ALLEN HEATH ZEDi-8 8 Channel Live and Recording Mixer User Guide

ALLEN&HEATH

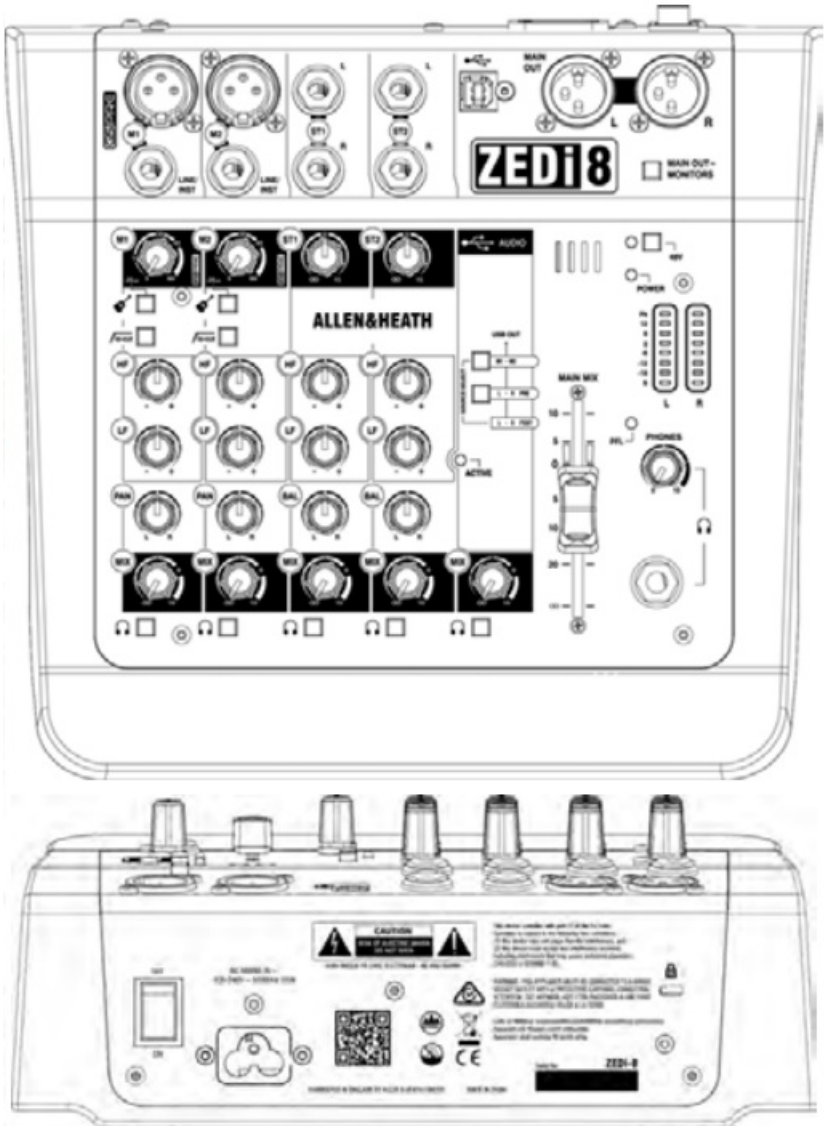
ZEDi-8 8 Channel Live + Recording Mixer
User Guide

