

CX163 : Zone Mixer

482.6mm / 19"



Cloud CX163 front view



Cloud CX163 rear view

General Description

The Cloud CX163 is a two-zone, rack-mounting (1U) audio mixer suitable for use in licensed premises or other leisure sector venues, shops, offices, hotels, or any space where easy control of background music in two separate areas needs to be combined with a microphone or paging system.

The CX163 has six stereo line inputs and a microphone input. It has two separate zone outputs, in each of which one of the line inputs and the microphone input may be mixed together. Separate control of music source selection, and music and mic levels are provided for each zone. The main outputs are stereo, and there is an additional fixed-level mono utility output, which is suitable for speakers in

general areas such as foyers and toilets. Music level may be controlled remotely in each zone by standard Cloud RL-1 remote control panels if wished, and if zone outputs are configured as mono, separate RL-1s may be connected to control the left and right outputs.

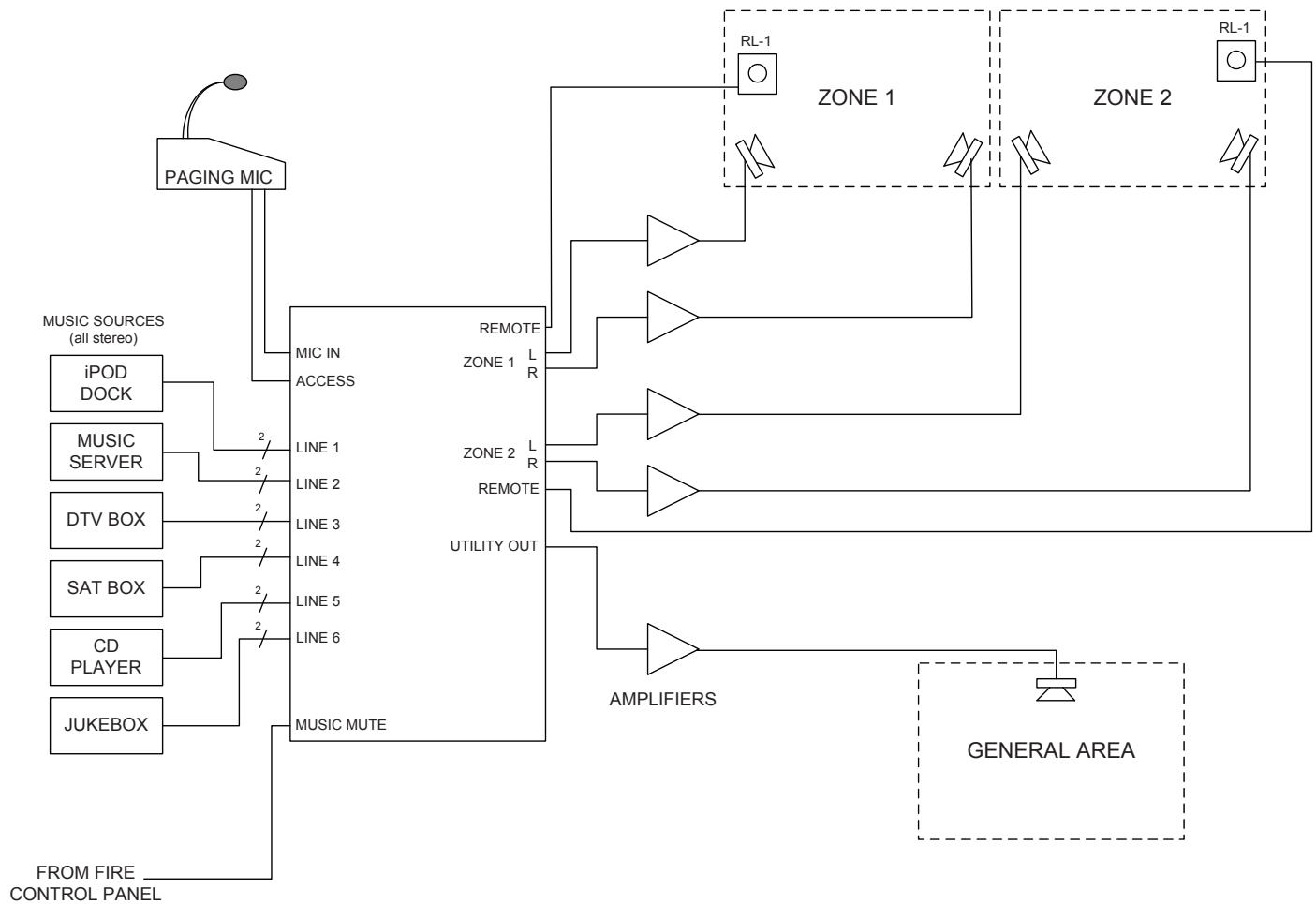
The mixer may be configured to suit most paging systems: the mic input may be routed to either zone by short-to-ground access connections. For Zone 1 only, LINE 6 input may be set to have priority over any other selected to facilitate connection of a digital sound store or similar device.

