

# Laney

CONCEPT

*Series Mixer Amps*

**MODEL : CD640  
CD850S**

**USER MANUAL**



Intended to alert the user to the presence of uninstalled "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



Intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**Caution:** Risk of electrical shock - DO NOT OPEN!

**Caution:** To reduce the risk of electrical shock, do not remove cover. No user servicable parts inside. Refer servicing to qualified service personnel.

**WARNING:** To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture. Before using this appliance, read the operating guide for further warnings.

This apparatus must be earthed.

**EMC warning**

It is inherent in the design of a loudspeaker and in the design of guitar pickups that they should emit or be affected by electro magnetic fields. Loudspeaker enclosures should not be used less than two meters away from equipment, which is likely to be affected by electro magnetic interference.

Likewise, guitar fitted with electro magnetic pickups should not be used less than two meters away from any source of emissions such as loudspeakers. Emissions from loudspeakers are dependent on the frequency characteristics of the drive unit. Levels were measured direct from the driver of 30 dBuV. These levels are reduced to a safe level at a distance of 1,27 meters from the drivers.

**IMPORTANT SAFETY INSTRUCTIONS**

**WARNING:** When using electric products, basic cautions should always be followed, including the following.

1. Read all safety and operating instructions before using this product
2. All safety and operating instructions should be retained for future reference
3. Obey all cautions in the Operating instructions and on the back of the unit
4. All operating instructions should be followed
5. This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built up enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as stove, radiator, or another heat producing amplifier.
8. Connect only to a power supply of the type marker on the unit adjacent to the power supply cord.
9. Never break off the ground pin on a power supply cord.
10. Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the chord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. If this product is to be mounted in an equipment rack, rear support should be provided.
13. Metal parts can be cleaned with a damp cloth. The vinyl covering used on some units can be cleaned with a damp cloth or ammonia based household cleaner if necessary. Disconnect the unit from the power supply before cleaning.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through any ventilation holes or openings.
15. A qualified service technician should check the unit if:
  - The power cord has been damaged
  - Anything has fallen or spilled into the unit
  - The unit does not appear to operate correctly
  - The unit has been dropped or the enclosure damaged.
16. The user should not attempt to service the equipment. All service work is done by a qualified service technician.
17. Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposure.

Duration Per Day In Hours	Sound Level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss. Ear plugs or protectors in the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss if exposure exceeds the limits set forth above. To ensure against potentially dangerous exposure to high sound pressure levels it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.

**SAVE THESE INSTRUCTIONS**

## THANK YOU

We at **Laney** are extremely pleased that you have decided to select a **Concept** product for your sound requirements and we wish to reinforce your judgement by ensuring you get off to a flying start by including this comprehensive user manual to assist you in getting to know your equipment.

Before switching on please read this manual carefully since, whilst you may well be an experienced user, no two brands are the same, and on reading this manual you will become aware of the subtle advantageous differences that **Concept** offers over its competitors.

## UNPACKING

On unpacking your **Concept** mixer amp, please check carefully for any signs of damage that may have occurred whilst in transit from the **Laney** factory to your dealer. In the unlikely event that there has been damage, please re-pack your unit in its original carton and consult your dealer.

We would strongly advise you to store away your original transit carton, since, in the unlikely event that some time in the future your unit should develop a fault, you will be able to return it to your dealer for rectification securely packed.

## IMPORTANT SAFETY INFORMATION

Your **Concept** mixer amp should be fitted with a three pin 'grounded' (or 'earthed') plug. Please make sure that the unit is powered from a 'grounded/earthed' outlet.

If changing or fitting a plug yourself, ensure that the applicable wiring code is adhered to; for example, in the UK, the cable colour code for connections is as follows:

EARTH OR GROUND	——	GREEN/YELLOW
NEUTRAL	————	BLUE
LIVE	————	BROWN

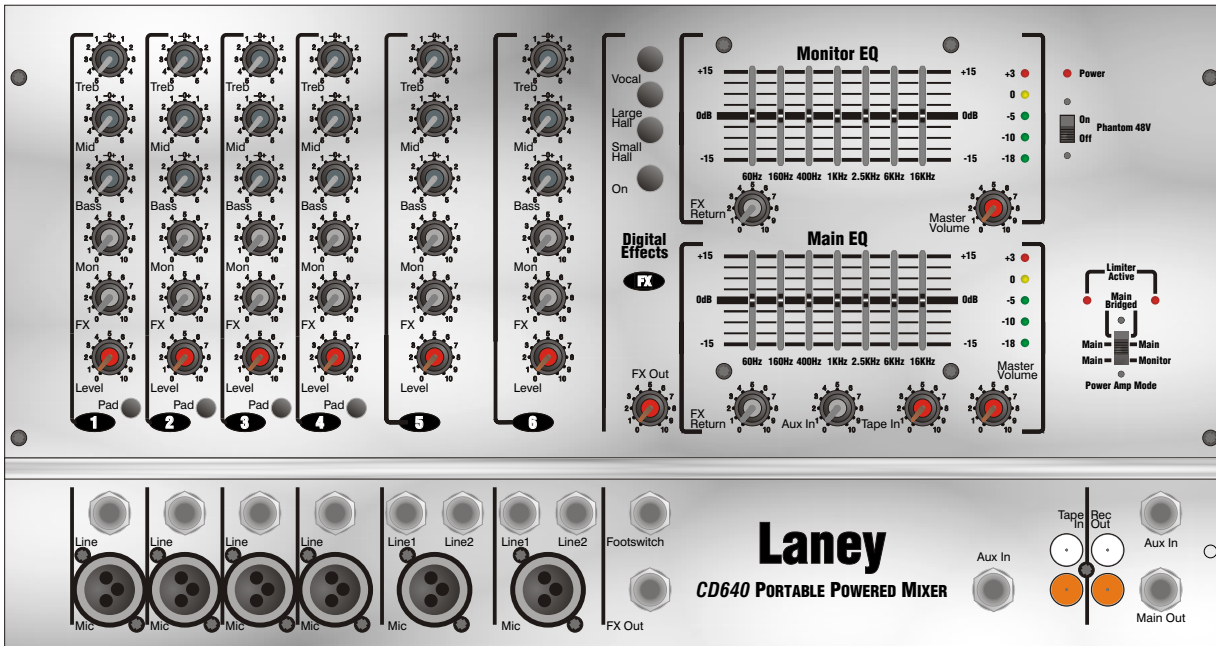
The **Concept** product should never be exposed to moisture or wetness under any circumstances, since this would represent a possible shock or fire hazard, and may cause expensive damage to your valuable possession.

