



M4

Four Subgroup Mixing Console

- High-performance four subgroup mixing consoles with 16 or 24 mono and 4 stereo input channels
- Mono input channels have 3-band EQ with semi-parametric mids sweepable from 250–5 kHz, 80 Hz high-pass filters, direct outputs and 100-mm faders
- Six aux sends on mono channels, two aux sends on stereo channels with four stereo aux returns.
- 4 subgroups, stereo masters and mono outputs all have balanced, fader-controlled outputs
- Talkback section with extensive signal routing possibilities

Description

The Electro-Voice M4 Series four subgroup mixers are high-performance, professional mixing consoles. Their wide range of features, extensive signal-routing capabilities and low noise make them ideal for many professional audio applications requiring high-quality sound. The various controls and functions are clearly labeled and logically grouped for easy operation.

Figures 2, 3 and 4 are, respectively, detailed views of an input channel, the output section and input/output connections.

Mono Input Section Features

- The 16 or 24 mono input channels have 3-pin, active-balanced microphone inputs and ¼-inch balanced line inputs with a true mic/line switch that selects either input. Each mono input channel has a gain control with a peak LED to accommodate a wide range of input sources. A direct output is also available on each channel for special requirements.
- The mono input channels have a three-band EQ with semi-parametric mids from 250–5 kHz for signal tailoring. An 80 Hz high-pass filter can also be engaged to prevent low-

frequency muddiness.

- The mono input channels have six aux sends. Auxs 1 and 2 are configured pre-fader for use as monitor sends. Auxs 3/4 and 5/6 can be switched pre-fader for monitors or post-fader for effect sends. A shift button allows selection of either aux 3/4 or aux 5/6 sends as a pair.
- All mono input channels can be routed via switches to groups 1/2, 3/4 or master outputs. There are also PFL (pre-fade listen) switches on each channel that allow signals to be monitored through headphones. Each channel is equipped with a mute switch and a 100-mm fader with smooth action for subtle level adjustments.

Stereo Input Section Features

- The four stereo input channels have unbalanced ¼-inch connectors that are also compatible with mono sources. Each channel is equipped with a peak indicator for visual feedback of overloading. The input sensitivity of the stereo input channels is switchable to –10 or +4 dBu nominal level by switches on the channel's PC board. Each channel has PFL (pre-fader listen) for monitoring of the signal.
- Each stereo channel is equipped with 2-band EQ with ± 15 dB of boost/cut.

Routing switches send the signal to groups 1/2, 3/4 and the master outputs. Stereo channels 1 and 3 have controls for Auxs 1 and 3 that are pre-fader. Stereo channels 2 and 4 have controls for Auxs 2 and 4 that are post-fader. Each stereo channel is equipped with a mute switch and a 45-mm fader for adjustment of level.

Output Section Features

- XLR-type 3-pin active balanced low-impedance outputs for subgroups 1–4, left and right. These outputs are each controlled by their own 100-mm faders. There are also insert jacks on subgroups 1–4 and the stereo masters to allow connection of equalizers or other universal signal processors.
- A mono output that sums the left and right channels together into two ¼-inch TRS balanced phone jacks controlled by a 100-mm fader. The mono output is independent of the L/R masters.
- Subgroups 1–4 have mute switches, after-fade listen (AFL), a pan control and a switch to route the signal to the master output. Each group has its own 100-mm fader.
- A headphone amplifier with level control and three-conductor ¼-inch phone jack mounted on the panel. The headphone can monitor AFL,

mounted on the panel. The headphone can monitor AFL, PFL signals and the master output.

- A talkback system has an 3-pin XLR-type microphone input with an on/off switch, level control and routing switches that can send the signal to Aux 1 / 2, 3 / 4, groups 1 – 4 and master outputs.
- A tape recorder output and playback section with separate level controls for output and input. These connections are on unbalanced ¼-inch phone jacks. The tape input is routed directly to the master and mono outputs.
- There are six aux send sections, each with a mute switch, AFL and a level control with a peak LED. The individual sends control the output to unbalanced ¼-inch phone jacks.
- There are four stereo aux returns with routing switches to send the signal to the master output, groups 1 / 2 and 3 / 4. Each aux return also has a balance control and rotary potentiometer. The aux returns are mono-compatible unbalanced ¼-inch phone jacks.

