

MLC8B

MULTI-CHANNEL LEVEL CONTROL



by Ward-Beck Systems

Rev:Oct.01 2014

Unpacking:

Please inspect the unit carefully to ensure that damage had not occurred during shipping.

Report any damage immediately to the factory, note if there is any obvious damage to the packaging.

The unit is supplied with a full complement of Phoenix TM 3pin pluggable connectors installed in their mating sockets. DB multi-pin type connectors and BNC connectors are not supplied.

A standard 3-pin disconnect IEC power cable is included.

Installation:

The MLC8B mounts in a standard 19 inch rack and occupies one rack unit of space.

Connections to the unit are made on the rear panel. Please note that the 25-pin DB female connector labelled **AUX 1** is used to connect the analog inputs while the 25-pin DB male connector labelled **AUX 2** is used to connect the analog outputs. The 9-pin DB female connector labelled **SERIAL COMM** is an RS422 control port for external control of the device and is typically connected to an MLC8BR REMOTE control panel. Please refer to the rear panel layout diagram and the detailed connector diagram for connectors **AUX1**, **AUX2** and **SERIAL COMM**.

The MLC8B is factory calibrated to operate at the nominal level of -20dBFS = 0. The unit may be field calibrated for nominal levels of -18dBFS, -14dBFS or -12dBFS, please refer to the calibration table in this manual.

USING THE MLC8B

The MLC8B is designed to display the levels of multiple audio signals in a surround sound environment (5.1 + 2) and to provide acoustic mixing of these signals with an overall global level control. Every effort has been made to make using the MLC8B as intuitive as possible.

All connections to the unit are made on the rear panel and all displays and operating controls are located on the front panel.

The MLC8B accepts AES, 110 Ohm, balanced audio signals, analog audio signals or AES audio signals embedded in a 3G, HD or SD SDI video stream. The operator must switch the input selector to the type of signal being controlled. To select the Group 3 and Group 4 signals from the SDI data stream for disembedding, the button labelled **GR 3/4** must be selected.

The push buttons labelled **AES**, **ANALOG**, **SDI 1**, **SDI 2** and **GR 3/4** in the cluster of five LED illuminated push buttons on the right-hand side allows the operator to select the input signal source. The LED in the push button will illuminate to show the selection that had been made. Please note that a mix of signal types can not be controlled simultaneously.

When the sixth button in the cluster, labelled **ST MODE**, is pushed inputs one through six (AES 1, 2 and 3) and (Analog 1, 2, and 3) are disconnected the seventh and eighth channels (AES4) and (Analog4) are switched to the inputs 1 and 2 controls. This allows the operator to listen to the **ST L** and **ST R** on the **L** and **R** monitor speakers. In the **ST MODE** the **C**, **LFE**, **LS** and **RS** controls are disabled.

Eight bargraph displays on the left-hand side show the level of the incoming signal. The factory setting for the bargraph meters is -20dBFS = 0. Field calibration of the meter for other nominal levels is achieved by using DIP switches 3 and 4 on the rear panel.

SW3	SW4	NOMINAL
Down	Down	-20dBFS
Down	Up	-18dBFS
Up	Down	-16dBFS
Up	Up	-12dBFS

The eight rotary level controls labelled **L**, **R**, **C**, **LFE**, **LS**, **RS**, **ST L** and **ST R** are used to adjust the level of the individual signals being fed to the output of the MLC8B. These rotary controls are equipped with concentric array of LED indicators that show the proportionate value of the signal. Each rotary control incorporates a push-push switch that instantly mutes that signal. When muted the concentric LEDs extinguish except for

the highest level LED which flashes to indicate the mute condition. The **MASTER** level control adjusts over-all level of the proportional mix set by the eight individual level controls. The **MASTER** level control also incorporates a push-push switch. Activating this switch mutes all eight channels.

