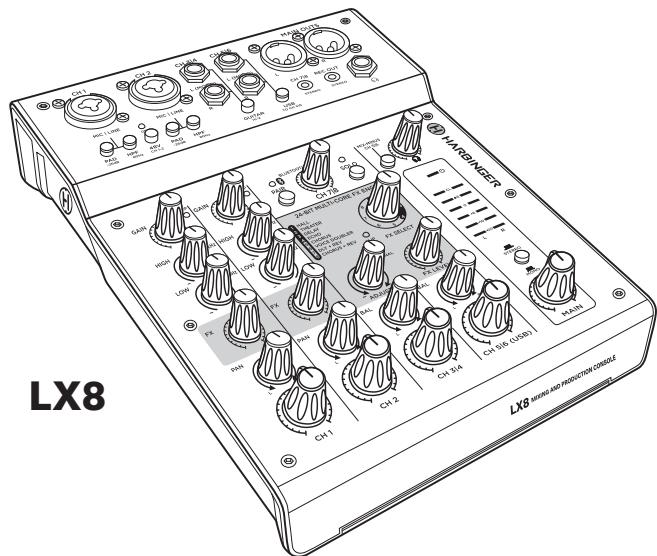


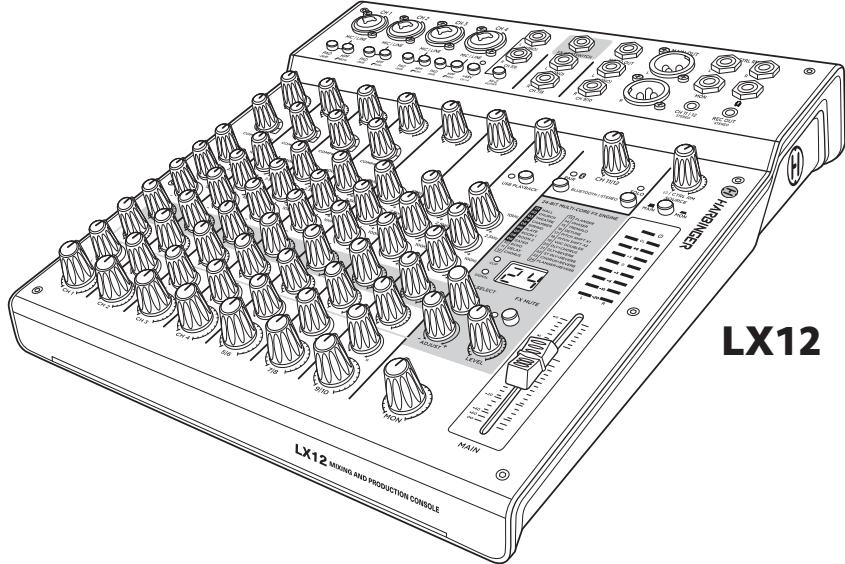


HARBINGER

LX8 & LX12 OWNER'S MANUAL



LX8

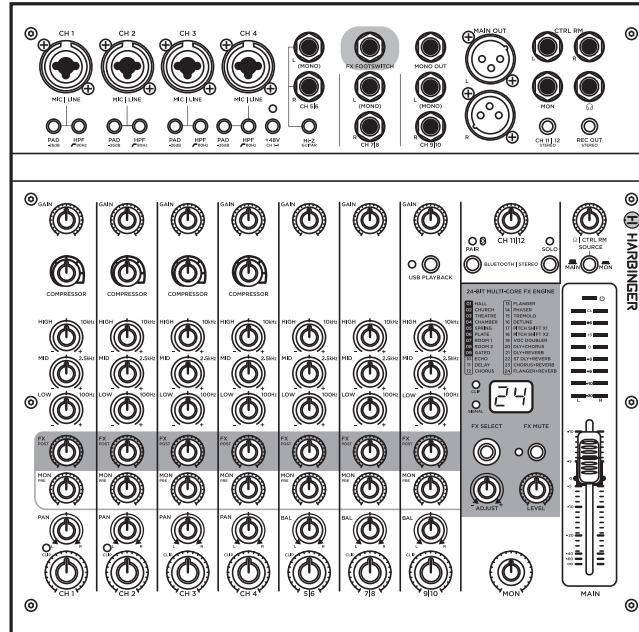
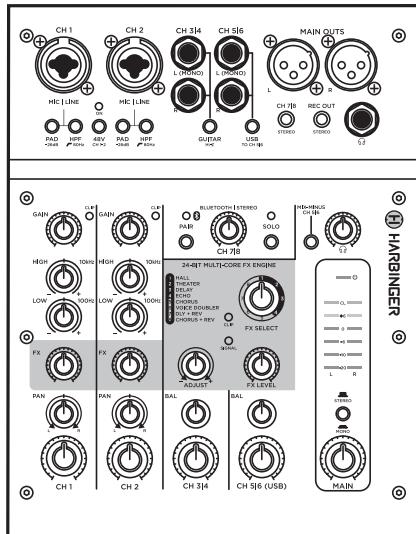


LX12

LVL
SERIES

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WELCOME

Newly designed Harbinger LX Series mixers offer premium-grade connection points, professional-level audio performance, convenient Bluetooth® wireless audio connectivity and 24bit studio quality effects. Two available models cover everything from solo performances to full-band mixing, live and in studio, with both LX8 and LX12 including USB recording and playback.

LX8:

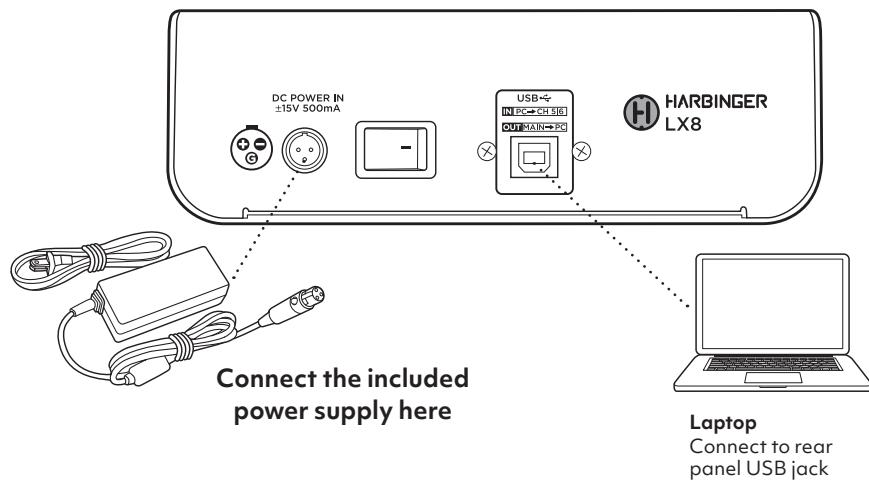
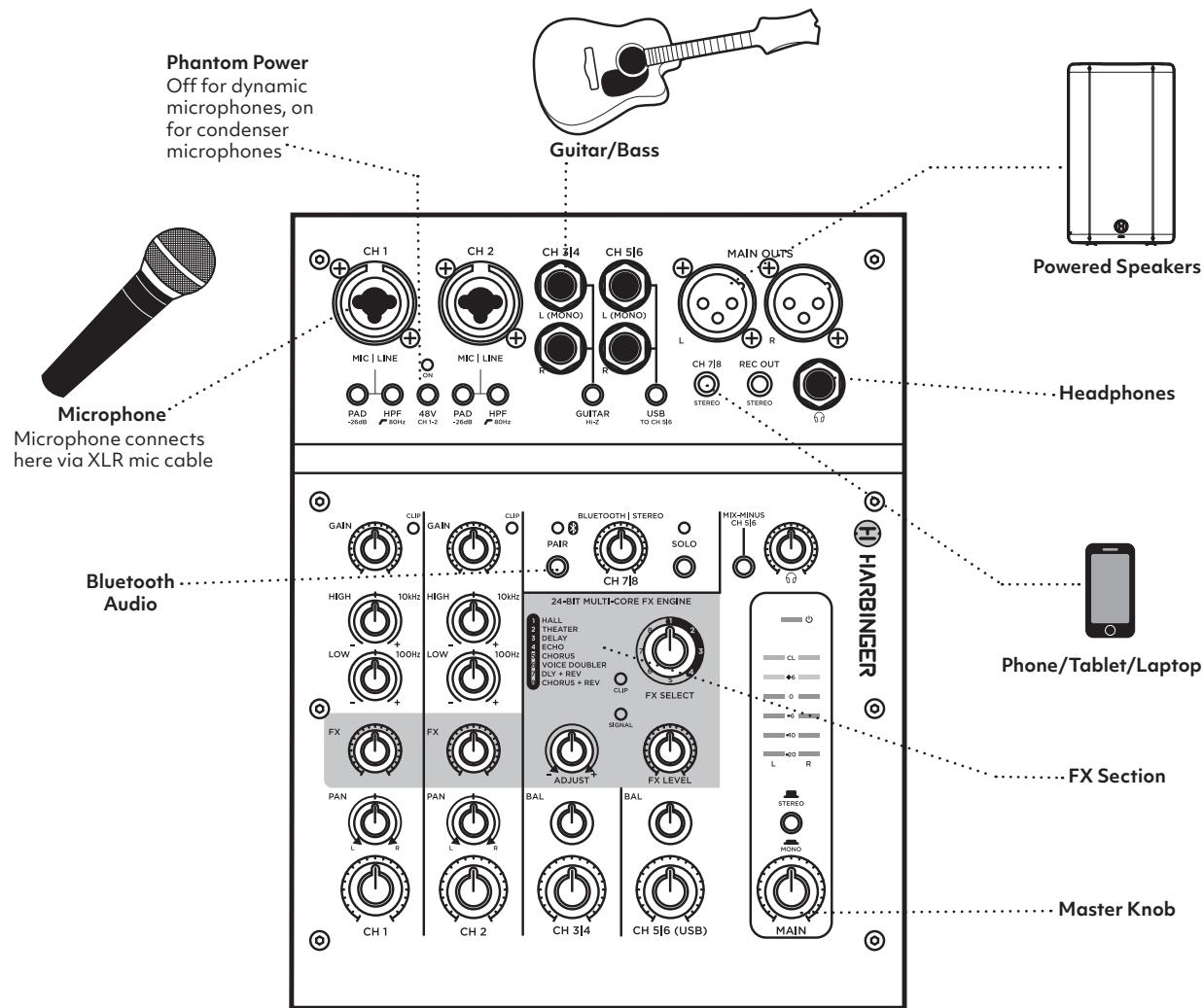
- Bluetooth® audio input with push-button solo feature
- 2 High-headroom, low-noise microphone preamps
- Guitar input with Hi-Z switch for optimized impedance
- Built-in 24-bit digital FX with parameter adjust for fine-tuning of FX presets
- 48V phantom power for condenser microphones
- 2 XLR 1/4" combo inputs support a wide range of sources
- 80Hz high-pass filters and -26dB pads minimize clipping and low-frequency rumble
- XLR main outputs for connecting to pro-standard equipment
- 2-band EQ for detailed tone adjustment
- 1/8" stereo input and record output for connecting to mobile devices
- 1/4" headphone output

