

Sound Excellence

ENG-44A Field Mixer

Operation Manual



4 input stereo mixer for field production

- 4 XLR inputs
 - Each XLR input is transformer isolated
 - Phantom power is selectable for each XLR input
 - Switchable low cut filter on each XLR input
 - Each XLR input assignable to left or right out
- Aux. Input
- Tape return input
- 1 kHz. Tone Oscillator
- Slate microphone
- Boom operator headphone output
- Limiter
- 2 XLR outputs (switchable line/mic)
- 2 1/8" outputs; Line level and microphone level
- 14 hour battery life (4 x AA cells)
- 2.2 lbs with batteries (batteries not included)
- Can be externally powered by 9-18v DC supply (not included)
- Made in USA

Safety Warning

Protect your ears. Always turn down the headphone volume before you connect your headphones and before you put on your headphones. When using the headphones, set headphone volume to the lowest practical level to guard against sudden loud noises or other changes in the sound level of the audio environment. Excessive headphone volume may be damaging to your hearing.

Read this manual in its entirety before using or operating this product.

FCC Notice

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 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

Note also that changes or modifications to this equipment not expressly approved by Sound Excellence LLC could void your legal authority to operate this equipment .

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conformé à la norme NMB-003 du Canada.

ONE YEAR LIMITED WARRANTY

Sound Excellence LLC warrants this product (including accompanying accessories) and all parts thereof, except as set forth below, for a period of one year from the original date of purchase. Should the product be found to be defective, Sound Excellence LLC will repair or replace the product at no charge.

To obtain warranty service, telephone one of the numbers below or log on to www.SoundExcellence.com to obtain the current telephone number for warranty repair.

The duration of any implied warranties is limited to the duration of the express warranty herein. This warranty does not cover cosmetic damage or damage due to acts of god, accident, misuse, abuse, alteration, negligence, improper installation, tampering, criminal acts, negligence, lack of reasonable care, or if serviced or repaired by anyone other than Sound Excellence LLC or a repair facility authorized by Sound Excellence LLC

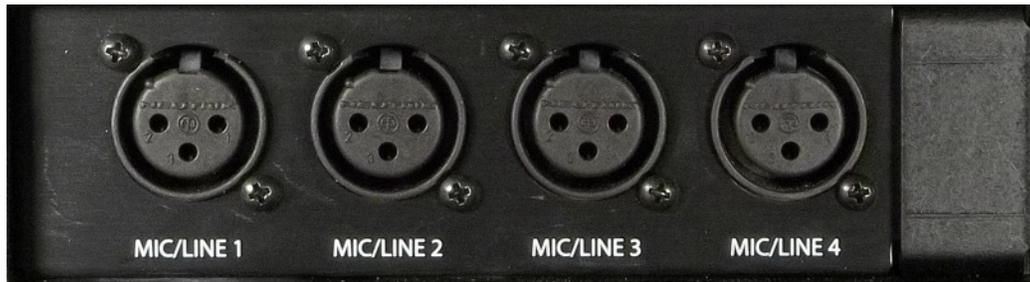
Sound Excellence LLC shall not be liable for any loss of use, or incidental or consequential damages resulting from the use of this product or the failure or inoperability of this product in any respect, including from any cause whatsoever, or from breach of any express or implied warranty. In no event shall Sound Excellence LLC be liable for any amount in excess of the purchase price paid for the product, except to the extent prohibited by applicable law.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or permit limitations on how long an implied warranty lasts, so these exclusions and limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