Bose® EQ cards may be fitted to any or all of the three outputs.

- Provides music and paging in two zones
- Front panel controls for music source, music level and mic level in each zone
- Six (unbalanced) stereo line inputs with individual gain controls
- Balanced mic input – 15V phantom power available
- Sensitivity and HF/LF EQ adjustment for mic input
- Two electronically-balanced stereo zone outputs (configurable mono by internal jumpers), each with HF/LF EQ adjustment
- Additional electronically-balanced mono utility output with independent mic level adjustment
- Utility output source selection (via internal jumper) – follows either Zone or always LINE 1

- Paging priority control via short-to-ground access connector
- Selectable music-under-microphone ducking
- Zone 1 has selectable LINE 6 priority with choice of release times
- Music Mute control input (NO or NC) for interface to emergency system
- Compatible with standard Cloud RL-1 remote music level control panels
- Optional Bose® EQ cards available
- 1U 19" rack mounting unit

System Example



The example shows a CX163 used to provide music and paging in two separate areas (zones) of a pub or bar. Each area can set its own volume by means of the local RL-1 remote control panels (optional). Alternatively, it can be set from the front panel of the mixer itself. Music at a lower level could be made available to a third area, such as the lobby or toilets.

Paging to either or both zones is achieved using a paging mic (such as the Cloud PM4), which would typically be located somewhere other than either of the two zones.

Note that the jukebox is shown connected to Line input 6; If Line 6 Priority is enabled in the mixer, then whenever the jukebox is in use it will always be heard in Zone 1, regardless of the music source setting.

Technical Specifications

Line Inputs

Frequency Response	20 Hz-22 kHz, 0 -0.5 dB
Distortion	20 Hz-22 kHz, <0.05% Typical
Sensitivity	100 mV (-17.8 dBu) to 1.5V (+6 dBu)
Input Gain Control	24 dB range
Input Impedance	48 k Ω
Headroom	>20 dB
Noise	20 Hz-22 kHz (0 dB gain), <-84 dBu rms typical
Equalisation	LF: ± 10 dB @ 50 Hz, HF: ± 10 dB @ 10kHz

Microphone Input

Frequency Response	100 Hz -3 dB (filter), 20 kHz <-0.5 dB
Distortion	<0.05%, 20 Hz – 22 kHz typical
Gain Range	10 dB to 50 dB
Input Impedance	>2 k Ω (balanced)
Common Mode Rejection	1 kHz >70 dB
Headroom	>20 dB
Noise	20 Hz -22 kHz (150 Ω), -128 dB EIN
Equalisation	LF: ± 10 dB @ 100 Hz, HF: ± 10 dB @ 5 kHz