LX12:

- Bluetooth® audio input with push-button solo feature
- 4 High-headroom, low-noise microphone preamps with 4 individual single-knob compressors
- Guitar input with Hi-Z switch for optimized impedance
- Built-in 24-bit digital FX with parameter adjust for fine-tuning of FX presets
- 1/4" monitor output
- 48V phantom power for condenser microphones
- 4 XLR 1/4" combo inputs support a wide range of sources
- -26dB pads and 80Hz high-pass filters minimize clipping and low-frequency rumble
- XLR main outputs for connecting to pro-standard equipment
- 3-Band EQ for detailed tone adjustment
- USB audio connectivity for recording or playing tracks from PC
- Stereo 1/4" control room outputs
- 1/8" stereo input and record output for connecting to mobile devices
- 1/4" headphone output



QUICK START GUIDE: LX8



SETTING UP / HELPFUL TIPS

- Make sure the power switch is set to the off position
- Plug the included power supply into an AC power outlet and into the power input on the rear panel of the mixer

INPUT CONNECTIONS

Choose any combination of the following sources:

- **MICROPHONE** - Connect a microphone to an XLR combo input jack via XLR or 1/4" cable
- **PHONE/TABLET/LAPTOP (ANALOG CONNECTION)** - Connect a tablet, phone or laptop to the CH 7 | 8 STEREO input jack via stereo 3.5 mm TRS cable
- **GUITAR/BASS** - Connect a guitar or bass with a passive pickup to the L (MONO) CH 3|4 input via standard 1/4" guitar cable and press the GUITAR Hi-Z button
- **COMPUTER (USB CONNECTION)** - Using a USB type "A" to type "B" cable, connect the computer's USB type "A" jack to the mixer's USB type "B" jack (see page 11 for details.)
- **BLUETOOTH AUDIO** - Bluetooth Audio - Wirelessly stream audio from a mobile device

POWERING UP

- Power on any devices connected to input jacks
- Power on the LX8
- Power on the powered speakers connected to the LX8's MAIN OUTS

SETTING LEVELS

- **MICROPHONE** - If you have connected a condenser microphone, press the 48V switch (the 48V LED will come on). If you have connected a dynamic microphone, the 48V switch should be in the off position with the 48V LED off. If you experience too much "boominess" or bass in the microphone signal, set the 80Hz HPF button to the on position. While speaking or singing into the connected microphone, slowly bring up the channel 1 GAIN control until only the loudest input briefly triggers the channel 1 CLIP indicator LED. Reduce the GAIN control slightly from this level. Continue speaking or singing into the connected microphone and slowly bring up the CH 1 level control to the 12 o'clock position, then slowly bring up the MAIN level control until a comfortable listening level is achieved.
- **PHONE/TABLET/LAPTOP (ANALOG CONNECTION)** - Press play on the connected audio player and increase the player's internal volume control to maximum level. Slowly bring up the BLUETOOTH | STEREO / CH 7|8 level control to the 12 o'clock position, then, slowly bring up the MAIN level control until a comfortable listening level is achieved.
- **GUITAR** - Make sure the channel 3|4 GUITAR HI-Z switch is set to the on position. While strumming the guitar, bring up the CH 3|4 channel level control to the 12 o'clock position and slowly bring up the MAIN level control until a comfortable listening level is achieved.
- **COMPUTER (USB CONNECTION)** - With the computer's sound output set to WAVE OUT USB DEVICE and with audio playing on the computer, bring up the CH 5|6 level control to the 12 o'clock position and slowly bring up the main level control until a comfortable listening level is achieved.
- **BLUETOOTH AUDIO** - Follow the Bluetooth pairing instructions below. While paired and with audio content streaming from the mobile device, and with the mobile device output volume set to maximum, slowly bring up channel the 7|8 channel level control to the 12 o'clock position. Then slowly bring up the main level control until a comfortable listening level is achieved.
- **POWERED SPEAKERS** - To monitor through powered speakers, while source signal from the microphone, phone/tablet/laptop, guitar or computer is present, slowly bring up the MAIN fader level control until a comfortable listening level is achieved.
- **HEADPHONES** - Since the headphone level control is independent from the MAIN level control, first ensure that the channel level controls are set so that ample signal is feeding the main and headphone buses. The meters should show between +3 and +5 dB with the MAIN level control at the 12 o'clock position. When this is accomplished, slowly bring up the headphone level control until a comfortable listening level is achieved.

BLUETOOTH® AUDIO INPUT

The mixer powers up with Bluetooth off. Press the PAIR button to initialize Bluetooth and activate pairing (the PAIR LED will flash, indicating that it is ready to pair). The LX8 will automatically reconnect to the previous Bluetooth audio source if it is available, and will otherwise be available for Bluetooth pairing from a source audio device such as a smartphone.

If connecting for the first time, look for and select "Harbinger Mixer" on your Bluetooth audio source device.

The PAIR LED is lit solid when currently paired, blinking when available for pairing, and off if Bluetooth has been disabled by pressing and holding the PAIR button, or when the mixer first powers up.

Pressing the PAIR button when a pairing is active forces any currently connected Bluetooth audio source to disconnect, and makes the mixer available for pairing.

See Bluetooth Troubleshooting section in case of difficulty.

CHECK KNOBS AND SWITCHES

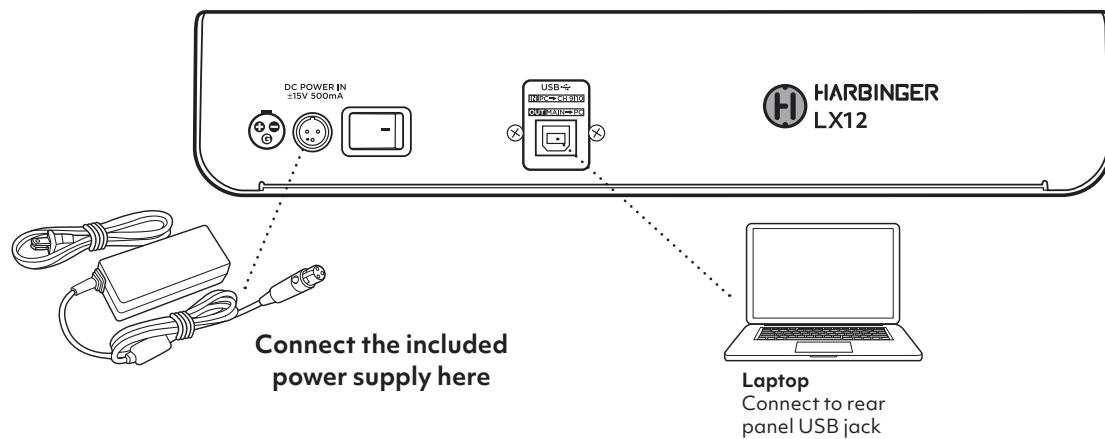
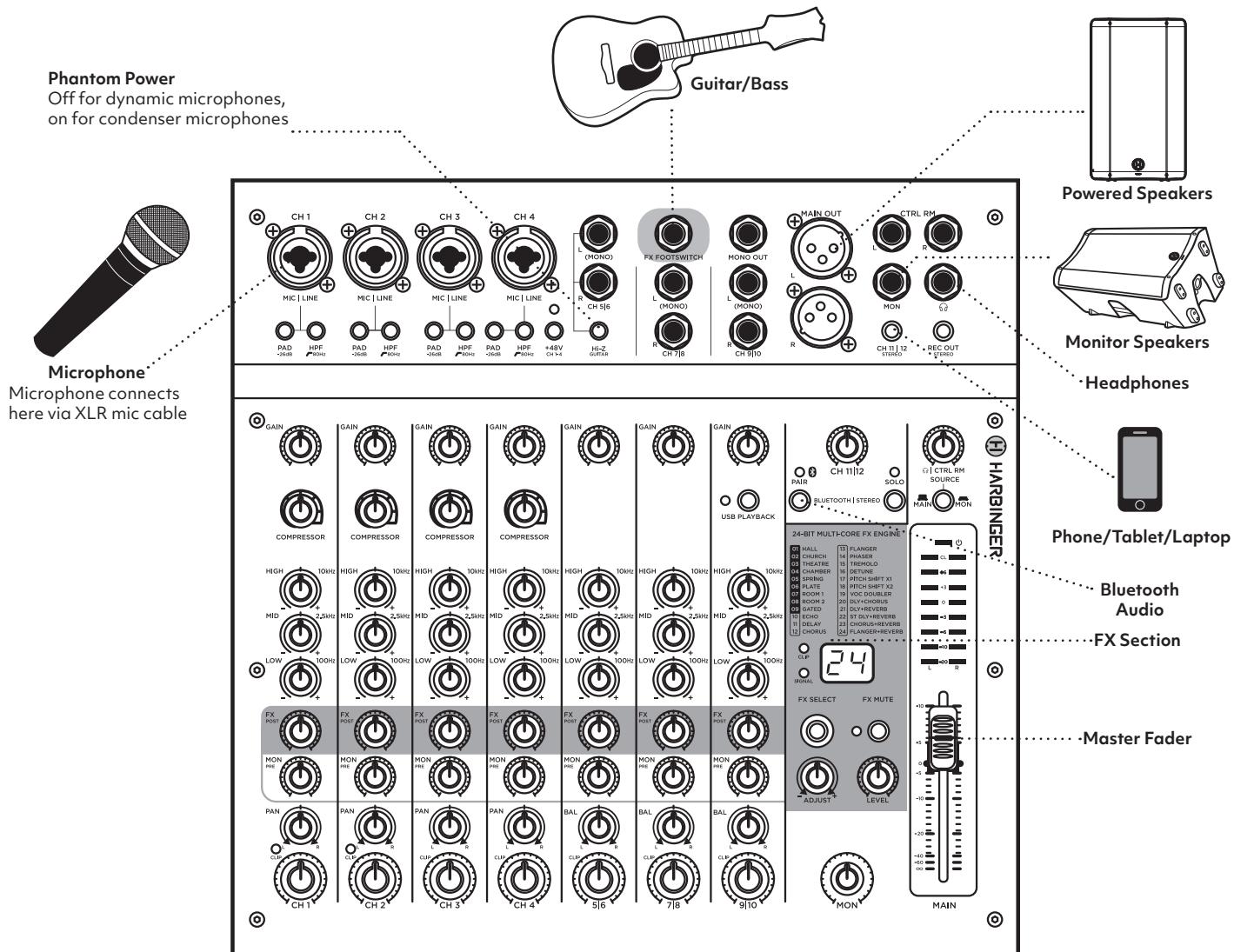
- Turn all white-capped level knobs to the minimum (full counter-clockwise) position and the MAIN knob to the minimum (full counter-clockwise position).
- Turn all grey-capped and blue-capped knobs to the 12 o'clock position.
- Turn all green-capped level knobs to the minimum (full counter-clockwise) position.
- All buttons should be in the up position. The white bottom edge of the button will be clearly visible and 48V and SOLO LEDs should be off.

