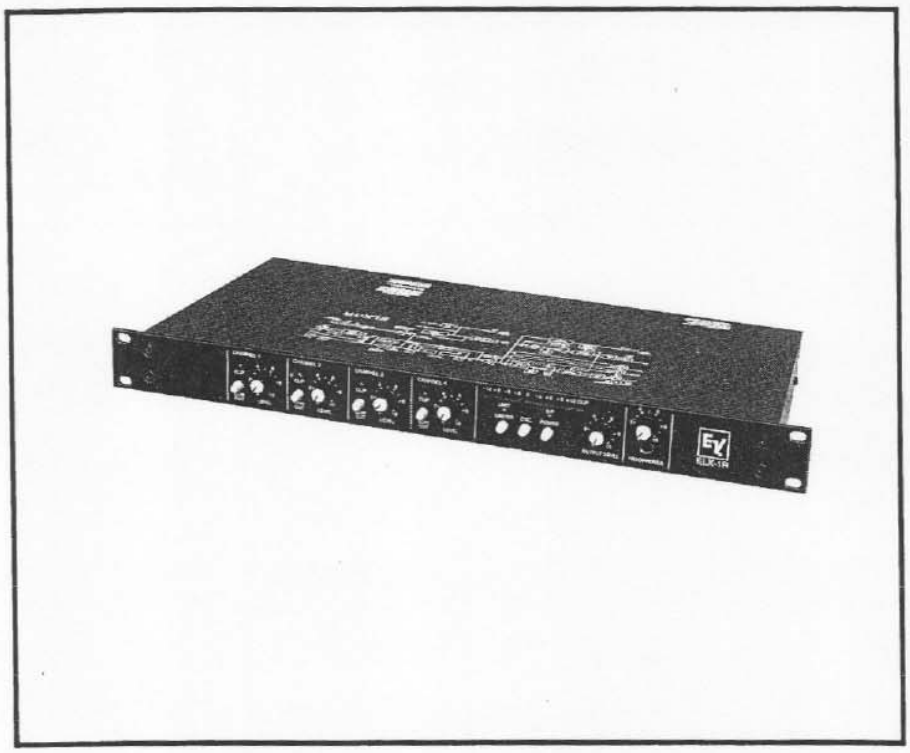


Electro-Voice®
a MARK IV company

# Model ELX-1R Rack-Mount Mic/Line Mixer

## GENERAL SPECIFICATIONS

**Frequency Response, Any Input to Any Output:**
30-20,000 Hz +0, −1 dB

**Total Harmonic Distortion, Any Output,**
**20-20,000 Hz at +4 dBu Output:**[1]
Less than 0.15%
**50-20,000 Hz at +18 dBu Output:**
Less than 0.15%

**Equivalent Input Noise (150-ohm source):**[2]
−129 dBu typical

**Output Noise, Inputs Down, Master as Indicated,**
**Master Down:**
Less than −80 dBu
**Master at Nominal:**
Less than −78 dBu
**Master Full Up:**
Less than −65 dBu

**Maximum Voltage Gain,**
**Mic Input to Main Output:**
91 dB typical
**Mic Input to Stack Output:**
63 dB typical

**Common-Mode Rejection:**
60 dB typical, 20-20,000 Hz

**Power Requirements:**
100-130 volts, 60 Hz, 12 watts maximum

**Colors, Materials, and Finishes,**
**Chassis:**
Dark-gray painted metal with white graphics
**Knobs:**
Black with light-gray inserts
**Switches:**
Light-gray

**Dimensions,**
**Height:**
4.45 cm (1.75 in.)
**Depth:**
20.96 cm (8.25 in.)
**Width:**
48.26 cm (19.0 in.)

**Net Weight:**
3.36 kg (7.40 lb)

**Shipping Weight:**
3.91 kg (8.63 lb)

1. 0 dBu is 0.775 volts rms sine wave. At the nominal load impedance of 600 ohms, dBu figures may also be read as dBm, a power measure where 0 dBm is 1m W into 600 ohms.
2. 20-20,000 Hz bandwidth, maximum gain.

For Input and Output Specifications see back page.