Contents

ZEDi-8 8 Channel Live and Recording Mixer

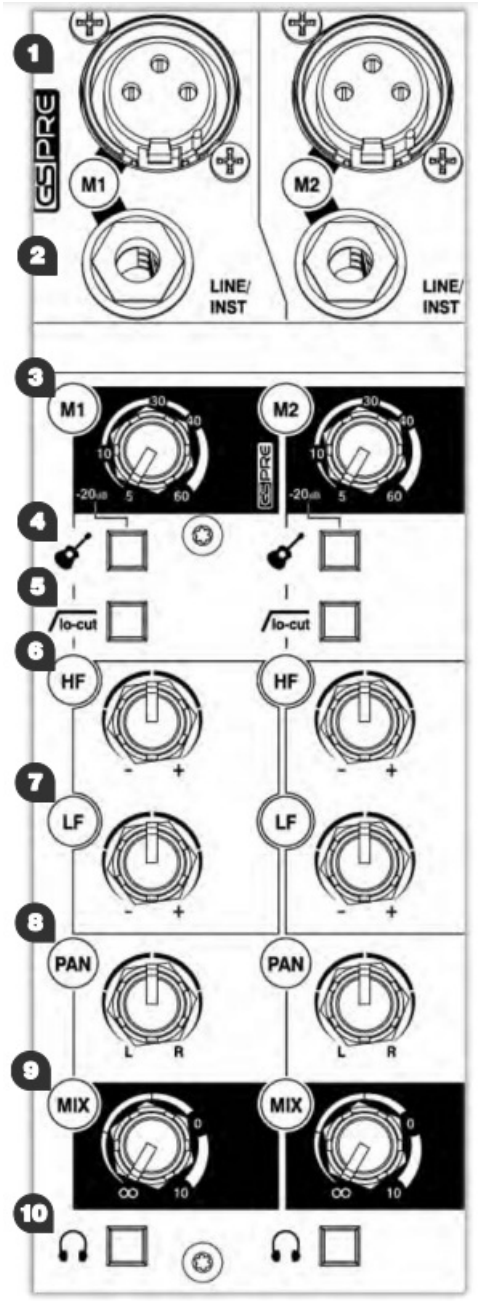
Thank you for purchasing this Allen & Heath ZEDi-8.
We recommend that you read all of this user guide to get the best from your mixer and after reading, please keep this safe for future reference.
Included in this package is:

- ZEDi-8 Mixer
- IEC C5 Mains Power Cable. Please check correct mains plug is fitted for your country.
- This User Guide!



Get to know your mixer

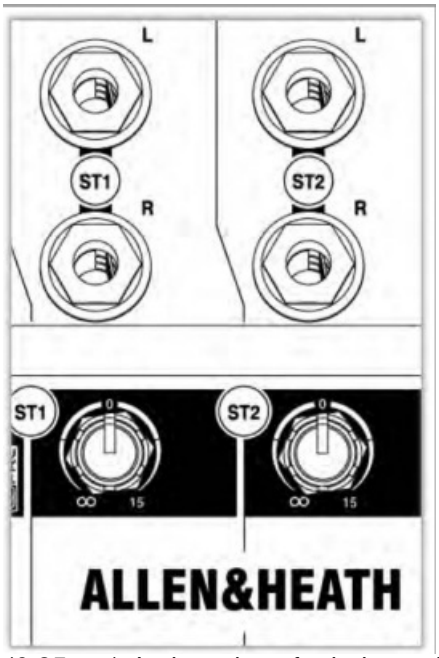
1.1 MONO INPUT CHANNELS (M)



1. Mic Input Socket uses a standard 3-Pin XLR socket for connecting dynamic or condenser microphones.
2. Line / Inst Input Socket uses a standard 1/4” (6.25mm) Jack socket for connecting balanced or unbalanced signals such as guitars and other instruments.
3. Gain Control adjusts the gain of the input preamplifier to drive the source signal level. Gain ranges from 5dB to 60dB.
4. The instrument activates the Line / Inst input circuit for electro-acoustic and electric guitars, basses, and other Direct Input instruments. When activated the Mic Input Socket is disabled.
5. lo-cut (Hi-Pass Filter) is used for reducing Low-Frequency noise such as handling noise, popping, rumble, and proximity effect in microphone signals.
6. HF EQ (High Frequency) equalizer affects treble frequencies in the signal for adding “brightness” and “definition” or for reducing “hiss” and “harshness”.
7. LF EQ (Low Frequency) equalizer affects bass frequencies in the signal to cover “boom” and “sub-bass” frequencies.
8. PAN adjusts the signal from a mono-input channel between the left and right busses and subsequently the main outputs.

9. MIX rotary fader controls the amount of signal to the left and right busses.
10. Pre-Fade Listen (PFL) switches the channel input signal to the headphones for checking before adding it to Mix. The PFL signal is taken after the EQ but before the MIX control.