OUTPUT CONNECTIONS

- **HEADPHONES** - Connect a pair of headphones to the mixer's 1/4" headphone jack
- **POWERED SPEAKERS** - Connect the MAIN OUTS on the LX8 to a pair of powered speakers via XLR cable



QUICK START GUIDE: LX12



SETTING UP / HELPFUL TIPS

- Make sure the power switch is set to the off position
- Plug the included power supply into an AC power outlet and into the power input on the rear panel of the mixer

INPUT CONNECTIONS

Choose any combination of the following sources:

- **MICROPHONE** - Connect a microphone to an XLR combo input jack via XLR or 1/4" cable
- **PHONE/TABLET/LAPTOP (ANALOG CONNECTION)** - Connect a tablet, phone or laptop to the CH 11 | 12 STEREO input jack via stereo 3.5 mm TRS cable
- **GUITAR/BASS** - Connect a guitar or bass with a passive pickup to the L (MONO) CH 5|6 input via standard 1/4" guitar cable and press the GUITAR Hi-Z button
- **COMPUTER (USB CONNECTION)** - Using a USB type "A" to type "B" cable, connect the computer's USB type "A" jack to the mixer's USB type "B" jack (see page 11 for details.)
- **BLUETOOTH AUDIO** - Bluetooth Audio - Wirelessly stream audio from a mobile device

POWERING UP

- Power on any devices connected to input jacks
- Power on the LX12
- Power on the powered speakers connected to the LX12's MAIN OUTS

SETTING LEVELS

- **MICROPHONE** - If you have connected a condenser microphone, press the 48V switch (the 48V LED will come on). If you have connected a dynamic microphone, the 48V switch should be in the off position with the 48V LED off. If you experience too much "boominess" or bass in the microphone signal, set the 80Hz HPF button to the on position. While speaking or singing into the connected microphone, slowly bring up the channel 1 GAIN control until only the loudest input briefly triggers the channel 1 CLIP indicator LED. Reduce the GAIN control slightly from this level. Continue speaking or singing into the connected microphone and slowly bring up the CH 1 level control to the 12 o'clock position, then slowly bring up the MAIN level control until a comfortable listening level is achieved.
- **PHONE/TABLET/LAPTOP (ANALOG CONNECTION)** - Press play on the connected audio player and increase the player's internal volume control to maximum level. Slowly bring up the BLUETOOTH | STEREO/ CH 11|12 level control to the 12 o'clock position, then, slowly bring up the MAIN level control until a comfortable listening level is achieved.
- **GUITAR** - Make sure the channel 5|6 GUITAR Hi-Z switch is set to the on position. While strumming the guitar, bring up the CH 5|6 channel level control to the 12 o'clock position and slowly bring up the MAIN level control until a comfortable listening level is achieved.
- **COMPUTER (USB CONNECTION)** - With the computer's sound output set to WAVE OUT USB DEVICE and with audio playing on the computer, bring up the CH 9|10 level control to the 12 o'clock position and slowly bring up the main level control until a comfortable listening level is achieved.
- **BLUETOOTH AUDIO** - Follow the Bluetooth pairing instructions below. While paired and with audio content streaming from the mobile device, and with the mobile device output volume set to maximum, slowly bring up the 11|12 channel level control to the 12 o'clock position. Then slowly bring up the main level control until a comfortable listening level is achieved.
- **POWERED SPEAKERS** - To monitor through powered speakers, while source signal from the microphone, phone/tablet/laptop, guitar or computer is present, slowly bring up the MAIN fader level control until a comfortable listening level is achieved.
- **MONITOR SPEAKERS** - To monitor through a powered stage monitor or powered speaker connected to the MON OUT, slowly turn up (clockwise) the MON level knob in the lower right corner of the LX12 to the 12 o'clock position and then turn up the MON send level on the channels you wish to send to the connected monitor speaker.
- **HEADPHONES** - Since the headphone level control is independent from the MAIN level control, first ensure that the channel level controls are set so that ample signal is feeding the main and headphone buses. The meters should show between +3 and +5 dB with the MAIN level control at 0 dB position. When this is accomplished, slowly bring up the headphone level control until a comfortable listening level is achieved.

BLUETOOTH® AUDIO INPUT

The mixer powers up with Bluetooth off. Press the PAIR button to initialize Bluetooth and activate pairing (the PAIR LED will flash, indicating that it is ready to pair). The LX12 will automatically reconnect to the previous Bluetooth audio source if it is available, and will otherwise be available for Bluetooth pairing from a source audio device such as a smartphone.

If connecting for the first time, look for and select "Harbinger Mixer" on your Bluetooth audio source device.

The PAIR LED is lit solid when currently paired, blinking when available for pairing, and off if Bluetooth has been disabled by pressing and holding the PAIR button, or when the mixer first powers up.

Pressing the PAIR button when a pairing is active forces any currently connected Bluetooth audio source to disconnect, and makes the mixer available for pairing.

See Bluetooth Troubleshooting section in case of difficulty.

CHECK KNOBS AND SWITCHES

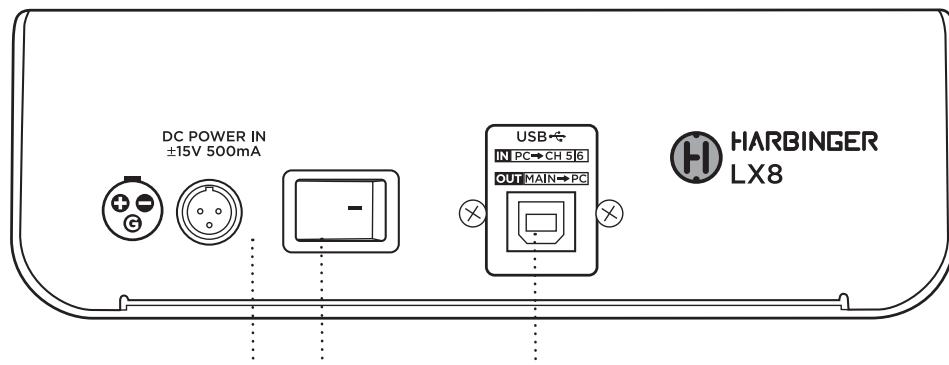
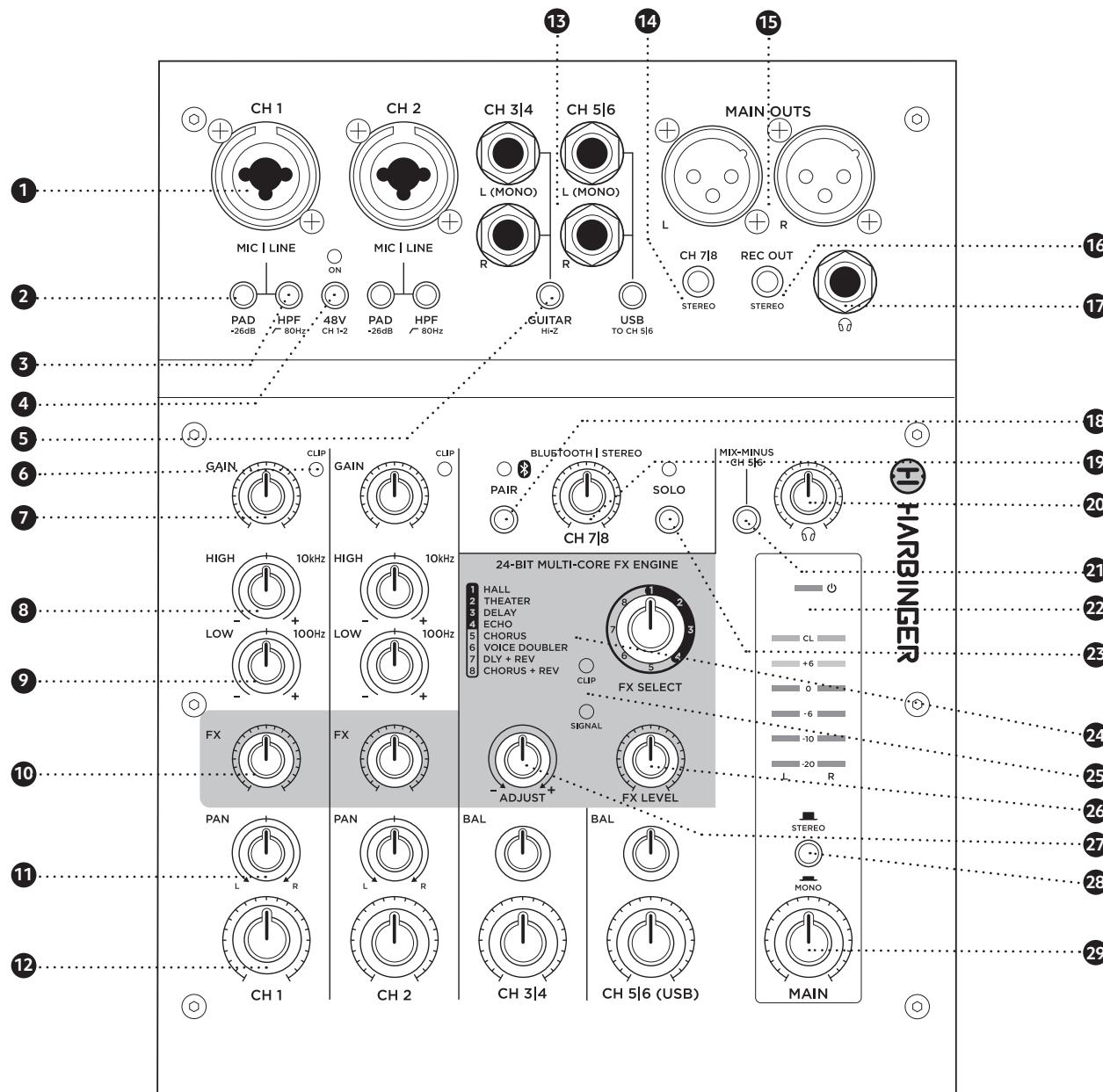
- Turn all white-capped level knobs to the minimum (full counter-clockwise) position and the MAIN knob to the minimum (full counter-clockwise position).
- Turn all grey-capped and blue-capped knobs to the 12 o'clock position.
- Turn all green-capped level knobs to the minimum (full counter-clockwise) position.
- All buttons should be in the up position. The white bottom edge of the button will be clearly visible and 48V and SOLO LEDs should be off.