Outputs

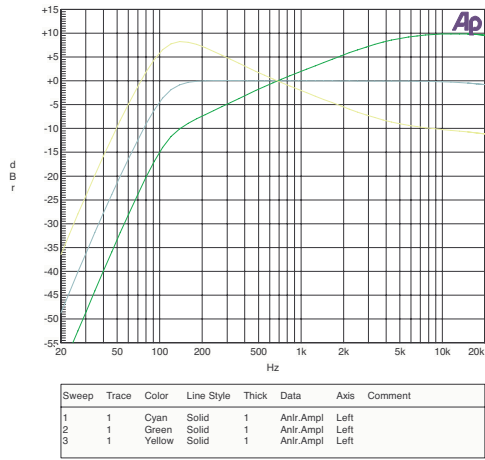
Output	0 dBu (775 mV) via 3.5mm-pitch plug-in screw terminals
Minimum load impedance	1.2 k Ω
Maximum output level	+20 dBu

General

Power Input	230V/115V $\pm 10\%$
Fuse Rating	T100 mA 230V, T200 mA 115V
Fuse Type	20 mm x 5 mm 250V
Dimensions	482.6 mm x 44 mm (1U) x 152.5 mm
Weight	2.15 kg

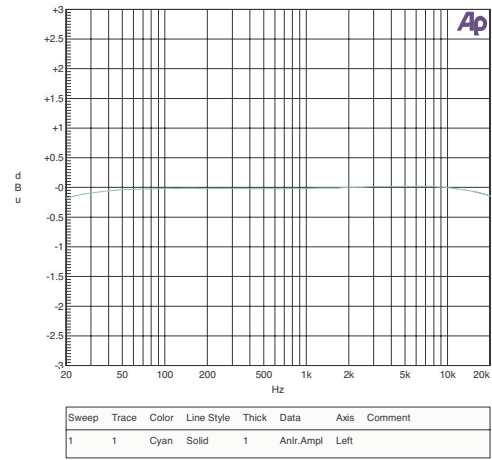
Graphs

Mic EQ Curves



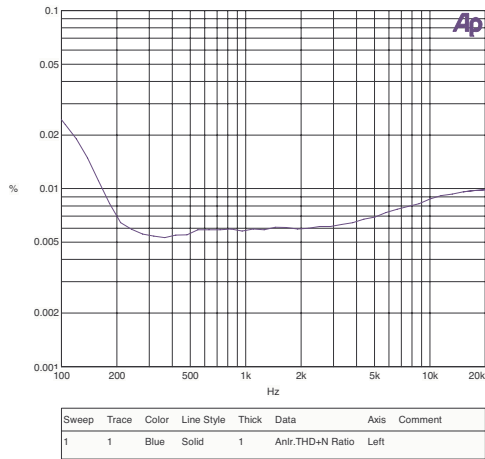
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Music Frequency Response



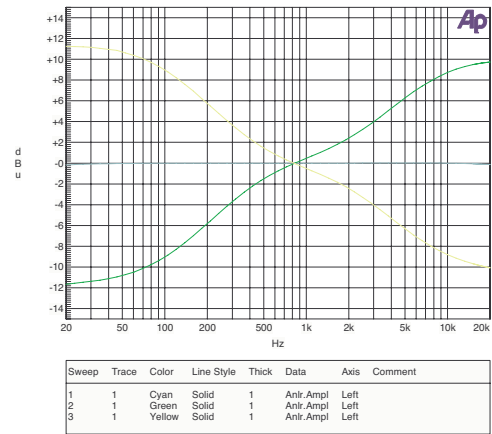
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Mic THD+N



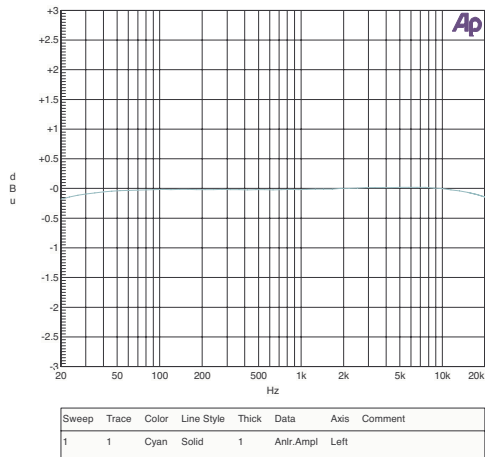
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Music eq curves