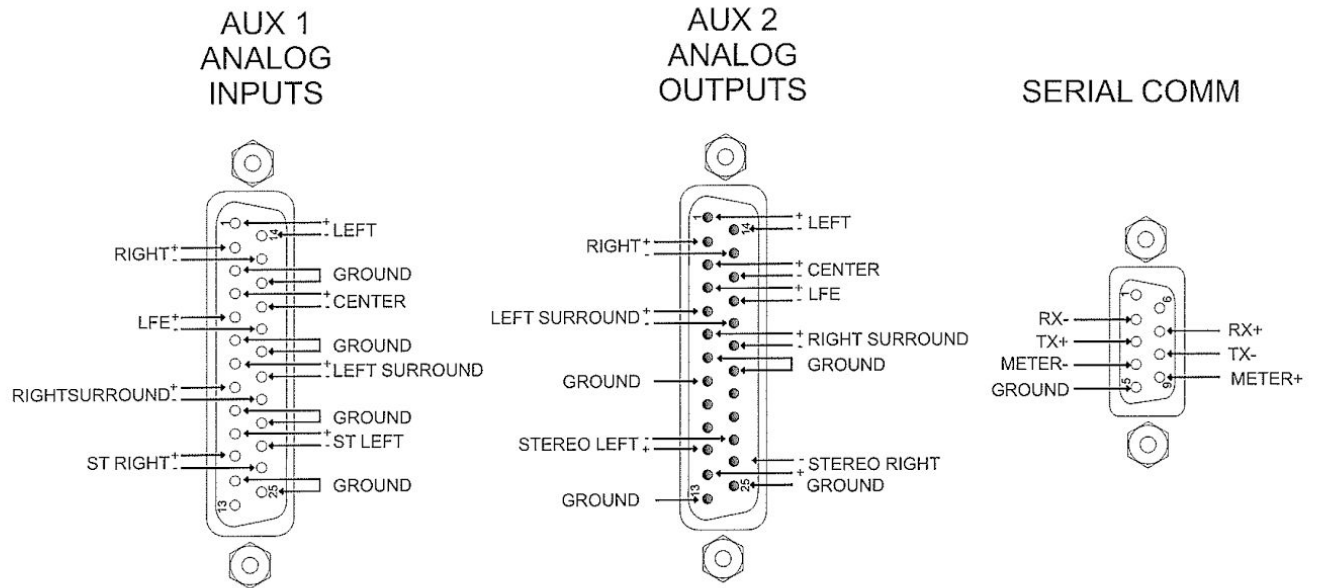
It is possible to store one preset proportionate mix in the MLC8B. Once the correct mix is set up push and hold the **AES and ANALOG** selector buttons simultaneously until the level indicator LEDs flicker (approximately five seconds) and the mix will be stored. To recall the setup press and hold the **ST MODE** button (approximately five seconds) until the level indicating LEDs flicker.

MLC8BR Remote Panel

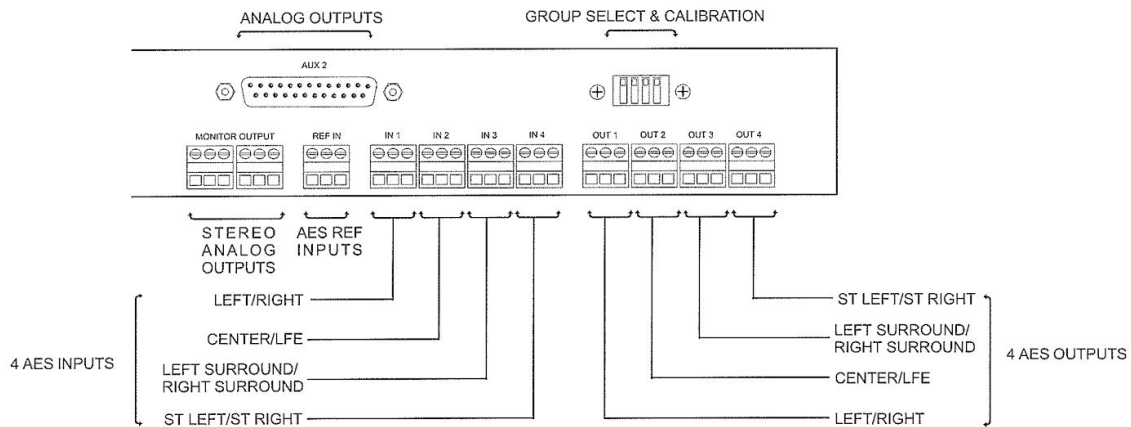
The MLC8BR Remote Panel permits secondary control of the MLC8B from a remote location. Controls and displays on the MLC8BR mimic those on the main unit and status changes can be effected from either location.