OUTPUT CONNECTIONS

- **HEADPHONES** - Connect a pair of headphones to the mixer's 1/4" headphone jack
- **POWERED SPEAKERS** - Connect the MAIN OUTS on or LX12 to a pair of powered speakers via XLR cable
- **MONITOR SPEAKERS** - Connect the MON OUT on the LX12 to a monitor speaker via a 1/4" TRS cable



LX8 TOP AND REAR PANELS



1 MIC / LINE INPUT
An XLR or 1/4" microphone or line level source can be connected here.

2 -26dB PAD BUTTON
Reduces the signal strength of the associated input signal by 26dB.

3 80Hz HIGH-PASS FILTER
Reduces low frequency "rumble" from microphone signals.

4 48V PHANTOM POWER BUTTON
Activates phantom power, which is required for condenser-type microphones.

5 GUITAR HI-Z BUTTON
Changes the impedance on the L (MONO) input of CH3|4 to optimize passive guitar and bass signals.

6 CLIP INDICATOR LED
Lights red when the signal level at the preamp stage is too high and causing clipping/distortion.

7 GAIN CONTROL
Adjusts the preamp gain for the associated channel.

8 HIGH EQ CONTROL
Boosts or cuts the high frequencies of the associated input signal, at a corner frequency of 10kHz.

9 LOW EQ CONTROL
Boosts or cuts the low frequencies of the associated input signal, at a corner frequency of 100Hz.

10 FX SEND CONTROL
Controls the relative level of the associated channel being sent to the FX processor.

11 PAN CONTROL
Adjusts positioning of the channel input signal within the stereo sound field.

12 CH LEVEL CONTROL
Adjusts the relative level of the associated channel being sent to the MAIN bus.

13 1/4" INPUTS
CH3|4, CH5|6 – Connect mono or stereo line-level signals here.

14 CH 7|8 STEREO INPUT
Connect a phone, tablet, or laptop here, with a stereo 1/8" (3.5 mm) cable. This input is routed to the BLUETOOTH/CH 7|8 channel.

15 MAIN OUTPUTS
The signal at this output contains the entire mix of input signals. Connect this output to the inputs of powered speakers, a power amp or recording interface, via XLR cables. If a mono output is desired, connect a 1/4" TRS cable to the MONO OUT jack.

16 REC OUT
This signal is taken from the MAIN bus. Connect this output to a recording device with a stereo 1/8" (3.5 mm) input.

17 HEADPHONE OUTPUT
Connect headphones here. This signal is the same as that being sent to the MAIN bus.

18 BLUETOOTH PAIR BUTTON
With no actively paired device, pressing this button will activate pairing mode (LED will start blinking).
With a device actively paired (LED lit solidly), pressing this button will cancel the pair and will activate pairing mode (LED will begin blinking).
Pressing and holding this button will cancel any active pair and turn Bluetooth off (LED will turn off).

19 BLUETOOTH | CH 7|8 STEREO LEVEL CONTROL
Controls the level of the BLUETOOTH and CH 7|8 input signals being sent to the MAIN bus.

20 HEADPHONE MASTER CONTROL
This control adjusts the signal level feeding the Headphone output.

21 MIX MINUS CH 5|6 BUTTON
When pressed this button will remove the audio present on CH 5|6 from the main mix output.

22 MAIN OUTPUT LEVEL METERS
Display the main mix output level.

23 BLUETOOTH | CH 7|8 SOLO BUTTON
Mutes all input sources except BLUETOOTH or CH 7|8 input signals.

24 FX PRESET CONTROL AND LISTING
Selects the FX preset 1–8. The FX type for each preset can be seen in the list above the FX Adjust knob.

25 FX SIG & CLIP LEDS
These LEDs light up to give information about the incoming signal to the FX processor. When there is signal present, the SIG LED will be lit, indicating there is audio passing through the FX processor. If the CLIP LED is lit at any time, the incoming audio is distorting and the resulting FX will also be distorted.

26 FX LEVEL CONTROL
This control adjusts the overall level of the effected signal from the FX processor that is being sent to the main mix.

27 FX ADJUST CONTROL
This control changes the characteristics of the selected FX preset parameters allowing you to customize each preset.

28 STEREO/MONO BUTTON
Switches the MAIN out signal between mono and stereo operation. Out position = stereo, in position = mono.

29 MAIN OUTPUT LEVEL KNOB CONTROL
This knob controls the level of the MAIN OUTPUT.

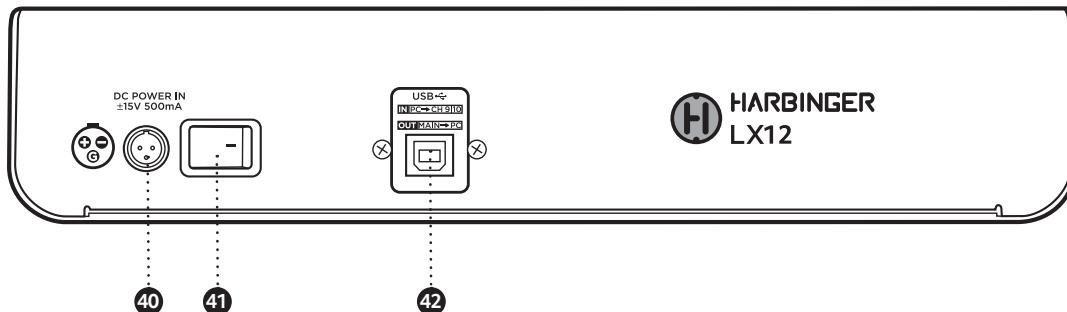
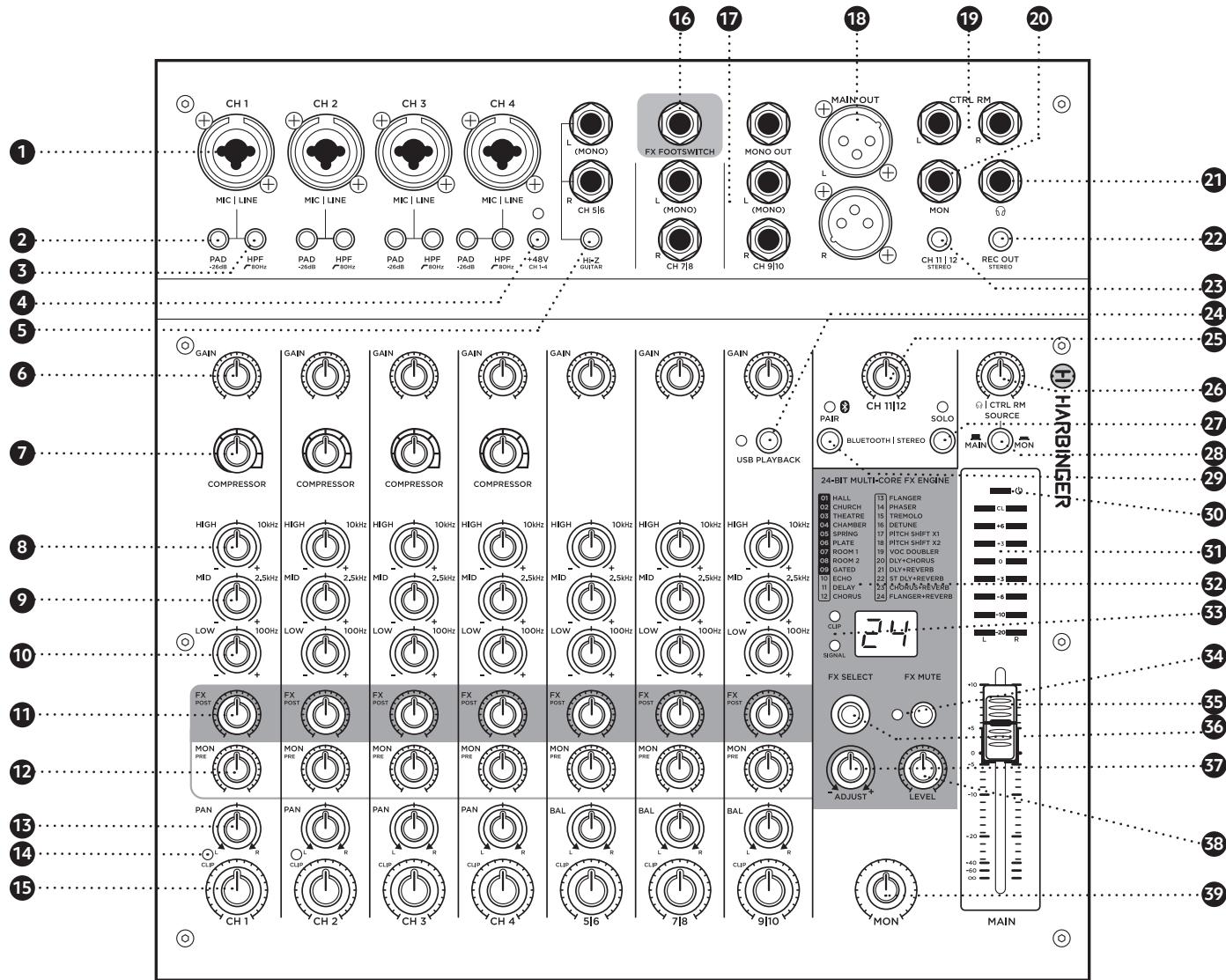
29 DC POWER INPUT
Connect only the included power adapter to this input.