## DESCRIPTION

The Electro-Voice ELX-1R mixer is a compact, high-performance audio mixer designed for professional applications where clean audio and reliable operation are important. Features and performance make the ELX-1R ideally suited for broadcast and production recording applications. The ELX-1R can mount in a single rack space or set on any surface. Extensive rf filtering circuitry and shielding provides protection against rf interference.

## GENERAL FEATURES

- Optimum circuit design provides flat frequency response, low distortion, and low noise.
- Space-saving, compact design uses only one rack space (1.75 in.).
- Powerable from ac line or external dc source, with automatic switchover. Detachable line cord.
- Electro-Pulse™ indicator shows power status.
- Switchable low distortion 1-kHz sine-wave oscillator facilitates level calibration.
- Ten-segment, three-color PPM LED bargraph meter shows peak output level and has clip indicators. Can be converted internally to VU characteristics.
- Switchable output limiter prevents clipping. Yellow LED lights when limiting action occurs.

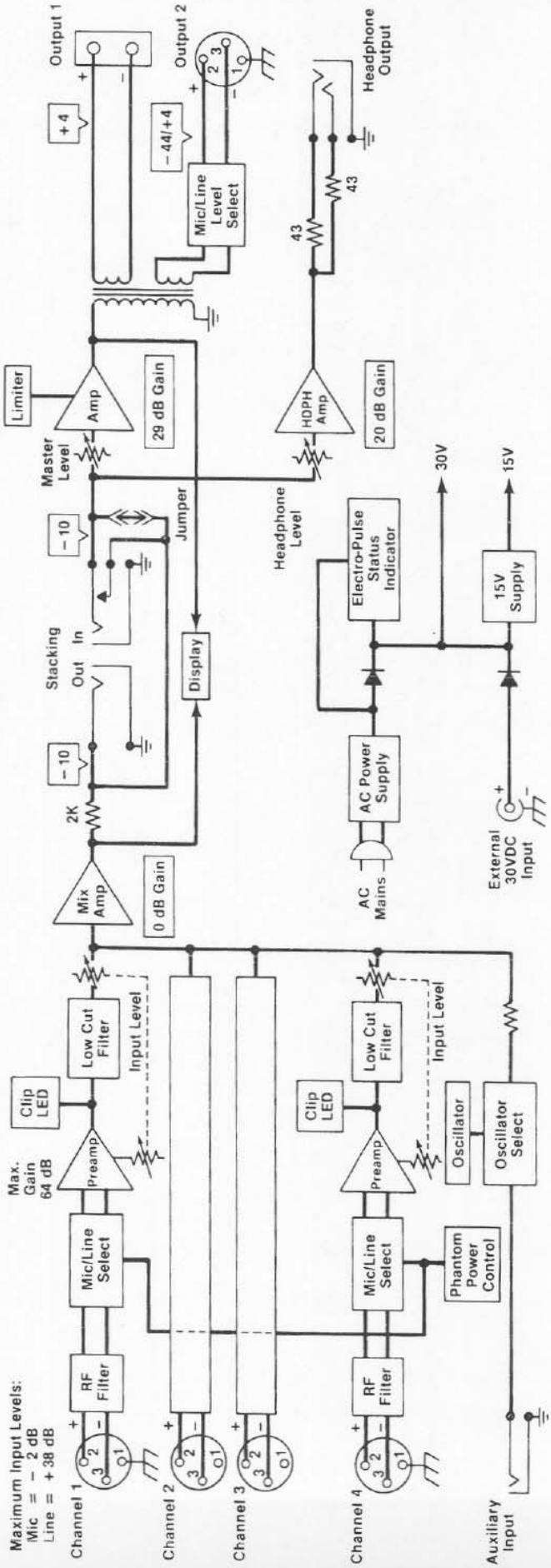
## INPUT SECTION FEATURES

- A single 3-pin XLR-type connector accepts microphone and line-level inputs via a mic/line switch.
- Circuitry incorporates rf filters and a balanced transformerless design for low distortion and high signal quality.
- Switchable 30-volt phantom power is available at microphone inputs.
- Input controls set gain of preamps for optimum noise performance with any input signal.
- LED indicator at each input lights if clipping occurs.
- Low-cut filters switchable at each input reduce low-frequency handling and background noise.

