FITNESS AUDIO

Smart Limiter

Sound Pressure Limiter

Operation manual



DESIGNED IN AUSTRALIA
EXPORTED TO THE WORLD

Digital Automatic Sound Pressure Limiter

Thank you for purchasing the Fitness Audio Sound Level Monitor. This new generation monitor continues the legacy of the Trigger LM-30, redesigned from the ground up with modern technology and improved accuracy. It is an SPL (Sound Pressure Level) measuring device made for and marketed by Fitness Audio. The monitor provides the answer to the “How Loud is Too Loud?” question for all fitness club managements.

Sound levels will vary from instructor to instructor, with different class styles and the total number of bodies in the studio at the time, so sometimes the system has to be pushed harder for a full class but lowered for smaller groups. The only meaningful way of knowing where you are with regards to sound levels is to have a simple continuous visual guide—which is exactly what this monitor provides.

The new model features a high-quality, calibrated microphone for precise SPL measurement and a bright 4-inch color display driven by a powerful microprocessor, providing accurate and responsive sound level readings. It connects directly to Fitness Audio mixers or your chosen Automation System via a single Cat6 cable, supplying both SPL signal data and power for a clean and simple installation. Alternatively, it can be powered via USB when used as a standalone monitor.

What’s In the Box

- Smart Decibel Limiter
- USB C Cable (Power Supply not Included)
- 2 x Female RJ45 Connectors
- Surface Mount Box
- LINK Cable (For Fitness Audio Mixers)

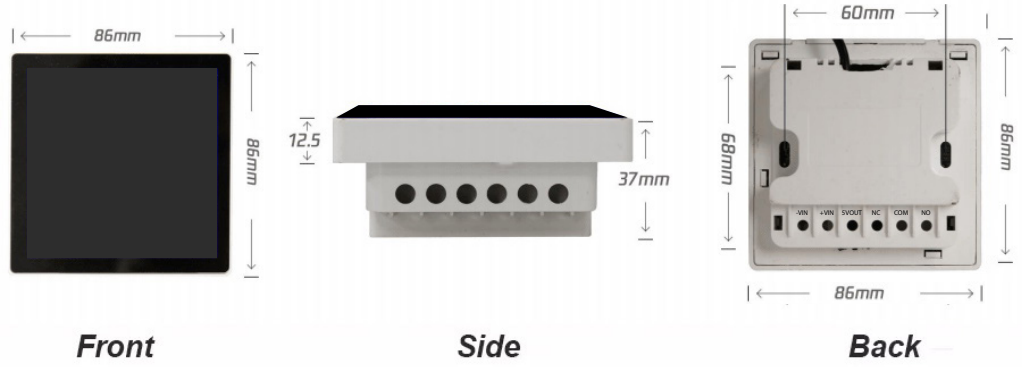
Using as a Standalone Sound Level Monitor

The Fitness Audio Sound Level Monitor can be used as a standalone SPL display when not connected to a Fitness Audio mixer. In this configuration, it is powered via its rear USB connection.

Mount the unit using either the supplied surface mount box (European Standard) or the optional flush-mounting box, depending on your installation preference. Once mounted, connect the right-angle USB cable (supplied) to the port on the back of the monitor, ensuring the cable exits neatly without strain.

Plug the other end of the USB cable into a standard USB power supply (not included) rated at 5V DC, capable of supplying at least 1A of current. Once power is applied, the monitor will start automatically and begin displaying the real-time sound level.

For best results, ensure the unit is mounted at least 2.5 metres from loudspeakers and away from direct air movement or vibration sources to maintain accurate readings.