In the unlikely event that a fuse should blow, it is imperative that you or your engineer, use a correctly rated replacement.

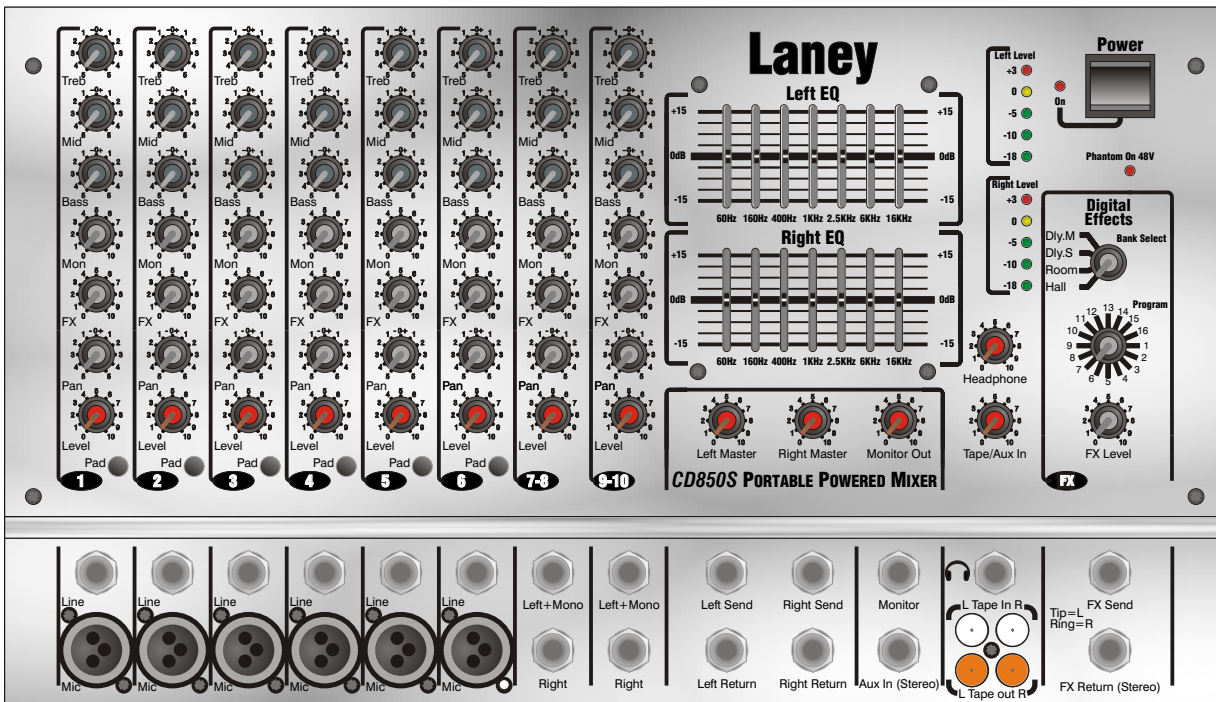
Details of the fuses required are printed on the back panel of the mixer amp. Please take special care to use a 'time delay' fuse wherever stated.