General Features

- A built-in 12-volt BNC connector for a Littlelite[®] or other dc-powered lamp for panel illumination.
- A universal phantom power switch that delivers 48 volts to the XLR connectors when turned on.
- High quality components are used throughout the M4. Each input channel and output group utilizes a separate printed circuit board for low crosstalk and easier servicing, if required.
- Integral power supply with excellent current capacity and low noise.

Architects' and Engineers' Specifications

The mixer shall have 16 or 24 mono and 4 stereo input channels with internal power supply with all connectors easily accessible.

The mono input channels shall have 3-pin XLR-type microphone inputs and ¼-inch balanced line inputs with a MIC/LINE switch to select the desired input. Each mono input channel shall have a gain control with a peak LED and a direct output and insert connector. The mono input channels shall have 3-band EQ with semi-parametric mids from 250 – 5 kHz with ± 15 dB of boost/cut. The mono input channels shall have 6 aux sends, 2 fixed pre-

fader and 4 switchable pre or post-fader. The mono input channels shall have 100-mm faders, mute and routing switches.

The mixer shall have 4 stereo input channels with user-selectable nominal input level and 2-band EQ with ± 15 dB of boost/cut. Two of the stereo channels will have two pre-fader aux sends and the other two channels will have two post-fader aux sends. Each stereo input channel will have 45-mm faders and mute switches.

The mixer's output section shall have XLR-type 3-pin active balanced, low-impedance outputs for subgroups 1 – 4, left and right and these outputs are controlled by 100-mm faders. There will be insert jacks on subgroups 1 – 4 and the master outputs. There shall be a headphone amplifier with level control and three-conductor ¼-inch phone jack mounted on the front panel. There shall be six master aux sends with level controls, after-fade listen and mute switches. There shall be four stereo aux returns with level and balance controls and routing switches. There shall be separate tape record output and playback controls with ¼-inch connectors. There shall be a talkback section with a 3-pin XLR-type microphone connector, an on switch and routing selectors. There shall be a mono output with a 100-mm fader and two balanced TRS ¼-inch connectors.

The mixer shall have independent PC boards for each channel and use high-quality electrical components. There shall be an integral power supply with excellent current capacity and very low noise. Dimensions shall be 128 mm x 796 mm x 623 mm (5.04 x 31.3 x 24.52 in) for the M4/16-channel and 128 mm x 1020 mm x 623 mm (5.04 x 41.15 x 24.52 in) for the M4/24-channel. Net weight shall be 21-kg (46.3 lb) for the M4/16-channel and 26-kg (57.3 lb) for the M4/24-channel.

The mixer shall be the Electro-Voice M4/16 and M4/24.

Uniform Limited Warranty

Electro-Voice products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction

occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to customer prepaid. **Exclusions and Limitations:** The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific items described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice or any of its authorized service representatives.

Obtaining Warranty Service: To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice or any of its authorized service representatives together with proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from Electro-Voice at 600 Cecil Street, Buchanan, MI 49107 (616/695-6831 or 800/234-6831). **Incidental or Consequential Damages Excluded:** Product repair or replacement and return to the customer are the only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. **Other Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Electro-Voice Electronics are guaranteed against malfunction due to defects in materials or workmanship for a period of three (3) years from the date of original purchase. Additional details are included in the Uniform Limited Warranty statement.

Service and repair address for this product: Electro-Voice, 600 Cecil Street, Buchanan, Michigan 49107 (616/695-6831 or 800/234-6831); or Telex Communications, Inc. West 1st Street, Blue Earth, MN 56013 (507-526-3205).

Specifications

Conditions:

1. 0 dBu=0.775 V rms.
2. 0 dBV=1.0V rms.
3. Measurements are referred to a 1 kHz, 0-dB sine wave input unless noted.
4. 120-V, 60-Hz ac line input voltage

Frequency Response, Mic Input to Master Output (EQ flat):

20 – 20,000 Hz (+1/-3 dB)

Total Harmonic Distortion, 20 – 20,000 Hz At +14 dBu Output into 600 Ohms:

<0.1%

Equivalent Input Noise (150-ohm termination):

-128 dB, microphone input

Output Noise at Balanced Outputs (A-weighted):

-96 dB residual noise at master outputs

Maximum Voltage Gain (+3 dB),**Channel Input to Master Output and Group Outputs**