Front Panel

1. **CH 1 - CH 4 Gain Controls** Individual gain controls for each of the four input audio channels, marked 1-4. Gain controls are also known as faders or level controls .
2. **Master Gain Control** Controls overall gain.
3. **FLAT /Low Cut Filter Switches** Switches for each of the four input channels select between flat (no filter) and 150 Hz roll off (attenuates audio in frequencies below 150 Hz). Use to reduce wind noise or other low frequency noise.
4. **Pan Selectors** Slide switches for each of the four input channels assign each input to either the left, right or both audio channels. (Select C position for both channels to place the audio in the center).
5. **LED Audio VU Meter** Two rows of LEDs light in progression to indicate level for both right and left audio channels. Use VU Meter Intensity Switch on the underside of the unit to select HIGH for high visibility outdoors or select LOW to conserve battery life.
6. **Other LED Indicators**
 - LIM Output Limiter** LIM lights when limiter is triggered by audio level beyond a specified threshold which has been preset at the factory. The limiters compress the audio when this threshold is reached to prevent overload. See instructions for adjusting the threshold on page 7.
 - Power EXT** lights automatically when external power is being used.
 - Power BAT** lights automatically when battery power is being used.
 - Low Battery Warning** BAT flashes when battery needs to be replaced. Prior to this BAT will flash on audio peaks to offer early warning.
- NOTE:** The unit is reverse voltage protected. No permanent damage can be sustained from reverse voltage.
7. **Reference Tone** Switch from MIX to TONE to generate 1KHz reference tone.
8. **Slate** Momentary push button activates slate mic located on front panel. Push and hold in while verbally identifying the audio take. Release to deactivate slate mic and continue with the take.
9. **Head Phone Jack** 1/8" jack for operator head phone monitoring. (Note that there is a separate XLR head phone jack for boom operator on the right panel.) Turn down headphone level control before connecting or putting on headphones.
10. **Head Phone Level Control** Adjusts head phone volume for both mixer operator and boom mic operator. Reduce volume before putting on headphones to protect your hearing. Use at lowest practical level to protect your hearing.
11. **Tape Return Selector** Select TAPE RETURN to monitor audio from video camera, or other device plugged into the TAPE RTN IN on right side. Select MIX to monitor mixer output.
12. **Strap Ear** Adjustable shoulder strap (included) attaches to these metal ears. These may also protect the front panel from damage.



Left Panel

MIC/LINE XLR Inputs Channel 1 through 4 XLR transformer balanced audio inputs. Use individual selector switches located on the underside panel of the unit to choose mic/line level for each input and to activate/ deactivate +48 volt phantom power for each input. For any given input, turn off phantom power if not specifically required by the microphone in use (using the switch on the underside of the unit).

These XLR connectors are wired as follows:

- Pin 1:** Ground (shield)
- Pin 2:** Hot (in phase)
- Pin 3:** Cold (out of phase)

Phantom power for these XLR connectors is wired in the following manner:

- Pin 1:** Ground
- Pins 2 & 3:** carry 48 volts DC through 6.81K resistors when the particular input is switched to phantom power using the corresponding switch on the underside of the product.



Right Panel

1. Boom Headphone Out XLR audio output for boom operator head phone monitoring. XLR output allows use of cable with XLR connectors rather than one with 1/4" connectors. Use a 1/4" adapter to connect to head phones. This way your spare XLR cable also serves as your spare boom operator cable, and you only need carry a small spare 1/4" adapter. NOTE: The single head phone level control adjusts volume for both the boom head phone out and the front panel head phone out.

This XLR connector is wired as follows:

- Pin 1:** Common ground
- Pin 2:** Headphone left audio
- Pin 3:** Headphone right audio

2. XLR Outputs Two balanced line level audio outputs. Use switch located on the underside panel of the unit to choose between mic and line level for both. When feeding unbalanced out from these connectors, avoid grounding a signal pin.

3. Line Out Line level 3.5 mm (1/8") unbalanced audio output jack. Use to feed audio to cameras that only provide a 3.5 mm audio input jack.

4. Mic Out Microphone level 3.5 mm (1/8") unbalanced audio output jack. Use to feed audio to cameras that only provide a mic level 3.5 mm audio input jack.