## FRONT PANEL FEATURES:

### CD640

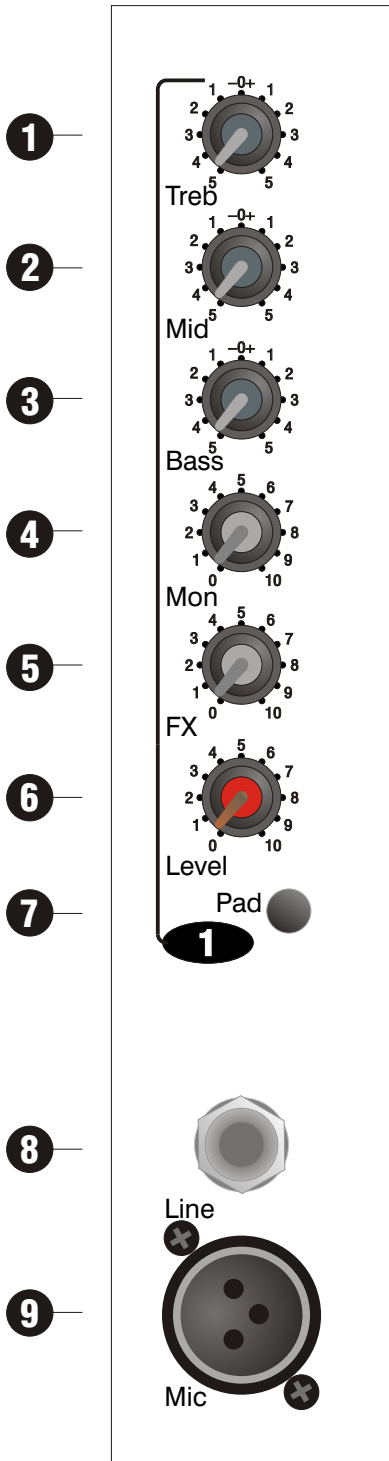


### CD850S



## FEATURES CD640

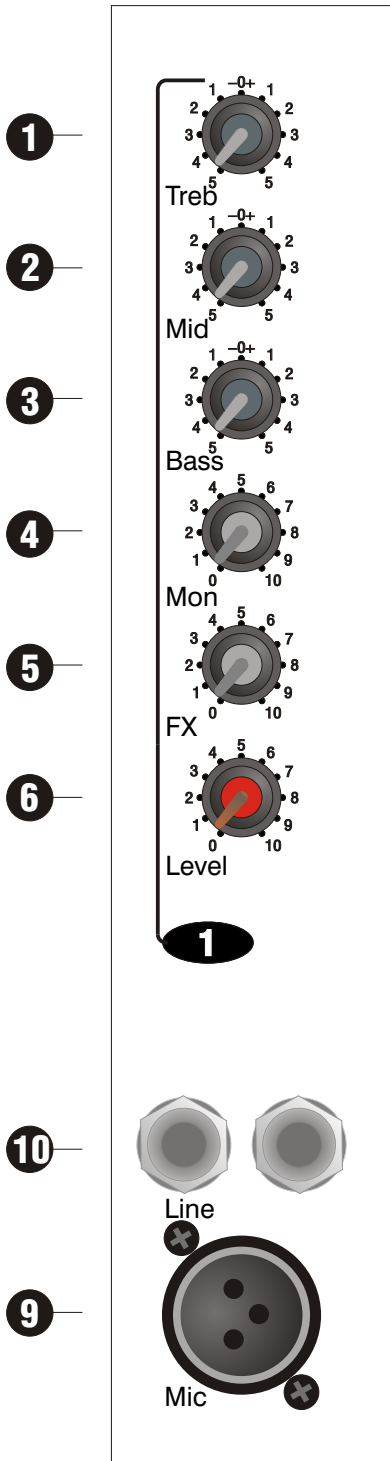
### CD640 Features - Channels 1 - 4



- 1 TREBLE:** Adjusts the high frequency response of the individual channel.
- 2 MID:** Adjusts the mid range frequency response of the individual channel.
- 3 BASS:** Adjusts the low frequency response of the individual channel.
- 4 MON:** Controls the amount of signal sent from the channel to the 'Monitor' output socket, giving the user the versatility of a separate monitor mix.
- 5 FX:** Controls the amount of signal sent by the individual channel to the onboard DSP section. The overall level of effects is controlled via the FX return controls for the Main and Monitor mix. See below.
- 6 LEVEL:** Adjusts the channel level, enabling the user to balance levels across channels.
- 7 PAD:** Reduces the input gain of the channel, allowing the user to match the input level of the channel with the output level of the device to be amplified. This is especially useful when amplifying instruments, mics., processors, etc. with a very high output level.
- 8 LINE INPUT:** Jack input socket, for all line level signals (Keyboard, Signal Processor, Sampler, Drum Machine, etc.).
- 9 MIC INPUT:** XLR input for low impedance microphone (200-600 Ohm).

## FEATURES CD640

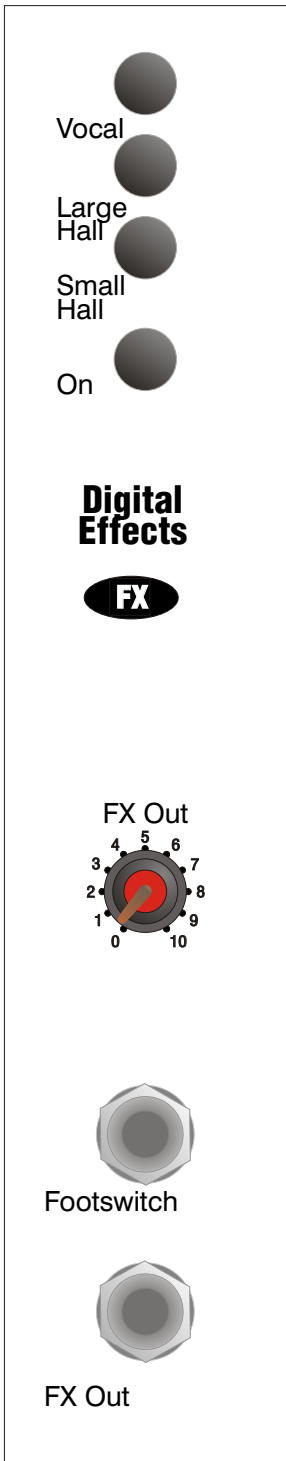
### CD640 Features - Channels 5 & 6



- 1 TREBLE:** Adjusts the high frequency response of the individual channel.
- 2 MID:** Adjusts the mid range frequency response of the individual channel.
- 3 BASS:** Adjusts the low frequency response of the individual channel.
- 4 MON:** Controls the amount of signal sent from the channel to the 'Monitor' output socket, giving the user the versatility of a separate monitor mix.
- 5 FX:** Controls the amount of signal sent by the individual channel to the onboard DSP section. The overall level of effects is controlled via the FX return controls for the Main and Monitor mix. See below.
- 6 LEVEL:** Adjusts the channel level, enabling the user to balance levels across channels.
- 9 MIC INPUT:** XLR input for low impedance microphone (200-600 Ohm).
- 10 DUAL LINE INPUT:** Jack input socket, for all line level signals (Keyboard, Signal Processor, Sampler, Drum Machine, etc.).