The MLC8BR mounts in a standard 19 inch rack and occupies one rack unit of space. The unit is equipped with a single DB 9(M) connector for interfacing to the main MLC8B unit.

MLC8B CONNECTOR LAYOUTS



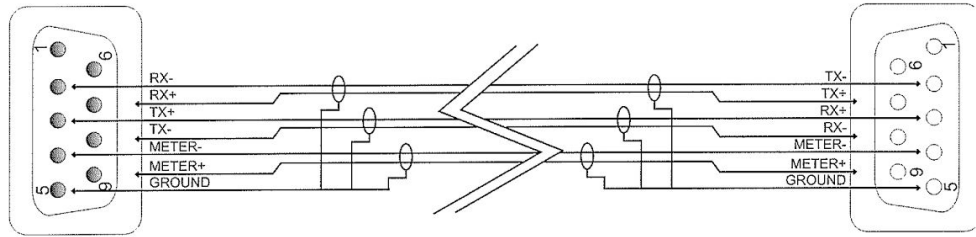
AES CONNECTOR ASSIGNMENT



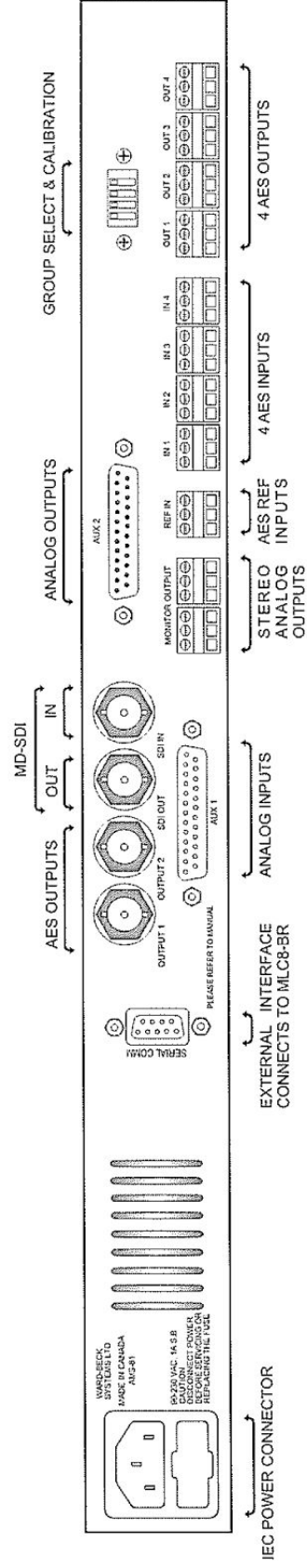
MLC8B INTERCONNECT CABLE

MLC8-AAM SERIAL COMM

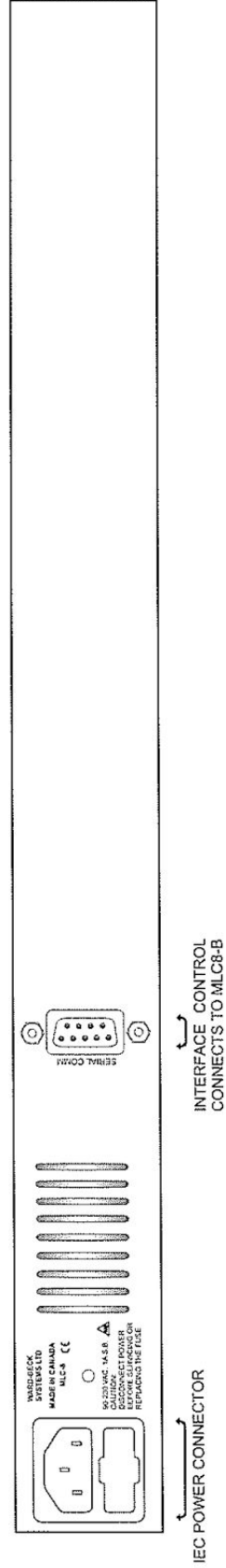
MLC8-BR SERIAL COMM



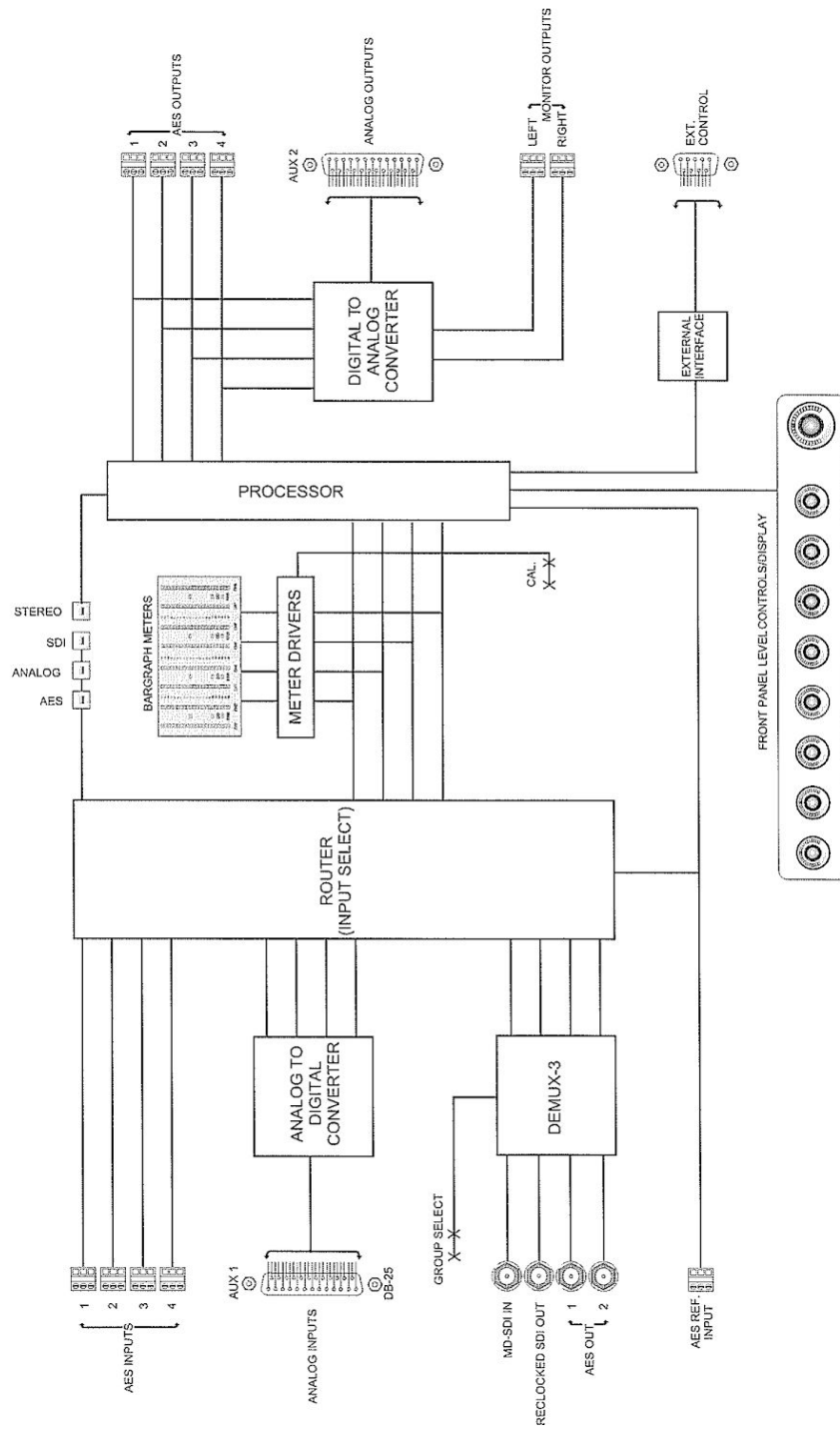
MLC8-B REAR VIEW



MLC8-BR REAR VIEW



MLC8B FUNCTIONAL DIAGRAM



SPECIFICATIONS

ANALOG OUTPUT

Frequency Response	1.5 dBu from 20Hz to 20kHz
Impedance	60Ω Balanced
Max Output	23.5 dBu
Noise	Less than -70 dBu
THD	Less than 0.05%
Connector Type	DB 25 male

AES/EBU INPUTS

Impedance	110Ω transformer balanced
Level	0.2 to 7V p-p
Max Input	0 dbfs
Standard	AES31D-1995
Type	3 Pin Terminal Block

AES/EBU OUTPUTS

Impedance	110Ω transformer balanced
Level	2.5V p-p terminated
Output	0 dbfs
Noise	Less than -100 dbfs
Standard	AES31D-1995
THD	Less than 0.001%
Type	3 pin Terminal Block

MONITOR OUTPUT

Frequency Response	1.5 dBu from 20Hz to 20kHz
Impedance	60Ω balanced