29 POWER SWITCH
Switches power on/off to the mixer.

29 USB PORT
Connect a standard USB type "A" to type "B" cable from the mixer to a MAC or PC in order to record and playback audio from a connected computer.



LX12 TOP AND REAR PANELS



1 MIC / LINE INPUT
An XLR or 1/4" microphone or line level source can be connected here.

2 -26 dB PAD BUTTON
Reduces the signal strength of the associated input signal by 26 dB.

3 80Hz HIGH-PASS FILTER
Reduces low frequency "rumble" from microphone signals.

4 48V PHANTOM POWER BUTTON
Activates phantom power, which is required for condenser-type microphones.

5 GUITAR HI-Z BUTTON
Changes the impedance on the L (MONO) input of CH 5|6 to optimize passive guitar and bass signals.

6 GAIN CONTROL
Adjusts the preamp gain for the associated channel.

7 COMPRESSOR
Each of the 4 MIC|LINE channels has its own compressor, which can be useful to make vocals or other key inputs more prominent than other inputs. At full counter-clockwise position, no compression will be applied. Turning the knob up from minimum adjusts the threshold from +20dB to -5dB and adds 0dB to +9dB of make-up gain.

8 HIGH EQ CONTROL
Boosts or cuts the high frequencies of the associated input signal, at a corner frequency of 10 kHz.

9 MID EQ CONTROL
Boosts or cuts the mid frequencies of the associated input signal, at a center frequency of 2.5 kHz.

10 LOW EQ CONTROL
Boosts or cuts the low frequencies of the associated input signal, at a corner frequency of 100 Hz.

11 FX SEND CONTROL
Controls the relative level of the associated channel being sent to the FX processor.

12 MON SEND CONTROL
Controls the relative level of the associated channel being sent to the MON OUT.

13 PAN CONTROL
Adjusts positioning of the channel input signal within the stereo sound field.

14 CLIP INDICATOR LED
Lights red when the signal level at the preamp stage is too high and causing clipping/distortion.

15 CH LEVEL CONTROL
Adjusts the relative level of the associated channel being sent to the MAIN bus.

16 FX ON | OFF FOOT SWITCH
Connect a 1/4" single-button footswitch here to mute/unmute the internal FX. This can be helpful when addressing the audience between songs.

17 1/4" INPUTS
CH5|6 CH7|8, CH 9|10 – Connect mono or stereo line-level signals here.

18 MAIN OUTPUTS
The signal at this output contains the entire mix of input signals. Connect this output to the inputs of powered speakers, a power amp or recording interface, via XLR cables. If a mono output is desired, connect a 1/4" TRS cable to the MONO OUT jack.

19 CTRL RM OUTPUTS
1/4" outputs for feeding control room speakers or studio monitors.

20 MON OUTPUT
1/4" mono output for feeding floor monitor speakers.

21 HEADPHONE OUTPUT
Connect headphones here. This signal is the same as that being sent to the MAIN bus.

22 REC OUT
This signal is taken from the MAIN bus. Connect this output to a recording device with a stereo 1/8" (3.5 mm) input.

23 CH 11|12 STEREO INPUT
Connect a phone, tablet, or laptop here, with a stereo 1/8" (3.5 mm) cable. This input is routed to the BLUETOOTH/ CH 11|12 channel.

24 USB PLAYBACK ROUTING TO CH 9|10 BUTTON
Pressing this button routes the USB audio input to CH 9|10. Use the CH 9|10 level control to send this signal to the MAIN mix. If you are recording over existing tracks coming from a DAW and you wish to exclude those tracks from the audio being recorded, reduce the CH 9|10 level control to its minimum / full counter-clockwise position (do this for any channels you do not want recorded by the DAW). Press the **28 HEADPHONE|CTRL RM SOURCE** button and use the channel MON SEND CONTROLS **12** to create a mix of the playback and live recording tracks for the CTRL RM and headphone outputs.

25 BLUETOOTH / CH 11|12 STEREO INPUT LEVEL CONTROLS
Controls the level of the BLUETOOTH and CH 11|12 input signals being sent to the MAIN bus.

26 HEADPHONE|CTRL RM MASTER CONTROL
This control adjusts the signal level feeding the CTRL RM OUTS and the Headphone output.

27 BLUETOOTH / CH 11|12 SOLO BUTTON
Mutes all input sources except BLUETOOTH or CH 11|12 input.

28 HEADPHONE|CTRL RM SOURCE SWITCH
Switches the signal feeding the headphones and control room outputs, between main mix (out position) and monitor mix (in position) signals.

29 BLUETOOTH PAIR BUTTON

- With no actively paired device, pressing this button will activate pairing mode (LED will start blinking).
- With a device actively paired (LED lit solidly), pressing this button will cancel the pair and will activate pairing mode (LED will begin blinking).
- Pressing and holding this button will cancel any active pair and turn Bluetooth off (LED will turn off)

30 POWER LED
When the LX12 is powered on this LED will be lit green.



31 MAIN OUTPUT LEVEL METERS

Display the main mix output level.

32 FX PRESET CONTROL AND LISTING

Selects the FX preset 1-24. The FX type for each preset can be seen in the list above the knob.

33 FX SIG AND CLIP LEDs

These LEDs light up to give information about the incoming signal to the FX processor. When there is signal present, the SIG LED will be lit, indicating there is audio passing through the FX processor. If the CLIP LED is lit at any time, the incoming audio is distorting and the resulting FX will also be distorted.

34 FX MUTE SWITCH AND LED

Pressing this button mutes the FX return signal. When engaged, the LED will illuminate.

35 MAIN OUTPUT LEVEL FADER CONTROL

This fader controls the level of the MAIN OUTPUT.

36 FX PRESET CONTROL AND LISTING

Selects the FX preset 1-8. The FX type for each preset can be seen in the list above the FX Adjust knob.

37 FX ADJUST CONTROL

This control changes the characteristics of the selected FX preset parameters allowing you to customize each preset.

38 FX LEVEL CONTROL

This control adjusts the overall level of the effected signal from the FX processor that is being sent to the MAIN OUTPUTS.

39 MON MASTER CONTROL

Controls the combined send output level feeding the MON OUTPUT.

40 DC POWER INPUT

Connect only the included power adapter to this input.

41 POWER SWITCH

Switches power on/off to the mixer.

42 USB PORT

Connect a standard USB type "A" to type "B" cable from the mixer to a MAC or PC in order to record and playback audio from a connected computer.



BLUETOOTH® TROUBLESHOOTING

These steps should resolve any Bluetooth trouble you may encounter:

- On your Apple iOS device
- 1. Power off the mixer and leave it off. Open Settings app, select Bluetooth
- 2. Open Settings app, select Bluetooth
- 3. If "Harbinger Mixer" is listed under MY DEVICES, touch info button, tap to Forget This Device
- 4. Turn off Bluetooth, wait 10 seconds, turn on Bluetooth
 - Then power on your mixer and press PAIR (the pair LED should flash)
 - You should now be able to connect to mixer via Bluetooth
- On your Android device
- 1. Power off the mixer and leave it off
- 2. Open Settings, select Bluetooth
- 3. If "Harbinger Mixer" is listed under Paired Devices, touch gear icon, and tap to Un-pair
- 4. Turn off Bluetooth, wait 10 seconds, turn on Bluetooth

USB WALKTHROUGH

PLAYBACK & RECORDING VIA USB

The LX8 and LX12 are fully ASIO (Windows) and Core Audio (MAC) compliant audio interfaces and as such do not require any special driver installation.

Playback:

1. Make sure the LX Mixer is set as the audio output device within the PC's system settings and within the DAW software or audio player
2. Start audio playback from the DAW or audio player
3. Press the USB ROUTING TO CH 9|10 BUTTON **24** (LX12 only)
4. For LX12: Make sure the HEADPHONE|CTRL RM SOURCE button **28** is in the up position.
For LX8: Make sure the MIX MINUS CH 5|6 BUTTON **21** is in the up position
5. Slowly bring up the CH9|10 level control for LX12 or the CH 5|6 level control for LX8

Recording:

1. Connect all input signals to the LX Mixer
2. Set the channel level controls and MAIN level fader so that the MAIN level meters show the mix peaking somewhere around 0 dB
3. Make sure the LX Mixer 14 WAVE OUT USB DEVICE is selected as the audio input device within the PC's system settings and within the DAW software
4. Arm the stereo DAW track and press record. The LX Mixer's MAIN MIX will now be recorded by the DAW

*NOTE: The stereo MAIN mix output signal is the default signal feeding the USB audio output and being sent to the DAW. Playback audio from the DAW will route to the LX8's CH 5|6 or the LX12's CH 9|10 (when the USB ROUTING TO CH9|10 **24** button is engaged on the LX12).*

Overdubbing:

1. Make sure the LX mixer WAVE OUT USB DEVICE is set as the audio input and output device within the PC's system settings and within the DAW software
2. Reduce the LX8's CH 5|6 and the LX12's CH 11|12 level control to its minimum / full counter-clockwise position (do this for any channels you do not want recorded by the DAW)
3. While singing/strumming/drumming, bring up the channel level controls for the channels you are about to record, and watch the input level meters on your DAW to make sure the loudest parts of the input are just below clipping.. Any signal panned hard-left will be sent out the left channel only, any channel panned hard-right will be sent out the right channel only.
4. On LX12, set the HEADPHONE|CTRL RM SOURCE button **28** to the MON position and use the channel MON SEND CONTROLS **12** to create a mix of the playback and live recording tracks. You will hear both the playback tracks and the signals you are recording in the Headphones and CTRL RM OUTS, but only the signals being sent to the MAIN mix will be recorded by the DAW. On LX8, set the MIX MINUS CH 5|6 button **21** to the in position. You will hear both the playback tracks and the signals you are recording, in the headphones signal, but the playback tracks on CH 5|6 will be excluded from the main mix bus, and kept from being re-recorded.
5. Within the DAW, you will have the option to record a mono signal (splitting the L + R MAIN MIX into separate tracks) or a stereo signal. Select the appropriate input within the DAW. Arm the DAW track and hit record.

See page 14 for Real-World Example.