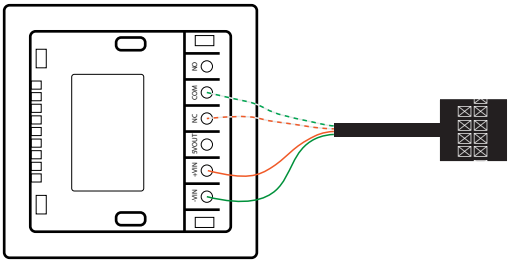


Wiring to the CAT6 Cable

When used with compatible Fitness Audio mixers, the Sound Level Monitor can be powered and connected using a standard Cat6 cable. The monitor comes prewired with a female RJ45 connector, allowing quick and secure installation.

The Cat6 cable must be wired as follows:

Solid Green	–VIN (Power Ground)
Solid Orange	+VIN (Power +5V)
Orange/White	NC (Normally Closed)
Green/White	COM (Common Contact)



All further instructions regarding mixer connections in this manual assume the Sound Level Monitor is wired using the above configuration. The unused wire pairs within the Cat6 cable are not required for operation and may be trimmed or cut off to simplify installation.

Once connected, the Cat6 cable provides both power and signal communication between the Fitness Audio mixer and the Sound Level Monitor, ensuring a clean and reliable setup with no need for a separate power supply.

Wiring to the Fitness Audio Mini Mixer

When connecting the Sound Level Monitor to a Fitness Audio Mini Mixer, use the provided RJ45 Female Connector. On the rear of the Mini Mixer, locate the green terminal connectors and wire as follows:

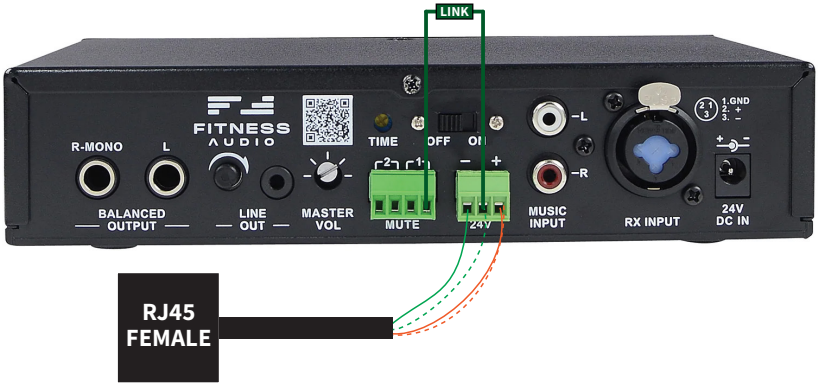
Green/White ---------- Middle Terminal on 24v Block

Solid Green ———— –24V

Solid Orange ———— +24V
Orange/White ---------- +24V

Add a LINK WIRE between the middle terminal on the 24V Block and the 1 Terminal on the Mute Block. The LINK WIRE is included.

This configuration provides both power and communication between the Mini Mixer and the Sound Level Monitor, allowing the monitor to monitor and reduce levels in real time. Once the connections are made, the unit will power up automatically when the mixer is switched on. Ensure all wiring is secure and that the cable is neatly routed to prevent strain or damage.



How to Enable Sound Limiting (Audio Slap)

The Fitness Audio Mini Mixer in conjuction with the Smart Limiter can provide a 15dB Audio Slap when the audio exceeds the set threshhold. Before configuring please make sure the cabling is connected as above with the LINK cable in place as pictured.

1. Turn the Off / On Switch to the “On” Position
2. Adjust the Time trim pot (Anti-Clockwise = Long Slap - Clockwise = Short Slap)
3. Set the Decibel Limit on the Smart Decibel Limiter

When the Decibel Limiter hits the limit and displays “WARNING” it will begin the grace time countdown, once the countdown has completed and if the audio is still above the limit it will display “LIMITING”. This will immediately start limiting the audio for the time threshold

Wiring to the Fitness Audio 2+2SR Mixer

When connecting the Sound Level Monitor to a Fitness Audio 2+2 Mixer, use the provided RJ45 Female Connector. On the rear of the Mini Mixer, locate the green terminal connectors and wire as follows:

Green/White ---------- Middle Terminal on 24v Block

Solid Green ———— –24V

Solid Orange ———— +24V
Orange/White ---------- +24V

Add a LINK WIRE between the middle terminal on the 24V Block and the 1 Terminal on the Mute Block. The LINK WIRE is included.