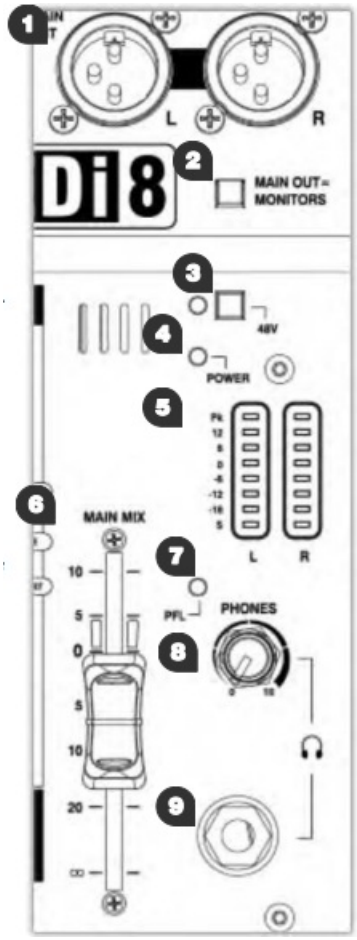
1.2 STEREO INPUT CHANNELS (ST)



ST1 and ST2 Inputs use standard 1/4" (6.25mm) Jack sockets for balanced or unbalanced line-level stereo sources such as professional keyboards, drum machines, and other pro audio equipment.
ST1 and ST2 Gain Control adjust the input level to the channel.
HF and LF EQ are the same for ST1 & ST2 as they are for M1 & M2 and are set at the same frequencies.
BAL adjusts the relative level between the left and right stereo signals as they are sent to the left and right busses and subsequently the main outputs.

1.3 MASTER SECTION

1.



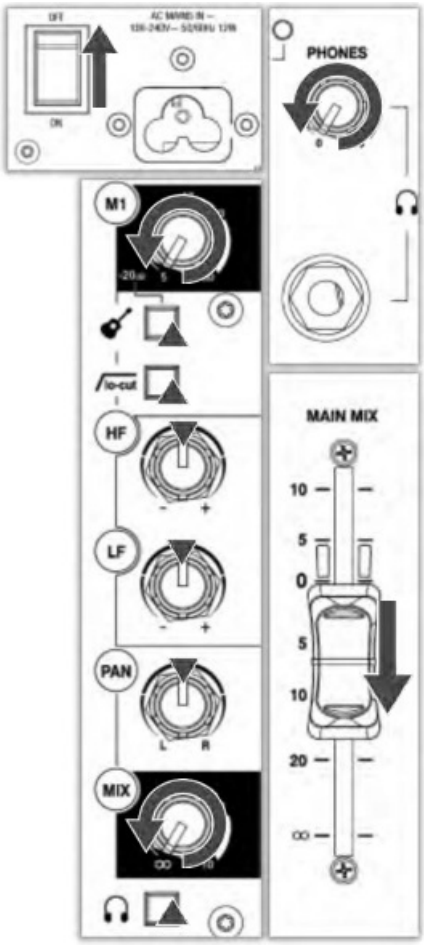
MAIN OUT L & R are line-level outputs for the main stereo mix using standard XLR output connectors and are impedance balanced for rejection of unwanted interference.

2. MAIN OUT = MONITORS switches the PFL signal to the MAIN OUT as well as the PHONES output for flexible monitoring of input signals through your speakers.
   This is mainly for studio control room monitoring applications.
3. 48V switches industry-standard 48V (phantom power) to both microphone inputs for use with condenser microphones.
4. POWER LED indicates that the mixer is switched on.
5. LR Meters display the level of the MAIN MIX or the mono PFL signal if activated by any of the PFL switches.
6. MAIN MIX is the master volume control for the main stereo mix.
7. PDF (Pre-Fade Listen) LED indicates when a PFL switch has been pressed on one of the channels.
8. PHONES level controls the volume of signal to the PHONES output.
   Warning! To avoid damage to your hearing do not operate headphones or sound system at excessively high volume. Continued exposure to high-volume sound can cause frequency-selective or wide-range hearing loss!
   !
9. PHONES output uses a standard 1/4” (6.25mm) jack socket.