## FEATURES CD640

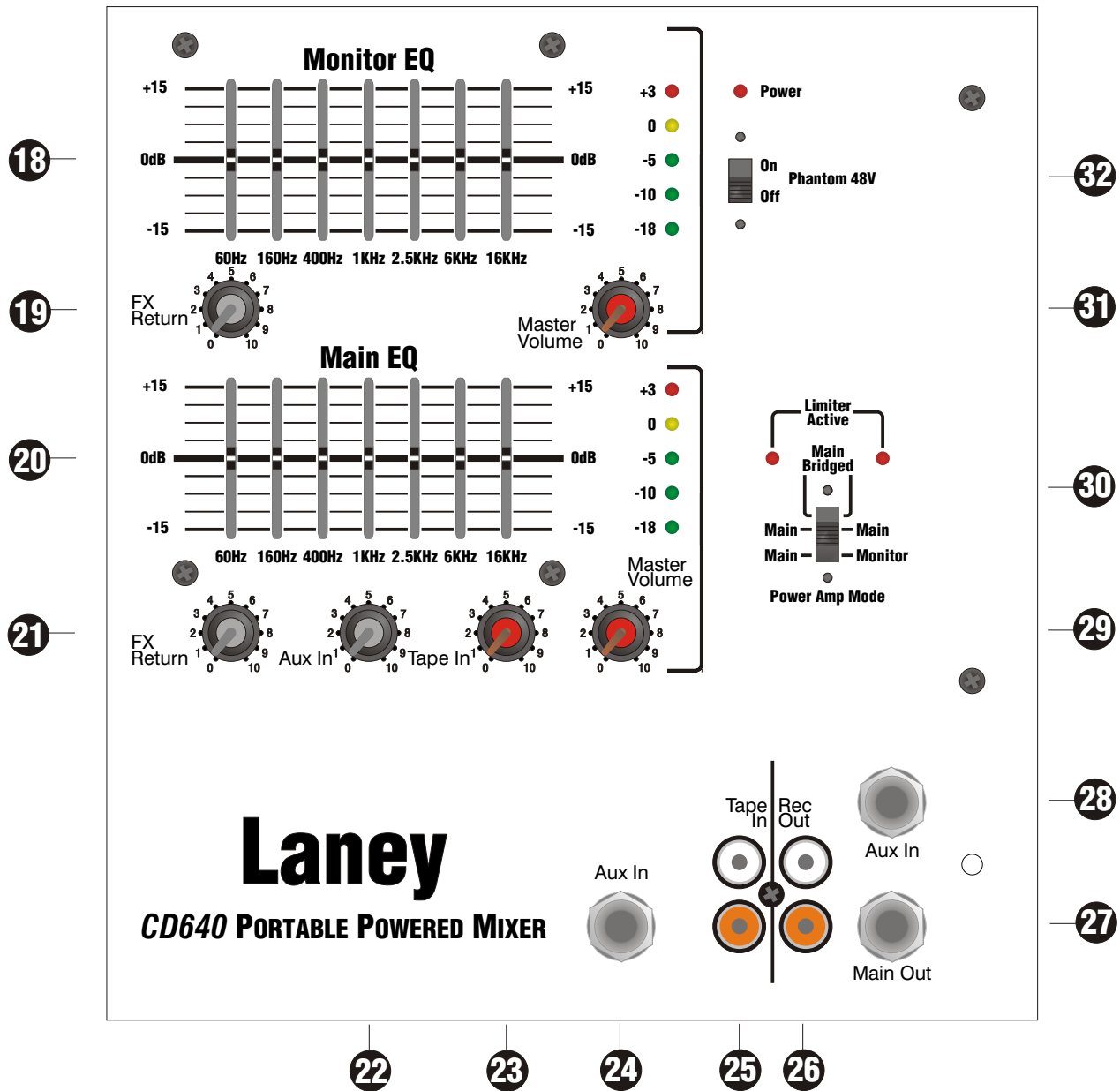
### CD640 Features - DSP

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- 11** **VOCAL:** Selects the VOCAL effect from the onboard DSP. to any channel with an FX setting of more than zero. Overall level of VOCAL DSP is controlled by the FX return controls for the MONITOR and MAIN power amp sections.
- 12** **LARGE HALL:** Selects the LARGE HALL reverb effect from the onboard DSP. to any channel with an FX setting of more than zero. Overall level of LARGE HALL DSP is controlled by the FX return controls for the MONITOR and MAIN power amp sections.
- 13** **SMALL HALL:** Selects the SMALL HALL reverb effect from the onboard DSP. To any channel with an FX setting of more than zero. Overall level of SMALL HALL DSP is controlled by the FX return controls for the MONITOR and MAIN power amp sections.
- 14** **ON:** Switches the onboard DSP on.
- 15** **FX OUT:** The FX mix per channel is also able to be sent to an external effects device connected to the FX OUT SOCKET. The overall level of signal sent to the external effects device is controlled by the FX OUT control. The return signal form the external effects device should be connected to the AUX IN.
- 16** **FOOTSWITCH:** Allows the remote switching of the onboard DSP, either on or off. Uses a mono footswitch.
- 17** **FX OUT SOCKET:** Jack provided for connecting an external effects device to the amplifier. The level of signal present at the jack in contorlled by the individual channel FX controls along with the FX OUT control