## OUTPUT SECTION FEATURES

- Transformer-isolated output with binding posts.

## BLOCK DIAGRAM



- Transformer-isolated output with 3-pin XLR-type connector and mic/line level select switch.
- Headphone output, with separate power amp and level control, can drive any headphones or cue speaker.
- Auxiliary input jack is for fifth input or for stacking additional mixers.
- Two stacking jacks are for interconnection with additional mixers, and can be modified for insert patching.

## CONNECTIONS

- All mic/line inputs have female 3-pin XLR-type connectors. Pin 2 is positive; pin 3 is negative.
- The transformer-isolated output has a male 3-pin XLR-type connector and dual binding posts.
- The headphone output is a three-connector ¼-inch phone jack.
- All other connections on the mixer are two-conductor ¼-inch phone jacks.
- All stacking and auxiliary are line-level inputs.

## ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The mixer shall have four transformerless balanced input channels with rear-mounted female 3-pin XLR-type connectors, switch selectable for microphone or line-level sources. Each input shall have the following front panel controls: LED clip indicator; low-cut filter switch with a 6 dB/octave filter slope at a corner frequency of 100 Hz; and a rotary level control. RF protection circuitry shall be incorporated into each balanced input. Each main input shall have 30 V dc remote microphone power applied to pins 2 and 3, with a rear-mounted master phantom power switch.

There shall be a ¼-inch phone jack auxiliary input with the signal from this jack provided to the mix buss. Stacking input and output ¼-inch phone jacks shall be provided for the mix buss.

There shall be a single monaural output. Output shall have a front panel rotary level control and a ten segment LED peak program meter. Output shall be transformer isolated with two secondary windings. Output connections shall be provided as follows: dual binding posts for a transformer-isolated output; male 3-pin XLR-type connector, switch selectable for a microphone or line-level transformer-isolated output.

A chassis-ground connection shall be provided on a rear mounted binding post.

A headphone level control and a three-conductor ¼-inch jack shall be provided on the front panel for headphones. The headphones shall monitor the mix buss prior to the output level control.

An internal oscillator with a front panel switch shall provide a 1-kHz sine-wave signal to the mix buss. Sine-wave distortion of the oscillator shall be <1.5%.

A limiter with a front panel switch shall be provided in the output amplifier circuitry after the output level control. Limiter threshold shall be +14 dBu. Front panel LED indicator shall light whenever limiting occurs.

A main power switch shall be located on the front panel. The mixer shall operate on 100-130 V ac, 60 Hz and consume less than 12 watts. The mixer shall also operate on 24-45 V dc external power accessible through a rear-mounted Switchcraft 722A-type connector, with a maximum external dc power draw of 100 mA. A removable power cord and rear-mounted IEC connector and fuse holder shall be provided for ac operation. A front panel LED indicator shall light steadily when ac power is applied and flash when dc power is applied, with the flash rate corresponding to the supply voltage. The mixer shall be operable over the temperature range of −20°C (−4°F) to 60°C (140°F).

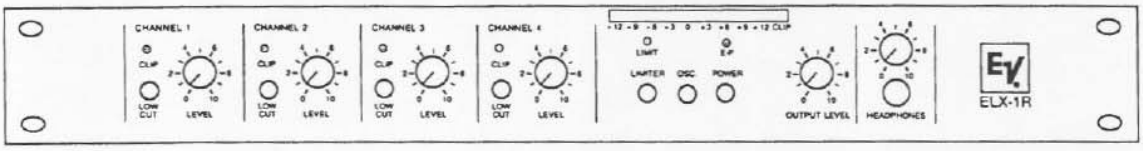
The mixer shall meet or exceed the following performance specifications: frequency response from any input to any output, 30 Hz to 20 kHz +0, −1 dB; total harmonic distortion of less than 0.15% 20 Hz to 20 kHz at +4 dBu output level and less than 0.15% 50 Hz to 20 kHz at +18 dBu output level; equivalent input noise of −129 dBu with 150-ohm source and maximum preamp gain; maximum voltage gain of 91 dB (microphone input to main output); and common-mode rejection of 60 dB at 20 Hz to 20 kHz. All switches shall be of a positive-action push-button type. The cabinet shall be made of black painted sheet metal with a dark-gray front panel, and have the following dimensions: height, 4.45 cm (1.75 in.); width, 48.26 cm (19.0 in.); depth, 20.96 cm (8.25 in.). The weight shall be 3.36 kg (7.40 pounds). The mixer shall be Electro-Voice model ELX-1R.