Good practice

2.1 “Zeroing”

It’s good practice to “zero” your mixer and turn down relevant channels before connecting any devices as this prevents potential damage to speakers or other equipment.
Follow these steps to make sure you’re safe and you avoid thumps and bangs when plugging equipment in.
Speakers should always be switched ON LAST and OFF FIRST!

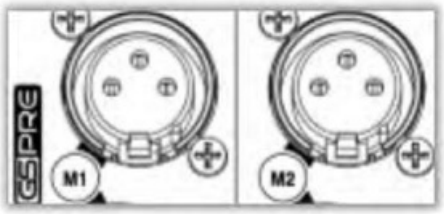


1. Make sure the power switch on the rear of the mixer is set to “OFF”
2. Connect the AC Mains Lead provided to the AC MAINS IN socket on the rear of the mixer. Check that the correct mains plug is fitted for your country and plug the AC Mains Lea into a standard household mains socket.
3. Turn channel Gain controls all the way down (left).
4. Make sure Instrument, HPF, PFL, and 48V switches are not pressed in.
5. Set all channel EQ and PAN controls to the center position marked “▼”
6. Turn all FX send, AUX send, and MIX controls all the way down (left).
7. Lower the MAIN MIX fader to “∞”.
8. Turn down the phone level.
9. Double check speakers or amplifiers are switched off!
10. Connect speakers, instruments, and other equipment.
11. Switch on instruments and other equipment, then the mixer, then the speakers!

Speaker or amp volumes should be set according to manufacturer guidelines. !

Connect mics, instruments and other equipment

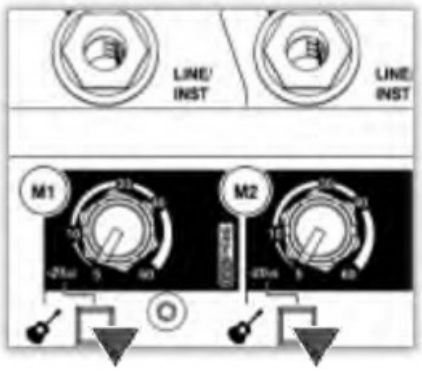
3.1 Connecting Microphones



Dynamic or condenser microphones and DI boxes should be connected to the Mic Input Socket using a balanced XLR Microphone cable.
If you‘re using a condenser microphone, it will require 48V Phantom Power to work. Some active DI boxes may also require phantom power.

Avoid ‘hot plugging’ when connecting any equipment and make sure AUX MASTER and MAIN MIX controls are turned down before 48V is switched on as this as may cause loud thumps and bangs!

3.2 Connecting Instruments and Line-Level Equipment
High-Impedance (Hi-Z) instruments such as electro-acoustic guitars, basses and other Direct Input instruments should be connected to Line / Inst Inputs on channels M1 & M2 using a jack-to-jack instrument cable, and do not require an additional DI box or preamp.