## FEATURES CD640

### CD640 Features - OUTPUT SECTION



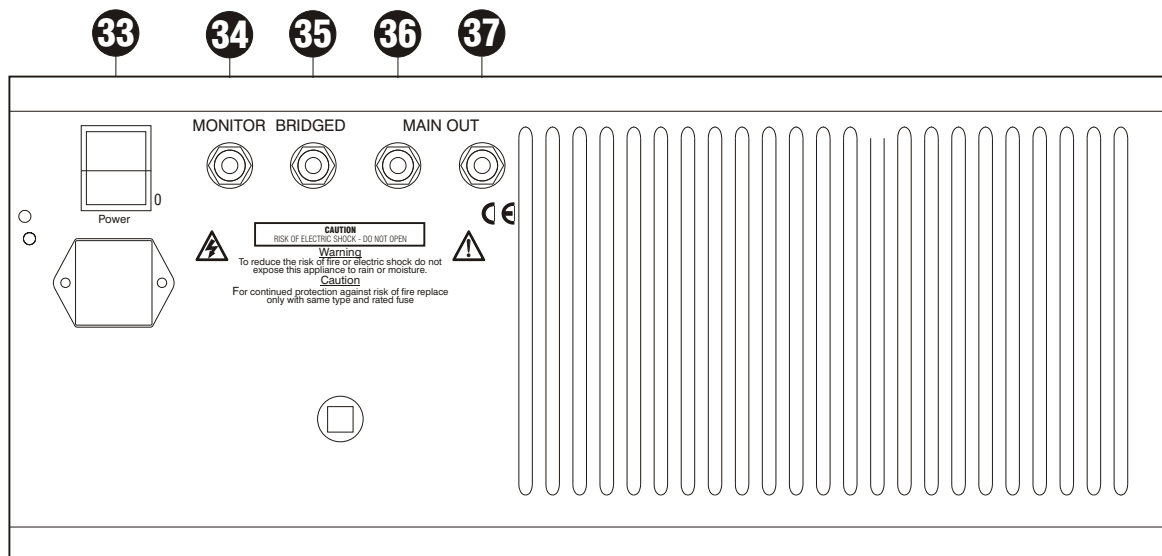


- 18 **MONITOR EQ:** 7 band graphic equalizer, for the '**Monitor/Main**' section of the amplifier. This also acts as EQ for the line level '**Monitor**' output socket.
- 19 **FX RETURN:** Controls the overall effects level of the on board DSP present in the monitor signal.
- 20 **MAIN EQ:** 7 band graphic equalizer, for the '**Main**' section of the amplifier. This also acts as EQ for the line level '**Main**' output socket.
- 21 **FX RETURN:** Controls the overall effects level of the on board DSP present in the main signal.
- 22 **AUX IN:** Determines the overall level of signal connected to the AUX IN jack. When used with an external effects device this control sets to overall level of the effects device in the master mix.
- 23 **TAPE IN:** Determines the level of an external device connected to the **TAPE IN** jacks.
- 24 **AUX IN:** Jack socket line in, designed to work in conjunction with the 'Effect Out' socket, as the return of an effects loop.
- 25 **TAPE IN:** Dual phono, line level input sockets, ideal for connecting an external tape machine, CD player, etc. to the amplifier.
- 26 **REC OUT:** Dual phono, line level output sockets, ideal for connecting an external recording device.
- 27 **MAIN OUT:** Provides a line level signal for connecting to external power amp sources. Signal level is determined by the **MAIN MASTER VOLUME**.
- 28 **MONITOR OUT:** Line level signal provided for connecting to an external powered monitor or connecting to an external power amplifier supplying unpowered monitors. The Level of signal present at this socket is determined by the individual MONITOR level of each channel. With the **AMP MODE SELECTOR** set to **MAIN/MONITOR** the **MONITOR OUTPUT SOCKET** on the rear of the amplifier should be used for connecting to unpowered monitors. A line level signal is always present at this front panel **MONITOR OUT** socket.
- 29 **MASTER VOLUME:** Sets the overall listening level of the powered mixer.

- 30 AMP MODE SELECTOR SWITCH:** This selects the functions of the two power amp modules within the unit, whether bridged together as one mono amp (set switch to 'Bridge'), running in dual mono mode, as two separate front-of-house amps (set switch to 'Main-Main'), or running as two independent amps, one for the front-of-house mix, and one for the monitors (set switch to 'Main-Mon').
- 31 MASTER VOLUME:** Determines the overall level sent to the monitor out.
- 32 PHANTOM POWER:** 48V phantom power, provided for condenser mics. and active DI boxes. It is globally switched to all of the mic. inputs, when the switch is set to '48V'. It is vital to ensure that phantom power is switched 'Off' when using passive mics., DI boxes, etc., in the mic. inputs, otherwise the source may be damaged. All connections should be made before switching phantom power on.

## FEATURES CD640

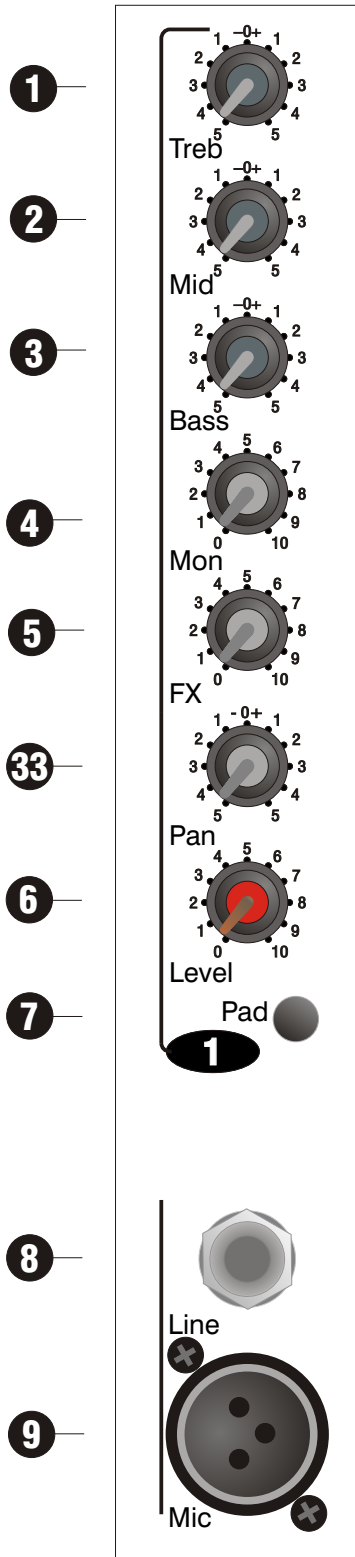
### CD640 Features - REAR PANEL



- 32 POWER SWITCH:** Activates the unit.
- 33 MONITOR OUT:** This socket should be used to connect an unpowered monitor when the **AMP MODE SWITCH** is set to **MAIN/MONITOR**. Total monitor impedance must not be lower than 4 Ohms.
- 34 BRIDGED:** Socket for connecting speakers when the AMP MODE SWITCH is set to BRIDGED MODE. Total impedance should not be less than 8 Ohms.
- 35 MAIN OUT:** Sockets for connecting main front of house speakers. Minimum impedance 4 Ohms each side.