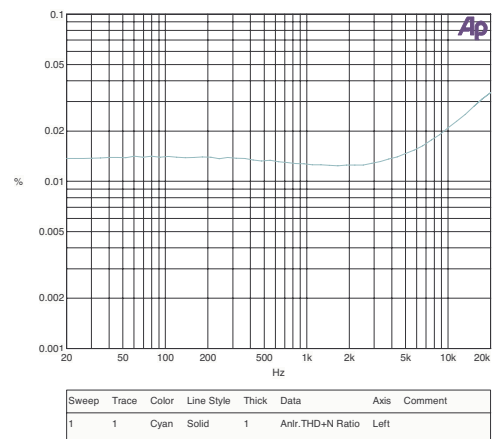
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Music Frequency Response



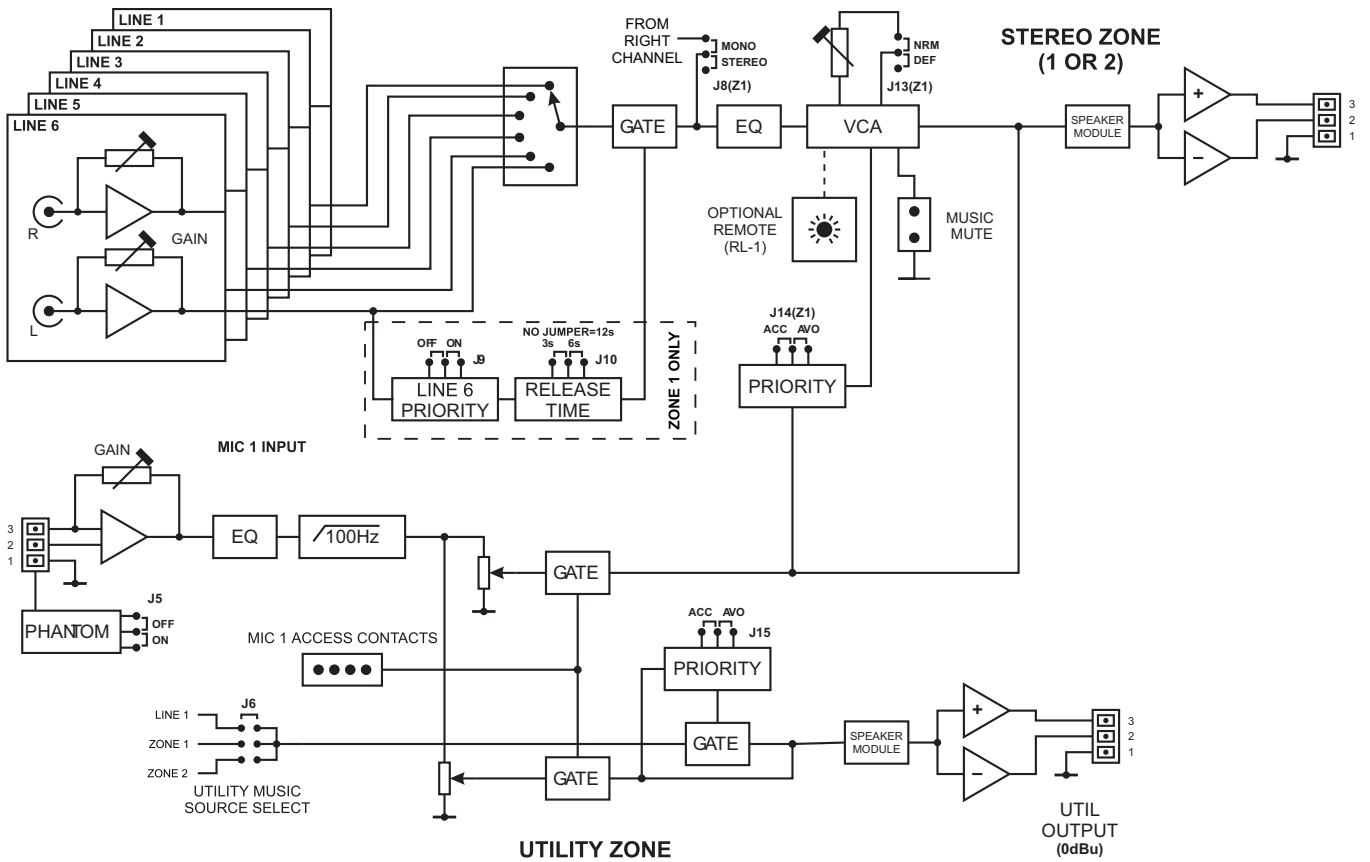
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Music THD+N 0dBu Signal Measured over 80kHz BW