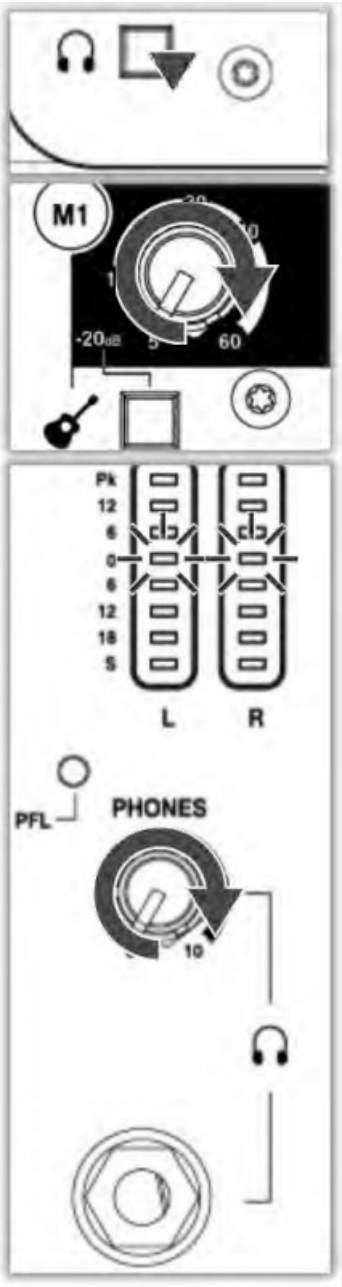


The Instrument switch must be activated to match extremely high impedance signals (10MΩ) from instrument pickups.
Line-level instruments such as keyboards, synthesizers, drum machines or equipment such as external effect processors can be connected to Line / Inst Inputs on channels M1 & M2, and LINE inputs on M3 & M4 for mono sources or ST1 & ST2 for stereo sources.
For channels M3 & M4 the LINE/PAD switch must be activated.
Follow the application examples in Section 7. for connecting devices to relevant input and outputs.

Get the best sound

4.1 Gain Structure

1.



Once you've connected your instruments and equipment you will need to set input levels before you can mix the signals together.

2. Gain structure is important to get the maximum signal level without undesirable distortion. Setting gain properly helps to optimize signal quality and ensure that the signal-to-noise ratio remains as low as possible.
3. If you're using a microphone make sure the mic is placed at an appropriate distance to the sound source. (Close for quiet sources, further away for louder).
4. Press the PFL switch on the corresponding channel. This will allow you to hear the pre-fader input signal and will show the signal level on the LR Meters.
5. Sing, talk or play your instrument at a typical level of loudness.
6. Slowly raise the Gain Control on the corresponding channel until you see a good signal level in the LR Meters. Maximum peaks between "0" and "+6" on the meters are a good indicator.
7. Connect professional monitoring headphones to the Phones output and turn up the phone level to a safe listening volume. !
8. If the signal sounds undesirably distorted at a low signal level, enable any pad switch on the microphone, or move the microphone further away from the source and repeat the process. Once you're happy with the input signal level, you may wish to use lo-cut (Hi-pass Filter) and the EQ to enhance intelligibility or to remove

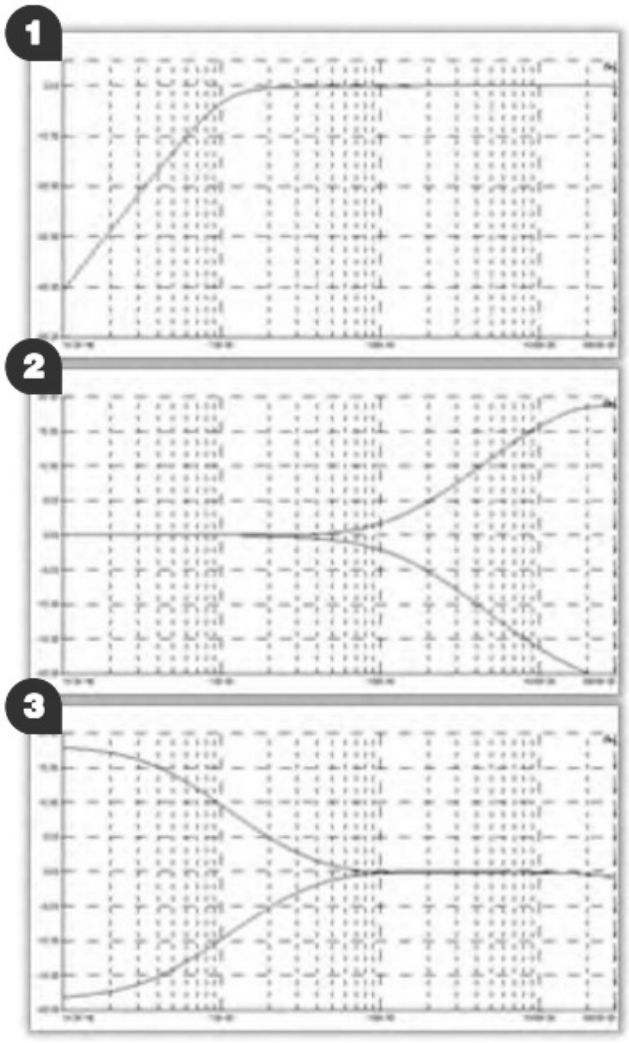
unwanted frequencies, and improve the tonal balance of the source sound, so keep the channel PFL switch enabled for now!