## FEATURES CD850S

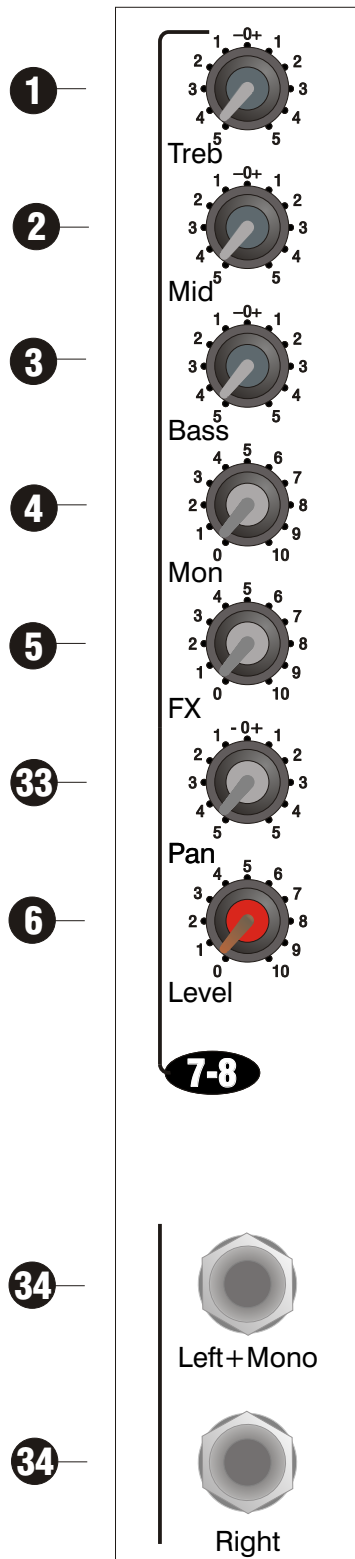
### CD850S Features - Channels 1 - 6



- 1 TREBLE:** Adjusts the high frequency response of the individual channel.
- 2 MID:** Adjusts the mid range frequency response of the individual channel.
- 3 BASS:** Adjusts the low frequency response of the individual channel.
- 4 MON:** Controls the amount of signal sent from the channel to the 'Monitor' output socket, giving the user the versatility of a separate monitor mix.
- 5 FX:** Controls the amount of signal sent by the individual channel to the onboard DSP section.
- 6 LEVEL:** Adjusts the channel level, enabling the user to balance levels across channels.
- 7 PAD:** Reduces the input gain of the channel, allowing the user to match the input level of the channel with the output level of the device to be amplified. This is especially useful when amplifying instruments, mics., processors, etc. with a very high output level.
- 8 LINE INPUT:** Jack input socket, for all line level signals (Keyboard, Signal Processor, Sampler, Drum Machine, etc.).
- 9 MIC INPUT:** XLR input for low impedance microphone (200-600 Ohm).
- 33 PAN:** Determines the position of the input in the stereo mix.

