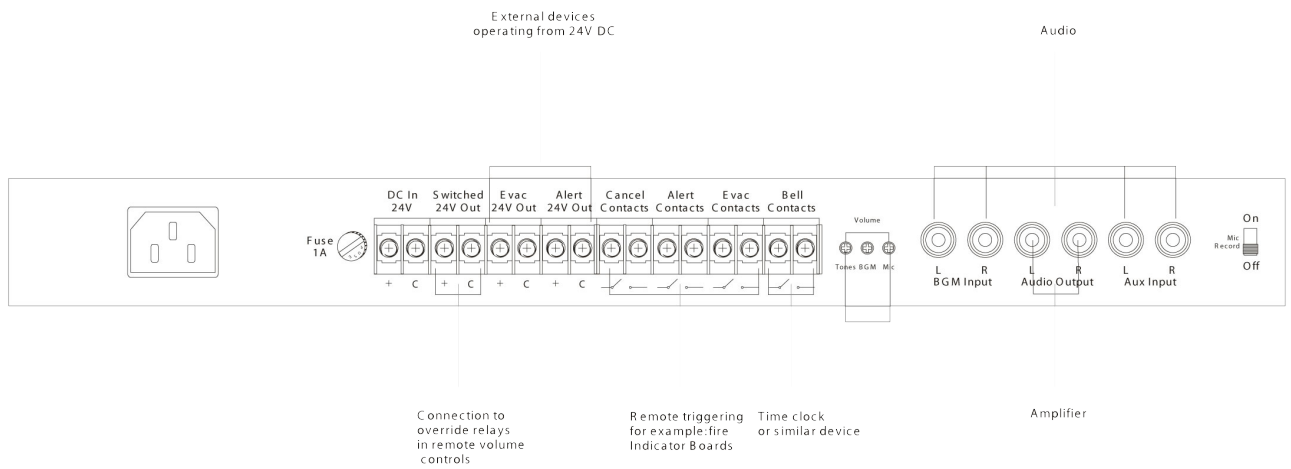
1. **VOLUME** : Volume control
2. **PUSH** : MIC input
3. **ALERT** : Hold for 2 seconds
4. **EVAC** : Hold for 2 seconds
5. **BELL**
6. **CANCEL** : hold for 2 seconds
7. **KEY SWITCH** : Auto, manual and isolate
8. **POWER** : Power indicator

b. Rear panel



- | | |
|---|---|
| <ol style="list-style-type: none"> 9. Mains sockets 10. Fuse 1A : DC fuse 11. Alert : 24V out 12. Volume : Output level controls 13. MIC record : Microphone record on / off 14. AUX : AUX input 15. Audio output 16. BGM input | <ol style="list-style-type: none"> 17. Bell contacts : Bell chime contacts 18. Evac contacts 19. Alert contacts 20. Cancel contacts 21. Evac 24V out 22. Switched 24V out 23. DC in 24V |
|---|---|

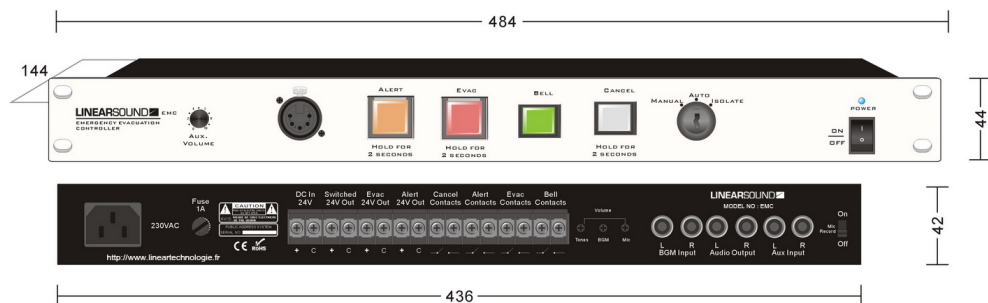
4. APPLICATIONS

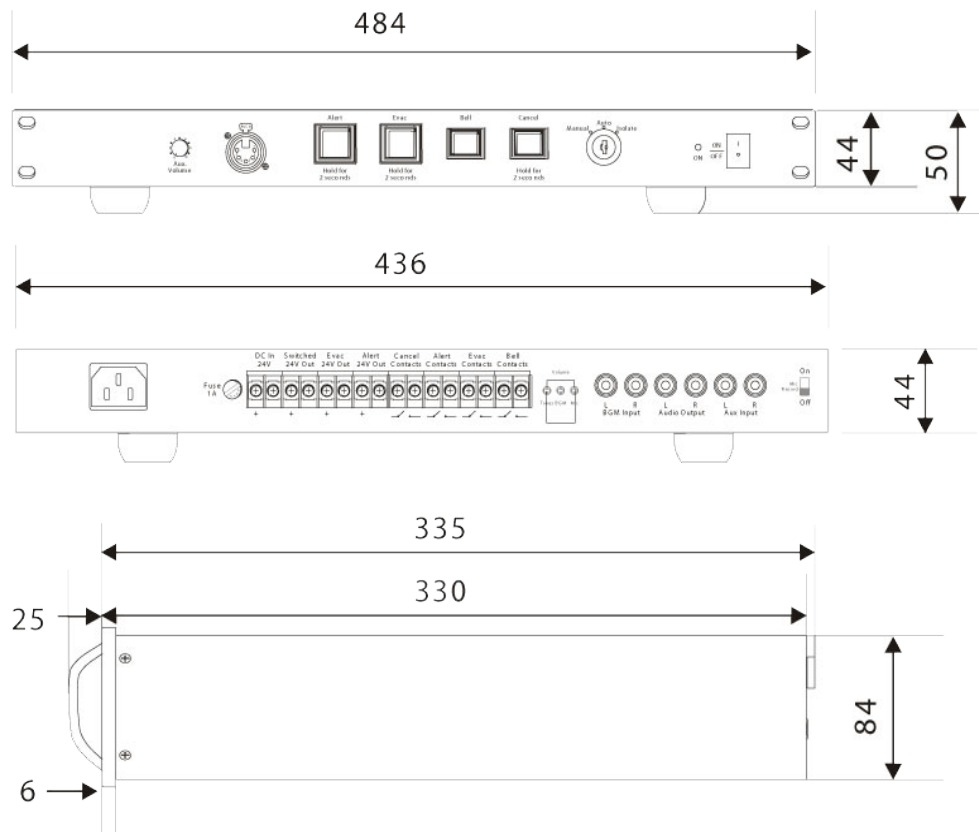


5. SPECIFICATIONS

MIC input sensitivity	2.5 mV > 68 dB balanced
BGM / AUX input sensitivity	775 mV / 0 dB
Outputs	775 mV / 0 dB
Frequency response	20 Hz ~ 20 KHz
Power requirements	~220V - 240V 50 / 60 Hz
Dimensions	484 x 210 x 44 mm
Weight	3.4 kg

6. DIMENSIONAL DIAGRAM





Keep the unit's all sides over 10 cm away from objects that may obstruct air flow to prevent the unit's internal temperature rise.



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