A REAL-WORLD EXAMPLE USING THE LX12:

Tracking a Vocal and a Guitar simultaneously to a click track being generated by your DAW.

1. Within the DAW, initialize 2 separate mono tracks that will serve as destinations for the vocal and guitar signals coming from the mixer. On the vocal channel, select the mixer's R output, on the guitar channel, select the mixer's L output.
2. Plug your vocal mic into XLR or TRS input of CH1 (activating the 48V Phantom Power switch if it is a condenser mic)
3. While watching the mixer's CH1 clip indicator, sing into the microphone and set the CH1 GAIN control so that only the loudest input causes brief clipping. Then reduce the gain slightly.
4. While watching the input level meter of the DAW's vocal channel, adjust the mixer's CH1 LEVEL control to get an acceptable level feeding the DAW. The loudest input should fall just below clipping.
5. Then turn the CH1 PAN control all the way to the right
6. Plug your guitar into CH 5|6 L/mono input and engage the Hi-Z button.
7. While watching the CH 5|6 clip indicator LED, strum the guitar. When only the loudest input briefly triggers the clip LED, reduce the CH 5|6 GAIN control slightly.
8. While watching the input level meters of the DAW's guitar channel input, strum the guitar and bring up the mixer's CH 5|6 LEVEL control until the loudest input falls just below clipping.
9. Now turn the Pan control on CH 5|6 all the way to the left
10. Your DAW or audio capture software can now receive the vocal channel audio and the guitar channel audio on 2 separate tracks. Keep in mind, if the microphone is in close proximity to the guitar, there will likely be some bleed of the guitar into the vocal channel.
11. Now in your DAW set up a channel that can play a click or guide track at the desired tempo, but do not start playing it yet
12. Set up your DAW's audio output to the LX12 USB and on the mixer press the USB Routing to CH 9|10 button
13. Set the HEADPHONE|CTRL RM SOURCE button to the MON position
14. Make sure the CH 9|10 level control is turned all the way down to the left (counter-clockwise) and slowly turn up the MON level control on CH 9|10.
15. Use the channel MON SEND CONTROLS to create a mix of the playback and live recording tracks. You will hear both the playback tracks and the signals you are recording in the Headphones and CTRL RM OUT output, but only the signals being sent to the MAIN mix will be recorded by the DAW
16. Now when you arm a channel and hit record in your DAW, the click or guide track audio will be sent to the LX12 for you to monitor in headphones or control room speakers, but your final captured performance will not include these signals. Only your performance will be captured via USB into your DAW.

APPENDIX

MICROPHONE INPUT (MIC)

This XLR combo connector will accept virtually any professional microphone. It is designed for microphone and line level signals on either XLR or 1/4" cables.

Some microphones, mostly condenser mics, need phantom power to operate. Switch on 48V phantom power. If you're unsure if your mic needs phantom power, check the instructions or the manufacturer's website for information. Phantom power should not hurt most microphones, except for very old or damaged ribbon microphones.

For live microphone use (where the microphone signal is amplified through a PA system) engaging the HPF (high-pass filter) is recommended for reducing "boominess" and maintaining clarity in the microphone signal.

Use the microphone preamp's gain control (explained below) to bring the microphone up to a high enough level to use with the mixer.

LINE INPUT (LINE)

This 1/4" input is designed for line-level signals. It accepts either balanced (TRS) or unbalanced (TS) cables. The level of this input is also controlled by the gain control, explained below.

Do not use both the microphone and line inputs on the same channel. The mixer will distort and the noise level will go up.

The line input is not designed to accept an instrument-level signal, such as the output from an electric or acoustic guitar or bass.

If you want to plug your instrument into the mixer, we suggest a direct box (also called a DI box). Plug your instrument into the direct box, then plug the output of the direct box into the microphone input of the mixer.

GUITAR/BASS

Passive guitar or bass signals tend to have the best sound and sensitivity when they are connected to a high-impedance input (similar to what you would find on a guitar or bass amp). When connecting a passive guitar or bass signal to CH 3|4 on the LX8 or the CH 5|6 on the LX12, engaging the GUITAR HI-Z switch is recommended. It is possible to connect 2 guitar signals to CH 3|4 (LX8) or CH 5|6 (LX12) simultaneously. When both inputs are used, the signals will be hard-panned left and right. If you wish to have both guitars panned to the center so that they project from both speakers in PA setup, press the MONO button next to the MAIN level control.

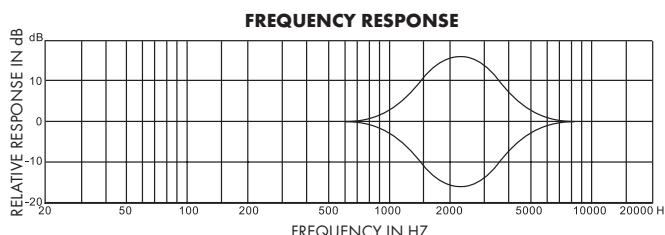
If connecting an active acoustic guitar signal to one of the XLR equipped channels, engaging the HPF is recommended for rolling-off "boominess".

GAIN

Gain controls the level of the microphone or line level signal plugged into the mixer. If the gain is set too low, the output signal will be noisy when you turn it up at the level control. If gain is set too high, it will distort.

For best performance, set the gain while looking at the meters. Turn the Level control so that it's facing straight up. Then turn the gain up until you see the first or second lights on the meters. Don't set it too high – although you might not hear distortion when playing by itself, when all of the channels are playing at that level they may add together and distort the mixer.

EQ MID



The mid EQ is a peaking EQ, centered at 2.5kHz. This boosts or cuts the high midrange of your signal. You might turn it up if your vocal isn't cutting through the mix, or turn it down if a percussion part is too harsh.

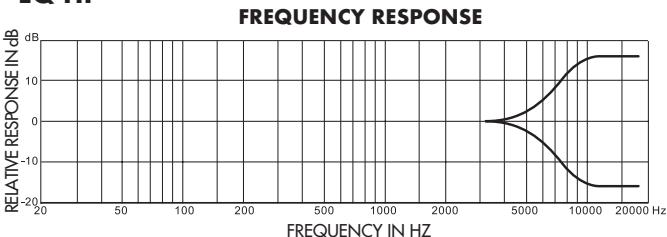
Sidebar: "Why are there two volume controls?"

The Gain and Level controls work together to get the best performance out of the mixer. A quiet signal may need more gain than a loud guitar amp going into a sensitive microphone. Set the gain so that the level on each channel is roughly the same, then use the Level controls to set the balance that you want in your mix.

GAIN STAGING

Gain staging involves setting the serial amplification stages of an audio signal in a way that achieves best signal to noise ratio. Improper gain staging can result in more background noise, less clarity and lower sound system efficiency. If your mixer is connected to a FOH amplifier or powered speakers, you will need to first set the level of these for an appropriate audience listening level. To set your FOH amplifier or powered speaker level, connect a full-range line level music source to your mixer and set the peak level on the channel meters somewhere between -6dB and 0dB. Set your main output level to zero/unity and slowly bring up the amplifier or powered speaker levels to a volume that makes sense for the venue. With this main output level set, you can move on to setting levels for the individual inputs. Start with gain and channel level controls at their minimum positions. For microphone signals, while speaking or singing into the connected microphone, slowly bring up the channel GAIN control until only the loudest input briefly triggers the channel CLIP indicator LED. Reduce the GAIN control slightly from this level. With the main output level control set to zero/unity, continue speaking or singing into the connected microphone and slowly bring up the channel LEVEL to a desired listening level. Follow this process for any microphone signals. When setting relative levels between channels, best practice is to reduce levels of signals that are too loud, working subtractively.

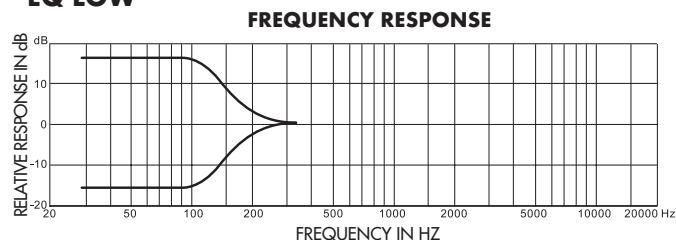
EQ HI



The high EQ control is a shelving EQ. What this means is that it boosts or cuts from 10kHz and everything above that. Turn it up to bring out the breath of a vocal or the high overtones of the cymbals. Turn it down to reduce finger squeaks on a guitar or bass.

The high EQ control is a shelving EQ. What this means is that it boosts or cuts from 12kHz and everything above that. Turn it up to bring out the breath of a vocal or the high overtones of the cymbals. Turn it down to reduce finger squeaks on a guitar or bass.