5. Auxiliary In 3.5 mm (1/8") unbalanced audio input jack. Goes directly to internal mix bus.

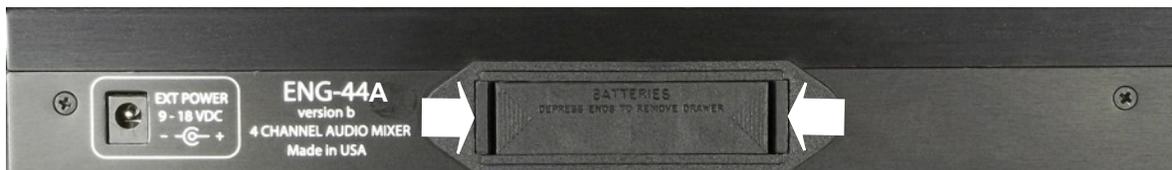
6. Tape Rtn In 3.5 mm (1/8") unbalanced audio input jack for connection to video camera, tape recorder or other audio device for monitoring purposes only.

7. Power on/off Switch



Underside Panel

1. **Mic/Line Input Switches** Individual switches for each input channel select between mic and line level in.
2. **Phantom Power Switches** Individual switches for each input channel activate/deactivate +48 Volt phantom power. Some microphones require phantom power to operate. However, do not apply phantom power except for microphones that are equipped to operate on phantom power. Check the microphone operating manual if you are not certain. For phantom power XLR connector wiring, see Right Panel section of this manual.
3. **VU Meter Intensity Switch** Controls brightness of VU meter LED display located on the front panel. Select HIGH for high visibility outdoors. Select LOW to conserve battery.
4. **Tape Return Level Control** Adjustable amplifiers allow matching to the vast majority of video cameras and other recording equipment for monitoring tape confidence heads. Use a small flat blade or phillips screwdriver to adjust the level for the best match. Many consumer/prosumer DV camcorders may not provide tape confidence heads. However, tape return is still valuable for checking for bad cable connections etc.
5. **Mic/Line Output Switches** One switch for both XLR outputs switches between mic and line level out.
6. **Feet** These are supplied to protect the unit from wear for table top use. If you wish to remove the feet, remove the feet and reinstall the existing screws.