84 dB

Channel Input to Aux Sends 1–2

76 dB

Channel Input to Aux Sends 3–6

86 dB

Tape Input to Master Output

28 dB

Stereo Input to Group and Master Outputs

34 dB

Stereo Inputs 1-4 To Aux Sends 1-2

26 dB

Stereo Inputs 1-4 to Aux Sends 3-6

36 dB

Subgroup Input to Group Output

10 dB

Aux Returns to Master and Group Outputs

16 dB

Talkback Microphone to Master**Outputs**

70 dB

Crosstalk, Adjacent Inputs:

>-70 dB at 1,000 Hz

Crosstalk, Input to Output

>-70 dB at 1,000 Hz

Level Displays,**Outputs:**

10-segment LED ladder

Range:

∞ to +6 dB

Reference:

0 VU = +4 dBu

Channels:

Peak LED illuminates

3 dB before clipping

Input Specifications

Mono Input Channel Equalization:

±15 dB low cut/boost centered at 80 Hz

±15 dB mid cut/boost sweepable from 250 Hz – 5,000 Hz

±15 dB high cut/boost centered at 12,000 Hz

Input Channel Gain Control Range:

44 dB (-60 dB to -16 dB)

Microphone Inputs,**Number:**

16 or 24

Type/Connector:

Low impedance, balanced, 3-pin XLR-type

Polarity:

Pin 2 positive

Maximum Input Level:

+24 dBu with gain control at minimum

Input Impedance:

10,000 ohms

Phantom Power:

+ 48 volts

Line Inputs (mono channels),**Number:**

16 or 24 in mono channels

Type/Connector:

High Impedance, balanced ¼-inch phone jacks

Polarity:

Tip positive

Maximum Input Level:

+24 dB with gain control at minimum

Input Impedance:

10,000 ohms

Mono Input Channel High-Pass**Filter:**

80 Hz, 12-dB-per-octave (switchable)

Stereo Line Input Channels**Number:**

Four

Type/Connectors:

Unbalanced ¼-inch phone jacks

Stereo Input Channel Equalization:

±15 dB high cut/boost centered at 12,000 Hz

±15 dB low cut/boost centered at 80 Hz

Stereo Input Channel Nominal**Input Level:**

-10 dB or +4 dB (switch select able)

Stereo Line Input Impedance:

5,000 ohms

Aux Inputs,**Number:**

4 stereo

Type/Connector:

High impedance, unbalanced, ¼-inch phone jack

Polarity:

Tip positive

Nominal Input Level:

+4 dBu (1.23 volts)

Maximum Input Level:

+24 dBu (12.3 volts)

Input Impedance:

10,000 ohms

Tape Inputs,**Number:**

Two (stereo)

Type/Connector:

High impedance, unbalanced ¼-inch phone jack

Polarity:

Tip positive

Nominal Input Level:

-10 dBu

Input Impedance:

10,000 ohms

Group Inputs:**Number:**

1 through 4

Type/Connector:

High impedance, balanced ¼-inch TRS jack

Polarity:

Tip positive

Nominal Input Level:

0 dB

Maximum Input Level:

+24 dB

Input Impedance:

10,000 ohms

Stereo Master Sub Inputs:**Number:**

Two—left and right

Type/Connector:

High impedance, unbalanced, ¼-inch phone jack

Polarity:

Tip positive

Nominal Input Level:

+4 dBu (1.23 volts)

Maximum Input Level:

+20 dBu

Input Impedance:

10,000 ohms

Output Specifications**Output Impedance,****Balanced Low-Impedance****Outputs:**

150 ohms

Headphone Output:

100 ohms

Insert Sends:

600 ohms

Aux Sends:

600 ohms

Subgroup Inserts:

600 ohms

Maximum Output Level,**Subgroups, Master and Mono****Outputs:**

+24 dBu (12.3 volts)

Headphones:

20 mW

Channel Insert Sends:

+20 dBu (7.75 volts)

Subgroup Inserts:

+20 dBu (7.75 volts)

Power Requirements:

115 or 230 volts, 50 or 60 Hz,

M4/16: 51 watts, M4/24: 69 watts

Dimensions (see Figure 1),**Height:**

128 mm (5.04 in.)

Width:

M4/16: 796 mm (31.3 in.)

M4/24: 1020 mm (41.15 in.)

Depth:

623 mm (24.52 in.)

Net Weight,

M4/16: 21 kg (46.3 lb)

M4/24: 26 kg (57.3 lb)

Electro-Voice®

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