Last.at1

Block Diagram



Architect's and Engineer's Specification

The mixer shall be equipped with six unbalanced stereo music inputs on rear panel phono sockets (RCA jacks), one electronically balanced microphone input, two main zone (L & R) electronically balanced outputs and one electronically balanced mono utility output, all on rear panel multipin connectors.

The mixer shall have two stereo channels designated Zone 1 and Zone 2. Except where indicated below, the channels shall be identical. The microphone input shall be mixed and summed with the music input selected in each channel separately. Each channel shall have its own front panel microphone level control. The music input to each channel shall be selected by 6-position front panel rotary switches. It shall be possible to control the level of the music source independently of the microphone levels in each channel.

Each music input and the microphone input shall also have a rear panel input sensitivity control. Independent 2-band equalisation adjustment shall be provided on the rear panel for i) the music signal in each mixer channel and ii) the microphone input. Phantom power shall be available at the microphone input when selected by an internal jumper.

A control input shall be provided to activate the microphone input by external contact closure, with separate routing to each mixer channel. It shall be possible to configure the mixer such that this function is overridden and the microphone input is always active. It shall also be possible to configure the mixer to perform the following functions: i) detection of a signal on the microphone input will automatically reduce the music level by 30 dB, ii) one line input will automatically override all others when a signal is present in Channel 1, even if unselected.

Optional remote control panels shall be available to permit control of music level in either mixer channel; it shall be possible to retrofit these to the mixer at any time. The remote control panels shall connect via a rear panel multipin connector. It shall be possible to disable the front panel music level controls by moving an internal jumper. An external control input shall be provided to allow muting of the music source by a fire alarm or other external emergency system via isolated, 'voltage-free' contacts, and this input shall be configurable to respond to either a short or open external circuit.

The mono utility output shall be configurable internally to i) follow whichever music source is selected to either mixer channel, or ii) to be permanently fed with a mono sum of one line input; this line input will not be the same one that can be set to have priority over the other line inputs. If the utility output is selected to follow the music signal in mixer channel 1, and the priority line input feature is enabled, the priority line input will also feed the utility output when the input becomes active. The microphone input shall also be mixed into the utility output and it shall be possible to set the microphone level at the utility output independently of that at the main outputs with a rear panel control.

The mixer shall accept internal Bose® Series IIS plug-in equaliser cards to permit use with compatible Bose® loudspeakers. It shall be possible to fit these in any or all of the main or utility outputs.

The mixer shall be built in a 1U steel chassis for mounting in a standard 19" rack. The mixer will be fitted with a front-panel power switch with LED indication. Two mains supply variants shall be available: 230 V or 115 V. Mains supply shall be connected via a detachable IEC cable.

The mixer shall be the Cloud CX163; the optional remote control panel shall be the Cloud RL-1.