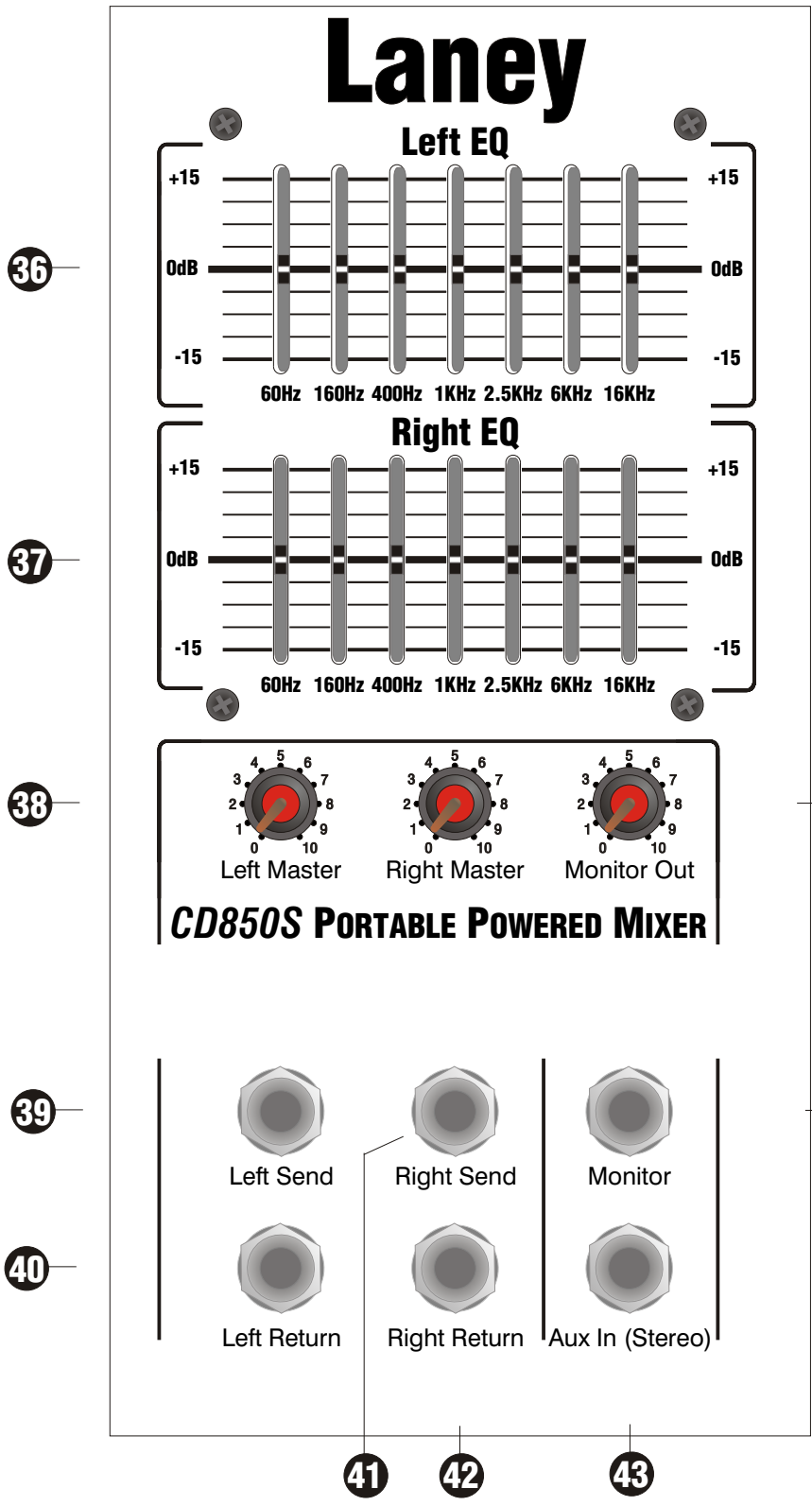
## FEATURES CD850S

### CD850S Features - Channels 7/8 - 9/10



- 1 TREBLE:** Adjusts the high frequency response of the individual channel.
- 2 MID:** Adjusts the mid range frequency response of the individual channel.
- 3 BASS:** Adjusts the low frequency response of the individual channel.
- 4 MON:** Controls the amount of signal sent from the channel to the 'Monitor' output socket, giving the user the versatility of a separate monitor mix.
- 5 FX:** Controls the amount of signal sent by the individual channel to the onboard DSP section. The overall level of effects is controlled via the FX return controls for the Main and Monitor mix. See below.
- 6 LEVEL:** Adjusts the channel level, enabling the user to balance levels across channels.
- 33 PAN:** Determines the position of the input in the stereo mix.
- 34 LEFT + MONO:** Jack input socket for all line level signals, where a stereo signal is required this socket if provided for the left output from a stereo instrument such as Keyboard, Signal Processor, Sampler, Drum Machine, etc.
- 35 RIGHT INPUT:** Jack input socket for all line level signals, where a stereo signal is required this socket if provided for the right output from a stereo instrument such as Keyboard, Signal Processor, Sampler, Drum Machine, etc.

## FEATURES CD850S



**36 LEFT EQ:** 7 band graphic equalizer, for the LEFT channel of the Mixer amplifier.

**37 RIGHT EQ:** 7 band graphic equalizer, for the Right channel of the Mixer amplifier.

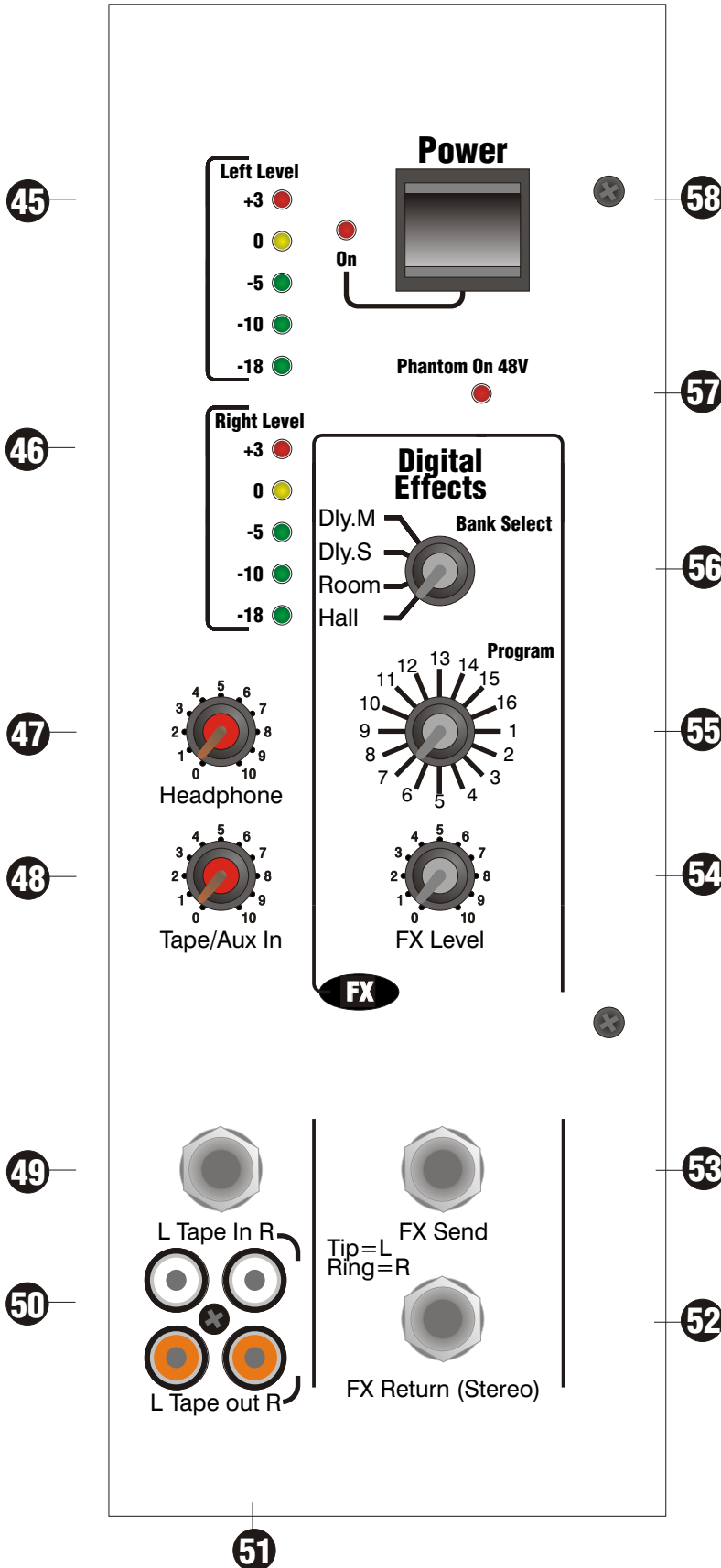
**38 LEFT MASTER & RIGHT MASTER:** Determines the overall listening level of the left and right outputs of the mixer amplifier.