## WARRANTY (Limited)

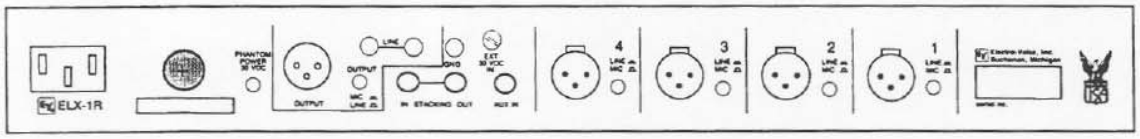
Electro-Voice Broadcast Electronic Components are guaranteed for two years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not extend to finish, appearance items or malfunction due to abuse or operation under other than specified conditions, nor does it extend to incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee. A list of authorized service centers is available from Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107 (AC/616-695-6831); Electro-Voice, Inc., 3810 148th Avenue N.E., Redmond, WA 98052 (AC/206-881-9555); and/or Electro-Voice West, 8234 Doe Avenue, Visalia, CA 93291 (AC/209-651-7777). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Service and repair address for this product: Electro-Voice, Inc., 3810 148th Avenue N.E., Redmond, WA 98052 (AC/206-881-9555).

Specifications subject to change without notice.




FRONT PANEL




REAR PANEL

## INPUT SPECIFICATIONS

Input Impedance,
- Mic:
  - 3,500 ohms
- Line:
  - 30,000 ohms
- Aux:
  - Stacking:
    - 2,000 ohms

Nominal Level,
- Mic:
  - −50 dBu
- Line:
  - −10 dBu
- Aux:
  - −10 dBu
- Stacking:
  - −10 dBu

Maximum Level,
- Mic:
  - −5 dBu
- Line:
  - +35 dBu
- Aux:
  - +18 dBu
- Stacking:
  - +18 dBu

## OUTPUT SPECIFICATIONS

Output Impedance,
- Main,
  - Binding Posts:
    - 60 ohms
  - XLR—Line Level:
    - 60 ohms
  - XLR—Mic Level:
    - 10 ohms
- Headphone:
  - 43 ohms left channel
  - 43 ohms right channel
- Stacking:
  - 2,000 ohms

Nominal Load Impedance,
- Main,
  - Binding Posts:
    - 600 ohms
  - XLR—Line Level:
    - 600 ohms
- Headphone:
  - 8-600 ohms left channel
  - 8-600 ohms right channel
- Stacking:
  - 2,000 ohms

Nominal Level,
- Main,
  - Binding Posts:
    - +4 dBu
  - XLR—Line Level:
    - +4 dBu
  - XLR—Mic Level:
    - −44 dBu
- Headphone,
  - 8-Ohm Load:
    - −11 dBu
  - 600-Ohm Load:
    - +4 dBu
- Stacking:
  - −10 dBu

Maximum Level,
- Main,
  - Binding Posts:
    - +18 dBu
  - XLR—Line Level:
    - +18 dBu
  - XLR—Mic Level:
    - −30 dBu
- Headphone,
  - 8-Ohm Load:
    - −1 dBu
  - 600-Ohm Load:
    - +18 dBu
- Stacking:
  - +12 dBu

**ELECTRO-VOICE, INC., 600 Cecil Street, Buchanan, Michigan 49107**
MANUFACTURING PLANTS AT ■ BUCHANAN, MI ■ NEWPORT, TN ■ SEVIERVILLE, TN ■ REDMOND, WA ■ GANANOQUE, ONT.

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