Section 4. continued overleaf…

4.2 Shaping Sound

EQ filters audio passing through it and allows you to ‘cut’ (turn down) or ‘boost’ (turn up) selected frequencies. ‘Boosting’ a frequency too much may cause the signal to clip or distort. ‘Cutting’ a frequency will cause a reduction in signal level.

Overuse of EQ may cause the sound to be unnatural. Understanding the frequency responses of different instruments and how they might overlap will help you make good decisions on how to EQ musically.

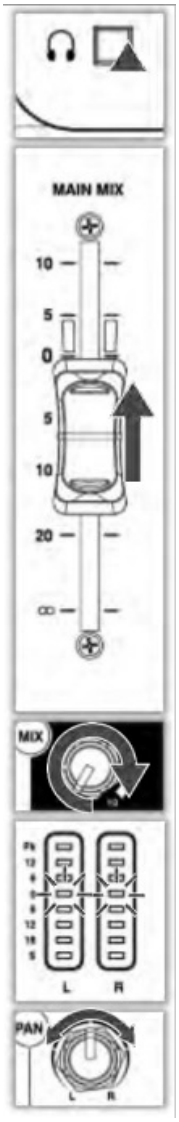


1. lo-cut (Hi-pass Filter) removes unwanted low-frequency noise such as rumble, handling noise, thumps, and proximity effect and helps maintain clarity in the signal. lo-cut affects both Mic and Line/Inst inputs. The corner frequency is set at 100Hz.
2. HF EQ (High Frequency) affects treble frequencies in the signal. The corner frequency is at 12kHz for adding “brightness” and “definition” to guitars or for reducing “hiss” in vocals and “harshness” in cymbals.
3. LF EQ (Low Frequency) equalizer affects bass frequencies in the signal. The corner frequency is 80Hz for adding “roundness” and “sub-bass” to the bass guitar or kick drum or to remove “boom” from toms.

When you’re happy with the input signal level and tone you can disable the channel’s PFL switch and think about how to mix all these sounds together!

4.3 Balancing the Mix

Once you have set input gain levels and applied EQ to source signals, you can start to mix all of your channels to the outputs. Consider the importance of each instrument and how it should be heard in the mix.

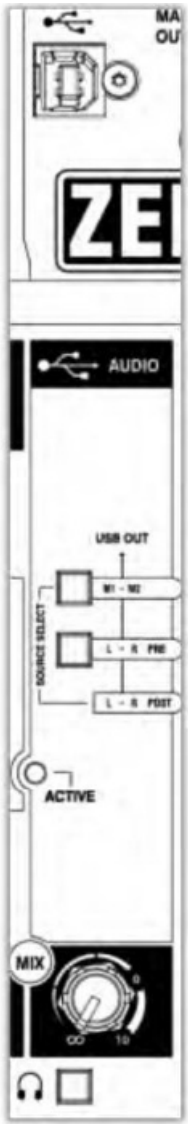


1. Make sure all PFL switches on your mixer are disabled to show MAIN MIX metering in LR Meters.
2. Slowly raise the MAIN MIX fader to around “0”.
3. Turn up channel MIX controls to send their signal to the main mix.
4. You will see the signal level displayed in the LR Meters.
5. As you mix the signals together you will see the combined level getting higher in the meters.
6. Avoid clipping and leave headroom for any louder moments in the program material.
   Average peaks around “ 0” on the meters are a good indicator.
   Maintain a natural sounding balance and relationship between voices and instruments.
   i.e. which instruments should be heard more clearly over others.
   If you find that MIX controls are turned up very high and the signal is still low, or MIX control is very low but the signal is too high, readjust channel Gain and EQ controls to improve gain structure and tone (see section 6.1)
7. Use PAN and balance to separate sounds and give instruments space in the mix or a realistic impression of where they might sit in the stereo image.
   Ideally, high-energy LF sounds such as kick drums should be kept centered to distribute them evenly and Share the load between speakers.