EQ LOW



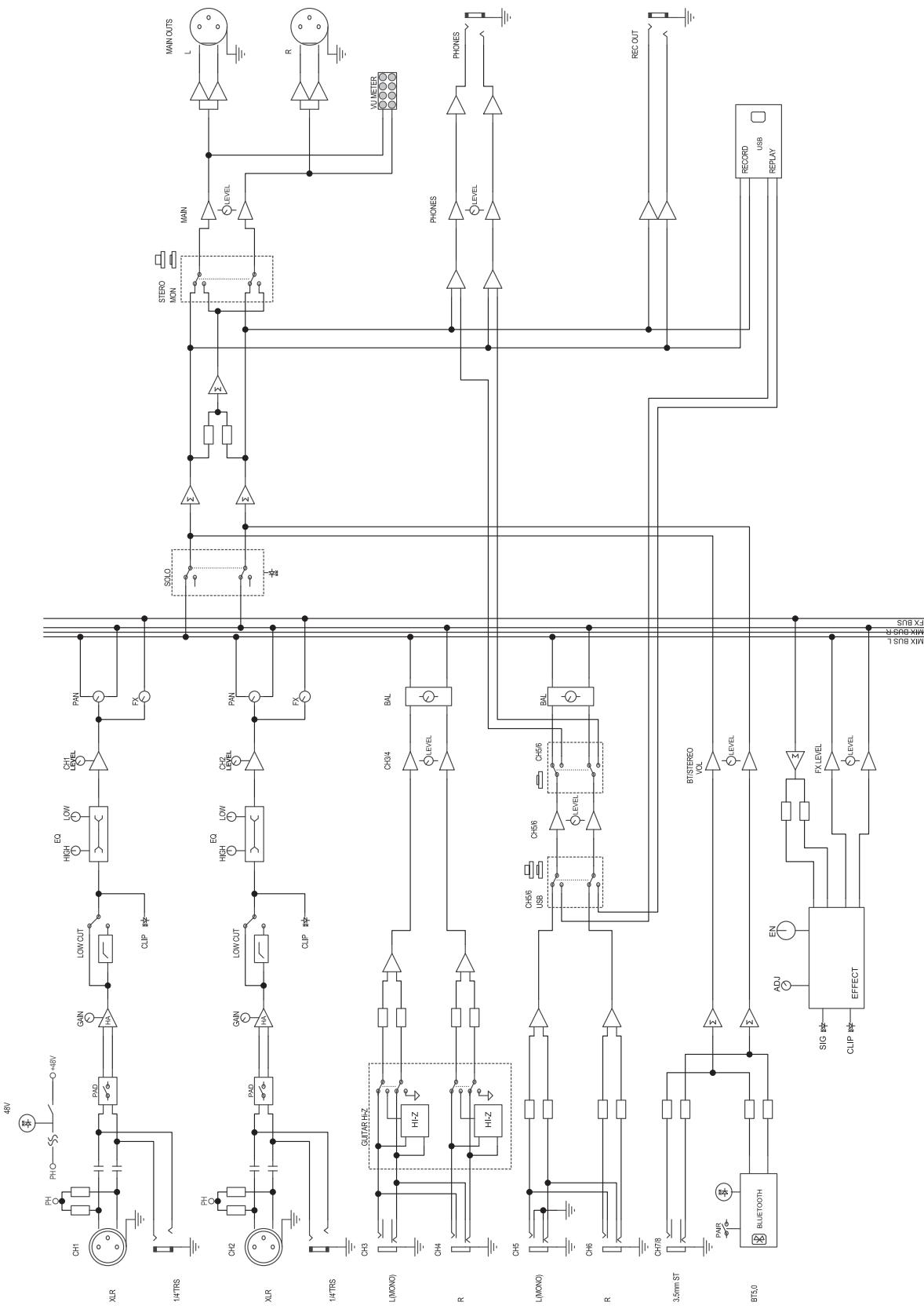
This low EQ boosts or cuts everything from 100Hz or below. You might bring it up for more bottom out of your kick or bass guitar, and turn it down to reduce rumble from a vocal or wind instrument.



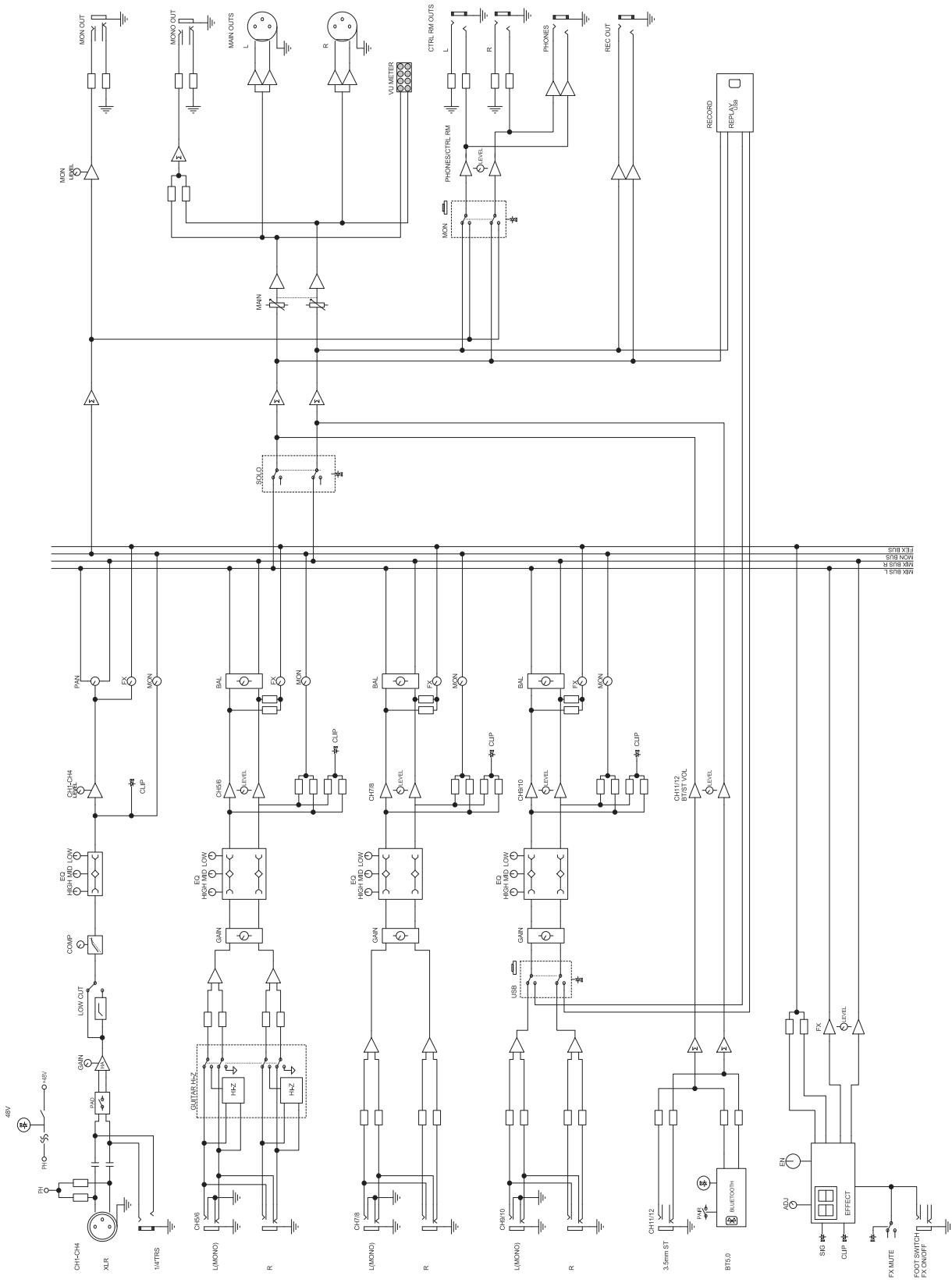
LX8 & LX12 SPECIFICATIONS

Parameter	Condition	LX8	LX12
Frequency Response	Mic In to Main Out (Trim at 0 db)	20 Hz – 22 kHz	20 Hz – 22 kHz
THD	Mic In to Main Out (20Hz to 20 kHz)	0.009%	0.009%
Preamp Noise (EIN)	20 Hz to 20 kHz, (150 ohm sources)	-121dB	-121dB
Residual Output Noise	All level controls @ minimum	-91dB	-91dB
Common Mode Rejection Ratio (CMRR)	Maximum Gain	>68dB @ 1 kHz	>68dB @ 1 kHz
Crosstalk	Adjacent Channels	-88dB	-88dB
	Same channel (stereo separation)	-82dB	-82dB
Input Gain Control Range		+15dB to +63 dB	+15dB to +63 dB
Phantom Power	DC	+48V	+48V
Equalization	Mono Channel, High	±12dB@ 10 kHz	±12dB@ 10 kHz
	Mono Channel, Mid	NA	±15dB@ 2.5 kHz
	Mono Channel, Low	±12dB@ 100Hz	±12dB@ 100Hz
Output Level	Maximum	+22 dBu	+22 dBu
Maximum Input Levels	Mic	+6dBu (with -26dB PAD)	+6dBu (with -26dB PAD)
	Line Input	+21dBu at Unity Gain	+21dBu at Unity Gain
	Aux Input	+6dBu at +15dB Level max	+6dBu at +15dB Level max
Input Impedance	Mic	2kΩ, balanced	2kΩ, balanced
	Line Input	10kΩ, balanced	10kΩ, balanced
	Aux Input	10kΩ, balanced	10kΩ, balanced
Output Impedance	Main	120Ω	120Ω
	Control Room, Rec Out	120Ω	120Ω
	Headphones	100Ω	100Ω
VU Meters	Segments	Clip (+16), +6, 0, -6, -10, -20dB	Clip (+16), +10, 6, 0, -3, -6, -10, -20dB
AC Power Requirements	3-pin mini XLR connector	±15VDC @ 500 mA	±15VDC @ 500 mA
Dimensions	L x W x H (shown in Inches)	9.08" L x 7.05" W x 2.40" H	11.64" L x 11.58" W x 2.40" H
Weight (net)	Without PSU	2.8 lbs	3.2 lbs

LX8 BLOCK DIAGRAM



LX12 BLOCK DIAGRAM



GLOSSARY OF TERMS

BALANCED

A 3-conductor (including shield), low-impedance connection. Balanced cables are the preferred method for hum-free interconnection of a sound system for their noise-rejection characteristics. (Also see Unbalanced.)

BUSS

An output destination in a mixer. For example, the left and right main outputs are called busses, because you can send a channel to one or both of them. Also spelled Bus

CHANNEL

One of any number of signal paths in an audio circuit, such as input channel, output channel, recording channel, left channel, right channel, etc.

COMPRESSOR

A device that reduces the dynamic range of the audio signal passing through it. When compressing a signal, the louder parts of the signal become quieter, and when make-up gain is applied, the quieter, subtler parts of the signal become more pronounced. This often produces a more articulate and polished sounding signal that can stand out better in a mix.

DECIBEL (DB)

A term representing the ratio between different audio levels. It can either refer to the electrical signal running through a channel or the acoustic sound level coming from a sound source.

EQUALIZATION

Electronic filters that adjust the level of certain frequencies. Used for tone enhancement or to reduce extraneous sounds. Two types of EQ shapes are Peak and Shelving, described below.

HI-Z (HIGH IMPEDANCE)

In the audio equipment realm, the term "Hi-Z" or "High-Impedance" generally refers to inputs designed for passive guitar or bass signals ($1M\Omega$ or thereabouts).

HPF (HIGH-PASS FILTER)

An electronic filter that passes signals with a frequency higher than a specific cutoff frequency and attenuates signals with frequencies lower than the cutoff frequency.

IMPEDANCE

Resistance in an electrical circuit measured in Ohms (Ω). Maintaining proper impedance (between amplifier and speakers for example) is important to prevent damage to the amp.

48V PHANTOM POWER

A voltage signal that runs through a microphone cable to power condenser microphones. Harmless to microphones that don't need it, except for very old and/or damaged ribbon microphones.