**39 LEFT SEND:** Socket providing a line level signal from the left hand power amplifier. Can be used to connect external graphics and speaker control systems. Signal level is determined by the LEFT MASTER level

**40 LEFT RETURN:** Socket provided for connecting the return signal from an external device connected to the LEFT SEND.

**41 RIGHT SEND:** Socket providing a line level signal from the left hand power amplifier. Can be used to connect external graphics and speaker control systems. Signal level is determined by the RIGHT MASTER level

## FEATURES CD850S

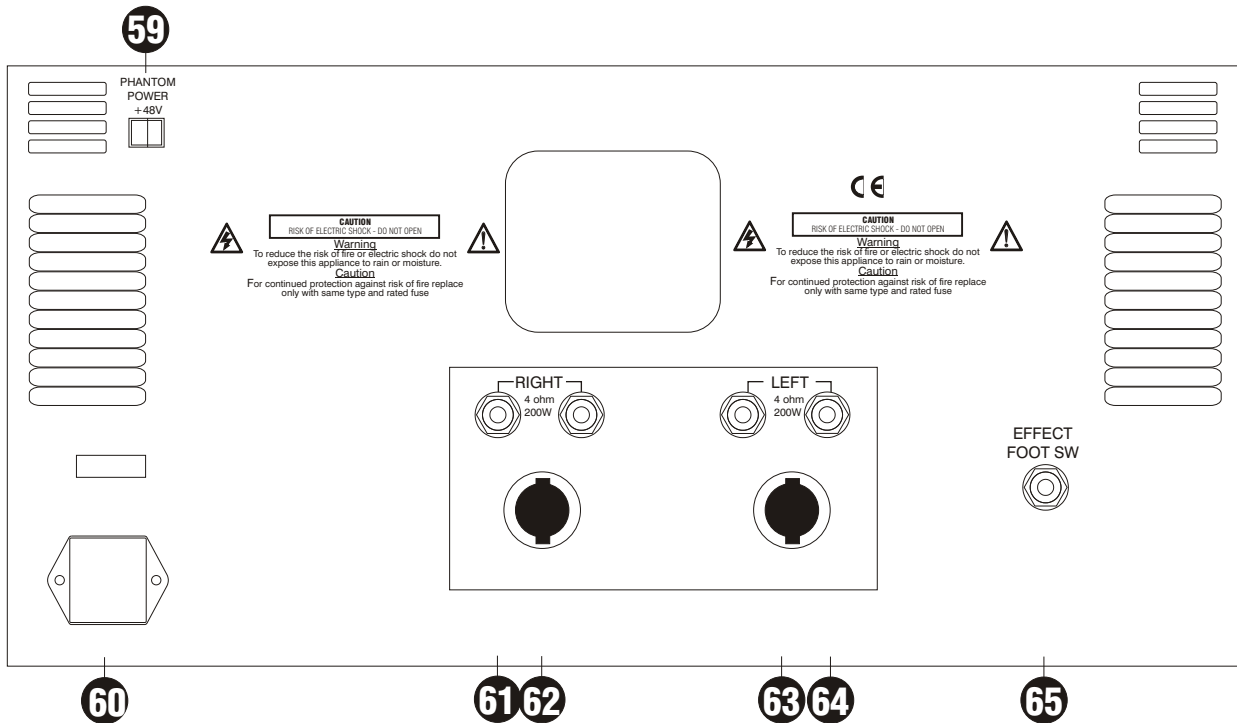


- 42 LEFT RETURN:** Socket provided for connecting the return signal from an external device connected to the **LEFT SEND**.
- 43 AUX IN:** Stereo Aux socket.
- 44 MONITOR OUT:** Line level signal provided for connecting to an external powered monitor or connecting to an external power amplifier supplying un-powered monitors. The Level of signal present at this socket is determined by the individual **MONITOR** level of each channel.
- 45 DUAL 5 DOT LED:** Level indicator for the left hand power amplifier.
- 46 DUAL 5 DOT LED:** Level indicator for the Right hand power amplifier.
- 47 HEADPHONE :** Sets the overall listening level for headphones connected to the headphone socket.
- 48 TAPE IN/AUX IN:** Sets the overall level in the mix of any external devices connected to the TAPE IN and AUX IN sockets.
- 49 HEADPHONE SOCKET:** Socket Provided for connecting a pair of stereo headphones.

- 50 **TAPE IN:** Dual phono, line level input sockets, ideal for connecting an external tape machine, CD player, etc. to the amplifier.
- 51 **TAPE OUT:** Dual phono, line level output sockets, ideal for connecting an external recording device.
- 52 **FX RETURN:** Stereo socket for output of external effects processing devices connected to FX send.
- 53 **FX SEND:** Socket for connecting external effects devices. The level of each individual channel signal present at this socket is determined by the individual channels FX level setting. Line level signal.
- 54 **FX Level:** Controls the overall effects level on the on board DSP. The level of effects for each individual channel is determined by the individual channels FX level setting.
- 55 **DSP PROGRAM SELECTOR:** Selects the desired program from the on board DSP.
- 56 **BANK SELECT:** Selects the type of on board DSP effect.
- 57 **PHANTOM POWER LED:** 48V phantom power, provided for condenser mics. and active DI boxes. It is globally switched to all of the mic. inputs, when the switch is set to '48V'. It is vital to ensure that phantom power is switched 'Off' when using passive mics., DI boxes, etc., in the mic. inputs, otherwise the source may be damaged. All connections should be made before switching phantom power on. Switch located on rear panel.
- 58 **POWER SWITCH:** Powers up the unit.



## FEATURES CD850S



- 59 PHANTOM POWER SWITCH:** Activates PHANTOM POWER.
- 60 MAINS SOCKET:** Connects unit to mains power supply.
- 61 LEFT SPEAKER OUTS:** Jack sockets for connecting speaker cabinets. Multiple cabinets maybe connected to each side of the mixer amplifier but the minimum impedance must not be lower than 4 Ohms.
- 62 LEFT SPEAKON CONNECTOR:** For Connecting speakon equipped speaker cabinets, minimum impedance must not be lower than 4 Ohms.
- 63 RIGHT SPEAKER OUTS:** Jack sockets for connecting speaker cabinets. Multiple cabinets maybe connected to each side of the mixer amplifier but the minimum impedance must not be lower than 4 Ohms.
- 64 RIGHT SPEAKON CONNECTOR:** For Connecting speakon equipped speaker cabinets, minimum impedance must not be lower than 4 Ohms.
- 65 EFFECT FOOTSWITCH:** Socket for connecting external mono footswitch that will allow remote switching of the onboard DSP.

# Laney

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In the interest of continued product development BLT Industries Ltd. reserves the right to amend product specification without prior notification.