Max Output	23.5 dBu
Noise	less than -70 dbfs
THD	Less than 0.05%
Connector Type	3 pin Terminal Block

POWER

Input	90-230 VAC, 50-60 Hz
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Ward-Beck Systems Ltd. reserves the right to change performance specifications without prior notice.

WARRANTY

All Ward-Beck Systems Ltd. products are warranted against defective materials and workmanship for a period of one year from the date of shipment.

Ward-Beck Systems Ltd. will repair or replace, at its option and without charge, all said products or parts thereof which upon factory inspection prove to be defective during the warranty period, provided that:

1. The original serial numbers are intact and have not been tampered with.
2. The purchaser shall return any equipment or parts thereof to Ward-Beck Systems Ltd. only after obtaining prior authorization and shipping instructions from the factory. (Ward-Beck Systems Ltd. reserves the right to inspect or repair equipment on the purchaser's premises).
3. The purchaser assumes the obligation for all expenses in connection with the shipping and return of such goods, once authorization has been obtained.

This warranty does not cover items normally considered expendable, such as fuses and lamps.

This warranty does not cover damages caused by misuse, accident, neglect, unauthorized alteration, repair by unauthorized personnel, or damage caused by an act of God, war, or civil insurrection.

In no event shall Ward-Beck Systems Ltd. be liable for consequential damages. Ward-Beck Systems Ltd. shall have the rights to final determination as to the application of this warranty.

Ward-Beck Systems Ltd. reserves the right, at any time and without notice, to make changes in its equipment, components, specifications or designs, as may be warranted by progress in state-of-the-art technology.

Ward-Beck Systems Ltd. reserves the right to make design changes, additions to, and improvements in its products, without obligation to install such revisions in products previously manufactured.

The warranty set forth herein is in lieu of all other warranties expressed or implied, including the warranties of merchantability and fitness.

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