SHELVING EQUALIZER CONTROL

Increase or decrease of all frequencies above or below a specific point. (Compare to Peak Equalizer Control; see pages 8-9 for more information.)

TRS

Acronym for Tip-Ring-Sleeve — the three parts of a three-conductor (including shield) audio plug. TRS phone plugs are often used for "balanced" mono connections, or stereo "unbalanced" (head-phone) connections.

TS

Acronym for Tip-Sleeve, the two parts of an unbalanced, two-conductor (including shield) phone plug. TS connectors are sometimes called mono or unbalanced plugs or jacks.

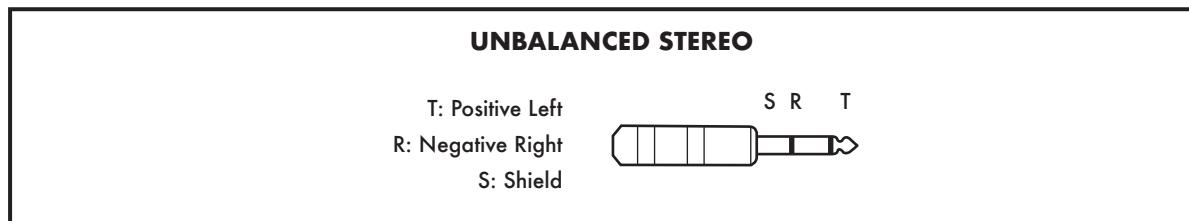
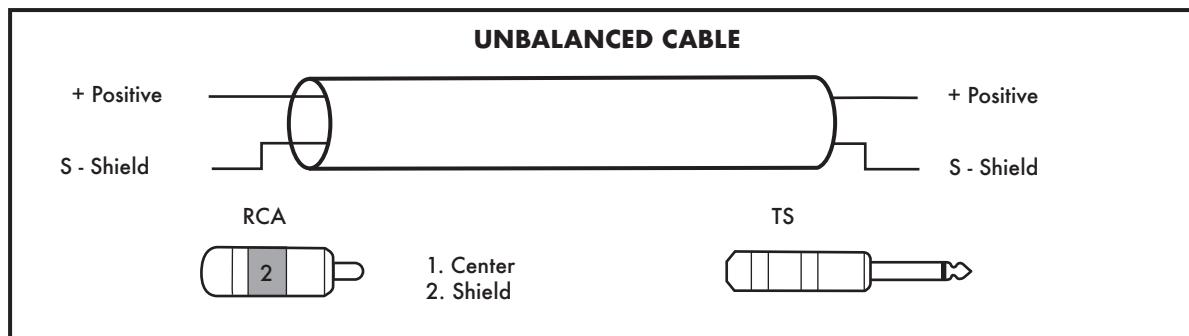
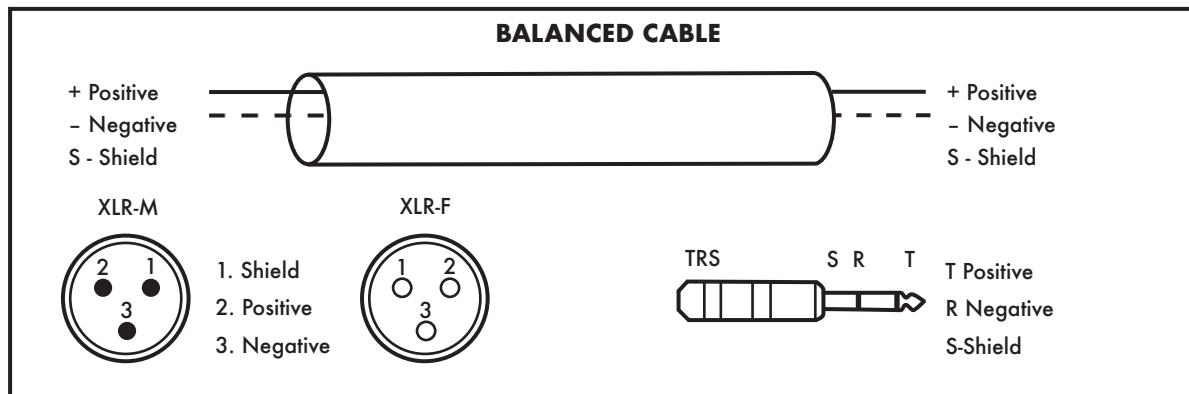
UNBALANCED

A two-conductor (including shield), high-impedance connection. These are most commonly used for instrument connections and cable runs of less than 20 feet.

XLR

The three-pin connector universally used for balanced audio connections. A balanced connection reduces outside noise and interference. (See Balanced above.)

CABLE DIAGRAMS



IMPORTANT SAFETY INSTRUCTIONS

Please keep this instruction manual for future reference and for the duration of owning the LX8 or LX12 mixers. Please carefully read and understand the instructions inside this owner's manual before attempting to operate your new mixer.

This instruction manual includes essential safety information regarding the use and maintenance of the mixer. Take special care to heed all warning symbols and signs inside this manual and those printed on the bottom of the mixer.

WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE PRODUCT TO WATER/MOISTURE, NOR SHOULD YOU OPERATE THE PRODUCT NEAR ANY WATER SOURCE.

The exclamation point triangular symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the user manual accompanying the product.

The lightning flash with an arrow triangular symbol is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure, and may be of sufficient magnitude to constitute a risk of electric shock.

WARNING

Handle the power supply cord with care.

Do not damage or deform it as it may cause electric shock or malfunction when used. Hold the plug attachment when removing from wall outlet. Do not pull on the power cord.

IMPORTANT SAFETY PRECAUTIONS

1. READ INSTRUCTIONS – All the safety and operating instructions should be read before this product is operated.
2. RETAIN INSTRUCTIONS – The safety and operating instructions should be retained for future reference.
3. HEED WARNINGS – All warnings on the product and in the operating instructions should be adhered to.
4. FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.
5. DO NOT turn on the product module before connecting all other external devices.
6. WATER AND MOISTURE – Moisture can damage the product and can cause corrosion of electrical contacts. The system should not be used near water - for example, a bathtub, washbowl, kitchen sink, laundry tub, wet basement, or near a swimming pool, and the like.
7. HEAT – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other sources (including amplifiers) that produce heat.
8. POWER SOURCES – This product should be operated only from the type of power source indicated on the rating label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
9. GROUNDING OR POLARIZATION – Do not defeat the safety purpose of the polarization or grounding-type plug. The wide blade or the third prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet. Do not defeat the safety purpose of the 3rd pin grounding prong.
10. POWER-CORD PROTECTION – Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cord in correspondence of plugs, convenience receptacles, and the point where they exit from the product.
11. CLEANING – The product should be cleaned only as recommended by the manufacturer. Clean by wiping with a dry cloth. Avoid getting water inside the product.
12. NON-USE PERIODS – The power cord of the product should be unplugged from the outlet when left unused for a long period of time.
13. OBJECT AND LIQUID ENTRY – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

14. DAMAGE REQUIRING SERVICE – The product should be serviced by qualified service personnel when:

- A. The power supply cord or the plug has been damaged; or
- B. Objects have fallen, or liquid has been spilled into the product; or
- C. The product has been exposed to rain; or
- D. The product does not appear to operate normally or exhibits a marked change in performance; or
- E. The product has been dropped, or the enclosure damaged.

15. Keep the product out of extended or intense direct sun light. 16. No containers filled with any type of liquid should be placed on or near the product.

17. SERVICING – The user should not attempt any service to the product beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

18. VENTILATION – Slots and openings in the product are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack.

19. ATTACHMENTS – do not use attachments not recommended by the product manufacturer, as they may cause hazards.

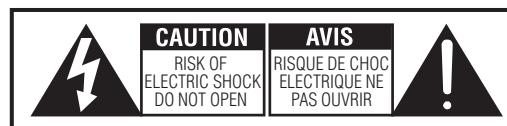
20. ACCESSORIES – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product.

21. LIGHTNING – For added protection during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.

22. REPLACEMENT PARTS – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

23. SAFETY CHECK – Upon completion of any service or repairs to this product, ask to perform safety checks to determine that the product is in the service technician to perform safety checks to determine that the product is in proper operating condition.

To prevent electric shock, or other outlet unless the do not use a polarized plug with an extension cord, receptacle blades can be fully inserted to prevent blade exposure.



CAUTION: To reduce the risk of electric shock, do not remove chassis. No user-serviceable parts inside. Refer servicing to qualified service personnel.

AVERTISEMENT: Pour réduire les risques d'incendie et d'électrocution, ne pas exposer ce matériel à la pluie ou à l'humidité.


THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.


APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

FCC STATEMENTS

1. Caution: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

RF Exposure Information

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

WARRANTY/CUSTOMER SUPPORT

2 YEAR HARBINGER LIMITED WARRANTY

Harbinger provides, to the original purchaser, a two (2) year limited warranty on materials and workmanship on all Harbinger cabinets, loudspeaker and amplifier components from the date of purchase.

For warranty support, please visit our website at www.HarbingerProAudio.com, or contact our Support Team at **888-286-1809** for assistance. Harbinger will repair or replace the unit at Harbinger's discretion.

This warranty does not cover service or parts to repair damage caused by neglect, abuse, normal wear and tear and cosmetic appearance to the cabinetry not directly attributed to defects in materials or workmanship. Also excluded from coverage are damages caused directly or indirectly due to any service, repair(s), or modifications of the cabinet, which has not been authorized or approved by Harbinger. This two (2) year warranty does not cover service or parts to repair damage caused by accident, disaster, misuse, abuse, burnt voice-coils, over-powering, negligence, inadequate packing or inadequate shipping procedures.

The sole and exclusive remedy of the foregoing limited warranty shall be limited to the repair or replacement of any defective or non-conforming component. All warranties including, but not limited to, the express warranty and the implied warranties of merchantability and fitness for a particular purpose are limited to the two (2) year warranty period. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you. There are no express warranties beyond those stated here. In the event that applicable law does not allow the limitation of the duration of the implied warranties to the warranty period, then the duration of the implied warranties shall be limited to as long as is provided by applicable law. No warranties apply after that period.

Retailer and manufacturer shall not be liable for damages based upon inconvenience, loss of use of product, loss of time, interrupted operation or commercial loss or any other incidental or consequential damages including but not limited to lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or reproducing any program or data stored in equipment that is used with Harbinger products. This guarantee gives you specific legal rights; you may have other legal rights, which vary from state to state.

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