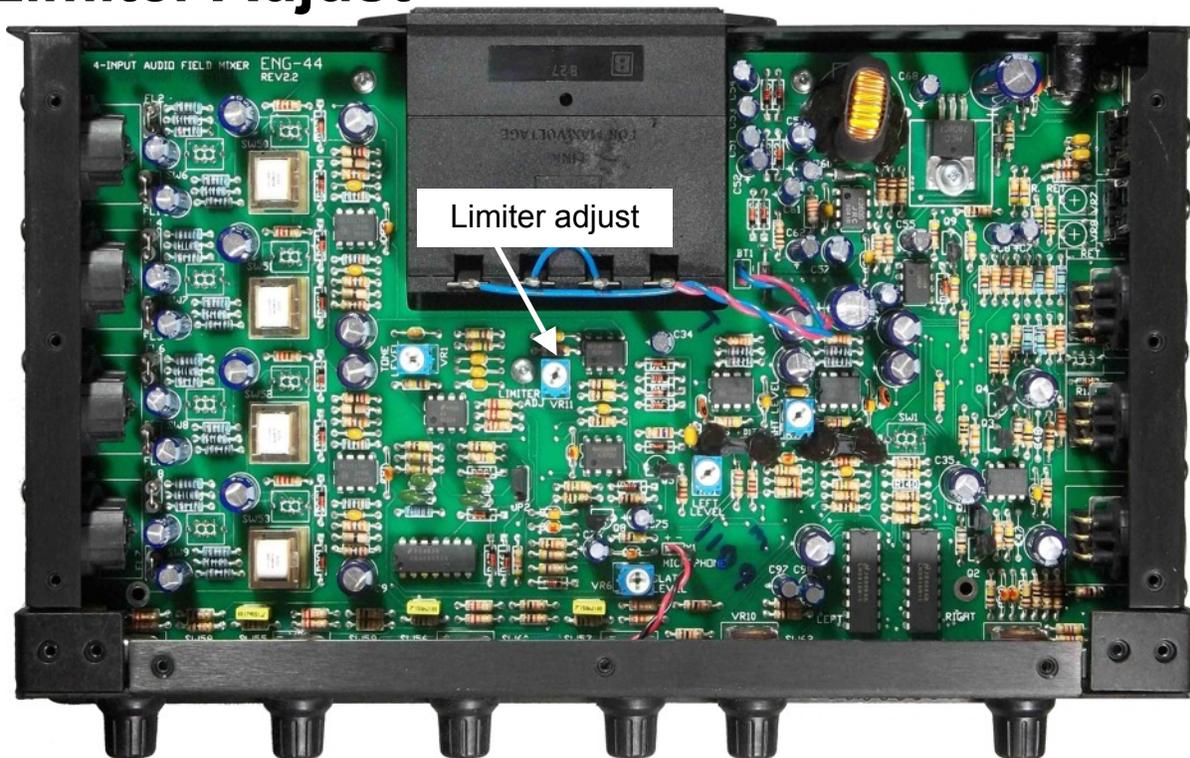
Rear Panel

1. External Power 2.1mm ID x 5.5mm OD external power jack. While this unit is designed to operate on battery power, this input allows the unit to also be powered from a wall power outlet by using an AC power adapter. Plug the AC power adapter itself into the wall outlet, then connect the AC adapter's low voltage DC output cord to this input jack. Note that power automatically switches to external when external power is supplied, and back to battery when external power is removed.

- The ENG-44A is protected against reverse polarity.
- The negative (-) side of the EXT POWER is connected to audio ground.

2. Battery Compartment Slide out drawer holds four AA batteries. To open drawer press inward on outside of both tabs as shown by the arrows.

Limiter Adjust



To set the limiter:

1. Remove the top cover.
2. Turn limiter pot fully CW.
3. Apply a signal to provide an output at the desired limiter threshold.
4. Turn limiter pot CCW until the LIM LED lights moderately.
5. Wait for 30 sec for the output to stabilize, readjust as required.

ENG-44A Specifications

Country of Manufacture:	USA
Input Impedance:	2K, transformer balanced
Output Impedance :	600 Ohms (both balanced and unbalanced line level outputs)
Frequency Response:	20Hz to 20kHz +/- 1.5dB
Distortion:	<.1% (1kHz @ 0dBu output)
Noise:	-126dBu EIN
Overall Gain:	66dB
0 VU Output:	0dBu (0.775 v rms)
Limiter Threshold:	+10dBu (internally adjustable)
Low Cut Filters:	-12 db at 60 Hz, -6db/octave roll off
Tone Oscillator:	1kHz
Aux Input:	Stereo 1/8" (3.5mm) jack; unbalanced line level, input impedance of 47K Ohms, AC coupled
Tape Return:	Stereo 1/8" (3.5mm) jack; input impedance 10K, Left/Right input levels independently adjustable
Headphone Outputs:	10 Ohms output impedance
Phantom Power:	+48VDC "48PH", individually switchable, 14mA maximum (total of all microphones)
Internal Power:	4X "AA" batteries; Alkaline (recommended) or rechargeable NiMH (charging unit not included)
Battery Life:	approximately 14 hours normal mixer operation
External Power:	9-18 VDC via 2.1 x 5.5mm coaxial power plug; center positive; input protected against reversed polarity.
Cabinet Finish	Black Anodized with white lettering
Size:	1.5"x10.5"x6.5" (HxWxD), exclusive of detachable strap "ears"
Weight:	2.25 lbs (1 .0kg) with alkaline batteries (not included)

Important!

NEVER leave batteries in the mixer. They WILL corrode and damage the battery box!

AC adapters are available at Radio Shack and by mail order from Fry's, Amazon.com, Mouser & Digikey. Any unit rated 9vdc with 2.1 x 5.5mm coaxial power plug; center positive will work. Multi-voltage units with several output plugs work well.