This configuration provides both power and communication between the Mini Mixer and the Sound Level Monitor, allowing the monitor to monitor and reduce levels in real time. Once the connections are made, the unit will power up automatically when the mixer is switched on. Ensure all wiring is secure and that the cable is neatly routed to prevent strain or damage.



How to Enable Sound Limiting (Audio Slap)

The Fitness Audio 2+2SR in conjuction with the Smart Limiter can provide a 15dB reduction to the audio level when you exceed the set threshhold. Before configuring please make sure the cabling is connected as above with the LINK cable in place as pictured.

1. Turn the Off / On Switch to the “On” Position
2. Adjust the Time trim pot (Anti-Clockwise = Long Slap - Clockwise = Short Slap)
3. Set the Decibel Limit on the Smart Decibel Limiter

When the Decibel Limiter hits the limit it will begin the grace time countdown, once the countdown has completed and if the audio is still above the limit it will display “LIMITING”. This will immediately start limiting the audio for the time threshold

Wiring to the Fitness Audio 3+5LS Mixer

When connecting the Sound Level Monitor to a Fitness Audio 2+2 Mixer, use the provided RJ45 Female Connector. On the rear of the Mini Mixer, locate the green terminal connectors and wire as follows:

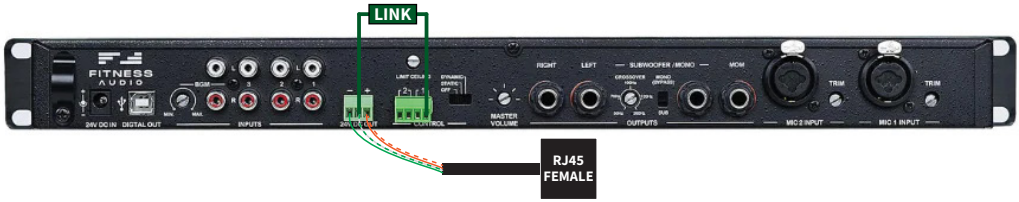
Green/White ---------- Middle Terminal on 24v Block

Solid Green ———— –24V

Solid Orange ———— +24V
Orange/White ---------- +24V

Add a LINK WIRE between the middle terminal on the 24V Block and the 1 Terminal on the Mute Block. The LINK WIRE is included.

This configuration provides both power and communication between the Mini Mixer and the Sound Level Monitor, allowing the monitor to monitor and reduce levels in real time. Once the connections are made, the unit will power up automatically when the mixer is switched on. Ensure all wiring is secure and that the cable is neatly routed to prevent strain or damage.



How to Enable Dynamic Sound Limiting

The Fitness 3+5LS Mixer in conjuction with the Smart Limiter can provide dynamic audio limiting when you exceed the set threshhold. Before configuring please make sure the cabling is connected as above with the LINK cable in place as pictured.

Calibration

1. Change the audio limit selector switch to “STATIC”
2. Play music until it is just above the dB level required
3. Adjust the Limit trim pot until you see the “Limiting” light come on the front
4. Test it by turning the music volume up, it should not be increasing

Enable Dynamic Limiting

1. Once you have finished calibration, change the audio limit selector switch to “DYNAMIC”
2. Set the Decibel Limit on the Smart Decibel Limiter

When the Decibel Limiter hits the limit it will begin the grace time countdown, once the countdown has completed and if the audio is still above the limit it will display “LIMITING”. This will immediately start limiting the audio for the time threshold.

Using the Smart Limiter

Setting Limits

Grace Time

Recovery Time

Setting Pin Code

Resetting Pin Code