ZEDi USB Audio Interface

5.1 USB AUDIO INTERFACE

A built-in 2 in, 2 out, 24-bit/96kHz USB Audio Interface allows for studio-quality recording direct from your mixer to your PC without the need of any additional equipment. This is class-compliant (plug-and-play) for Mac and iOS devices. (iOS devices require a camera connection kit).
Simply connect a USB cable between the USB port on the mixer and the USB port on your computer or device. For Windows systems, driver software must be installed in order for it to work. The latest driver software and documentation can be found at **http://www.allen-heath.com/downloads**



1. The USB connector is a Type-B USB connector for multi-channel bi-directional audio streaming between the mixer and a computer and follows the high-speed USB 2.0 standard.
2. USB OUT SOURCE SELECT buttons allow you to choose where the signal to the outputs of the USB interface output is taken from.
3. M1- M2 selects the USB OUT source from channels M1 & M2 directly and has priority over the L-R PRE source select switch.
4. L-R PRE selects the USB OUT source to be before (pre) the MAIN MIX fader for recording the LR stereo mix without the signal level being affected by any MAIN MIX
   fader adjustments.
5. If neither of these buttons are selected the USB OUT is after (post) MAIN MIX fader and so the signal level will be affected by any MAIN MIX fader adjustment.
6. ACTIVE LED indicates that the USB Audio Interface driver is engaged by a software application.

7. MIX rotary fader controls the volume of the USB IN signal into the MAIN MIX.
8. PFL switches the USB IN signal to the PHONES output and MAIN OUT if MAIN OUT = MONITORS is selected.

5.2 Troubleshooting USB Audio Interface problems

Playback and recording problems when using the ZEDi USB Audio Interface can be avoided by following the steps below:

Minimum System Requirements: Ensure that your PC exceeds the Minimum System Requirements of the Digital Audio Workstation software that you are using to guarantee reliable performance and recording without pops, clicks, dropouts, or distortion in audio.

Latest Driver Software: For Windows systems, it's best to have the latest driver software installed. Go to **http://www.allen-heath.com/downloads** for the latest driver software and documentation.

Audio Buffer Size: The audio buffer setting helps avoid pops, clicks, and dropouts by processing audio in blocks, but can also cause latency, a delay in the time it takes for the audio to be processed and recorded or played back. Ideally, the buffer size should be set as low as possible to minimize latency, whilst avoiding pops, clicks, and dropouts.

USB Hubs: Sharing USB ports via a hub may cause a reduction in the USB bandwidth available to the Audio Interface. It's best to connect audio interfaces directly to the USB port on your PC.

Ground Loops and Hum: Mains Ground Loops that cause low-frequency noise or hum between audio devices can be avoided by powering devices from the same mains outlet via a suitable multi-socket extension. If you're still experiencing this try disconnecting your laptop power supply as they are commonly the cause. Where possible, using
balanced audio cables will also help.

Feedback Loops: It's possible to create an internal feedback loop between the mixer and DAW software when recording the L-R stereo mix. Beware of returning monitoring signals from your DAW to the mix as the feedback can build up very quickly and potentially damage speakers or other equipment. Either mute the record-enabled channels in the DAW or turn down the MIX control on the USB IN channel and use PFL to monitor the signal from the DAW.


!

Important Safety Precautions

Water and moisture:
Do not expose the mixer to rain or moisture or use it in damp or wet conditions.
Do not place containers of liquids on it that might spill into any openings.

Ventilation:
Do not obstruct the ventilation slots or position the mixer where the airflow required for ventilation is impeded.
If the mixer is to be placed in a rack unit or flight case ensure that it is well-ventilated.

Heat and vibration:
Do not place the mixer where it is subject to excessive heat or direct sunlight.
Keep the mixer away from any equipment which produces excessive heat or vibration.

Servicing:
Switch off equipment and unplug the power cord immediately if it is exposed to moisture, spilled liquid, or objects falling into the openings, if the power cord or plug has become damaged, during lightning storms, or if smoke, odor or abnormal noise is noticed. Refer servicing to qualified technical personnel only.

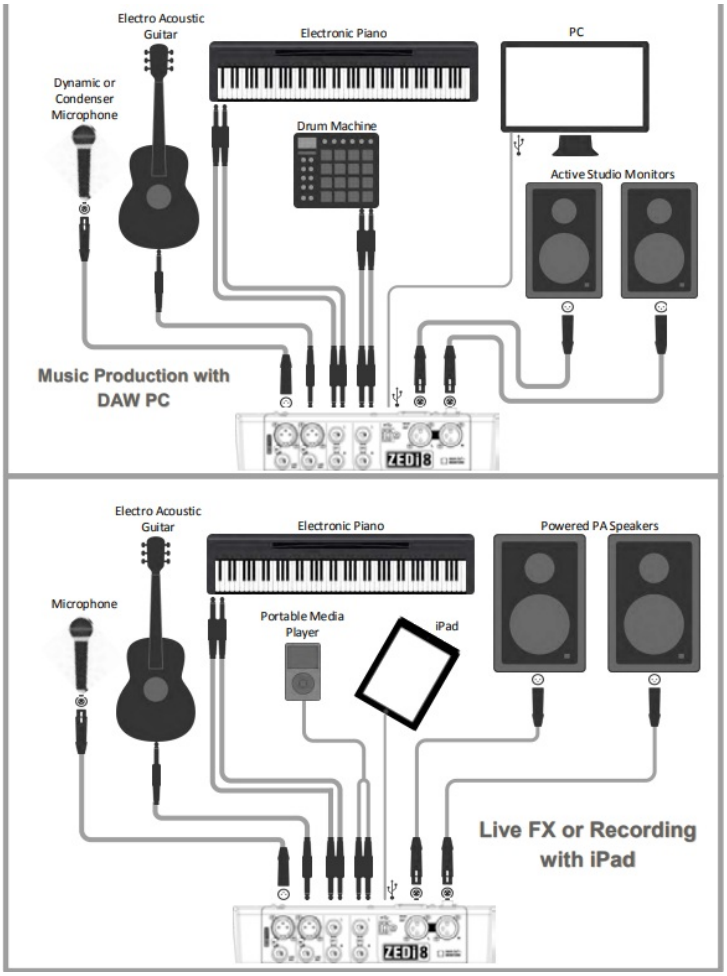
Installation:
Install the mixer in accordance with the instructions printed in this User Guide.
Do not connect the output of the power amplifiers directly to the mixer.
Only use audio connectors and plugs for their intended purpose.

Read instructions:
Retain this safety and operating instructions for future reference.
Adhere to all warnings printed here and on the mixer and follow the operating instructions printed in this User Guide.

Do not remove the cover:
Never operate the mixer if the cover is not correctly fitted.

Power sources:
Only connect the console to the main power of the type described in this User Guide and marked on the rear panel.
Use a power cord with a sealed mains plug appropriate for your local mains supply as provided with the mixer.
If the provided plug does not fit into the mains of your outlet consult your service agent for assistance.
Power cord routing:
Run the power cord so that it is out of the way and not likely to be walked on, stretched or pinched by items placed upon or against it.
Grounding:
Never remove or tamper with the ground connection or polarity in the power cord.

Application examples



Additional information

For all additional information such as hardware specification, product information or technical support please go to
http://www.allen-heath.com
A limited one year manufacturer's warranty applies to this product, the conditions of the warranty can be found at
http://www.allen-heath.com/legal
For service or support in your local area please go to
http://www.allen-heath.com/where-to-buy and search for the country you are in.
Please register this product at http://www.allen-heath.com/register to receive useful information from time to time.

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Allen & Heath Limited, Kernick Industrial Estate, Penryn, Cornwall, TR10 9LU, UK

Documents / Resources

	ALLEN HEATH ZEDi-8 8 Channel Live and Recording Mixer [pdf] User Guide ZEDi-8, 8 Channel Live and Recording Mixer, ZEDi-8 8 Channel Live and Recording Mixer, Live and Recording Mixer, Recording Mixer, Mixer

References

- & Allen & Heath | World-Class Mixing
- & Legal | Allen & Heath
- & Where to buy | Allen & Heath