

What are mixers for?

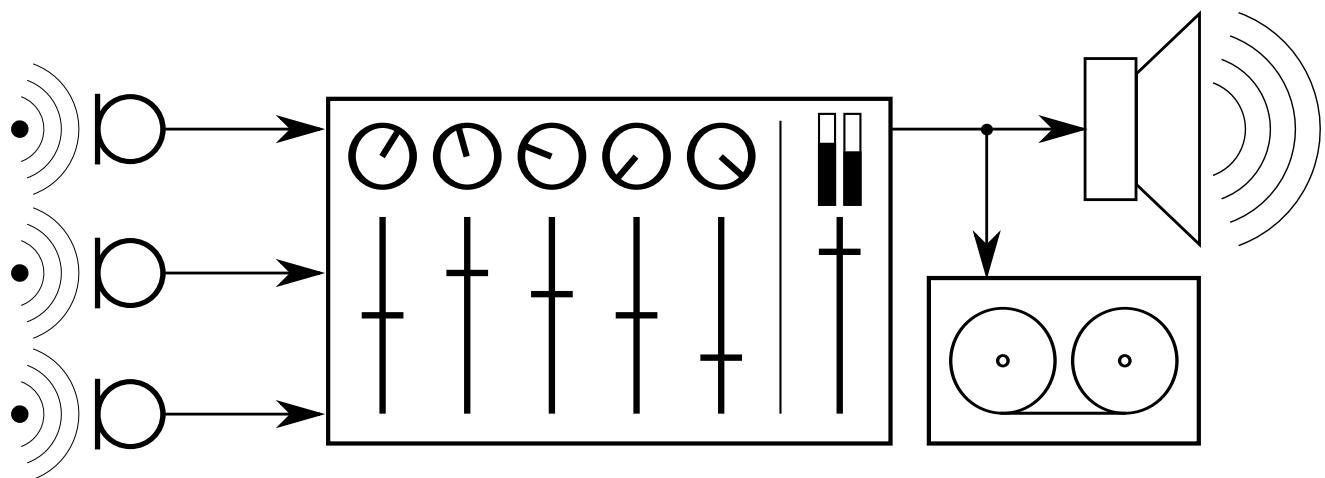


Figure: General concept of a mixing console

What are mixers for?

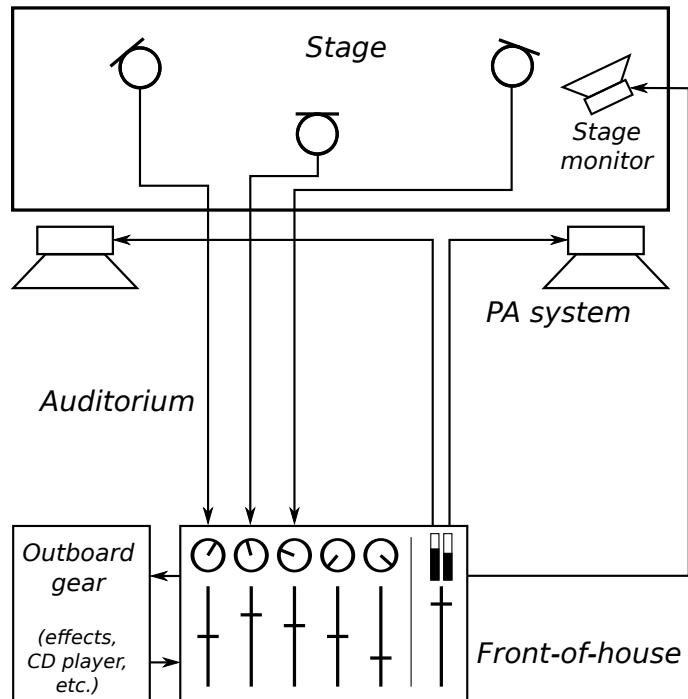


Figure: Typical live sound reinforcement scenario

What are mixers for?

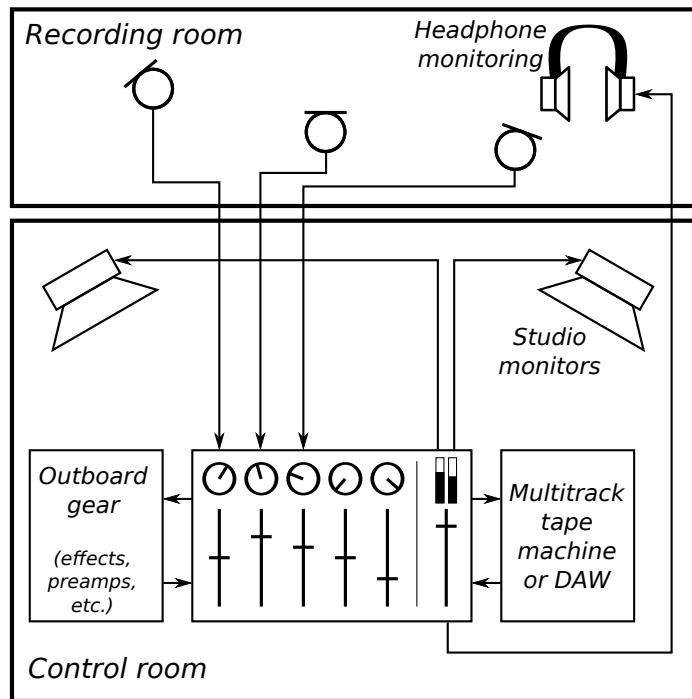


Figure: Typical studio recording scenario

Example models



Figure: Soundcraft M12 mixer (© Soundcraft. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: Yamaha O2R96VCM digital mixer (© Yamaha. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: Behringer UB502 desktop mixer (© Behringer. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: Gemini PS2 DJ mixer (© Gemini. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: Mackie PPM1008 power mixer (© LOUD Technologies Inc. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: One of the most popular power mixers according to Google (© Unknown. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: Midas Venice F live mixer (© Midas. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: SSL studio console (© Solid State Logic. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models

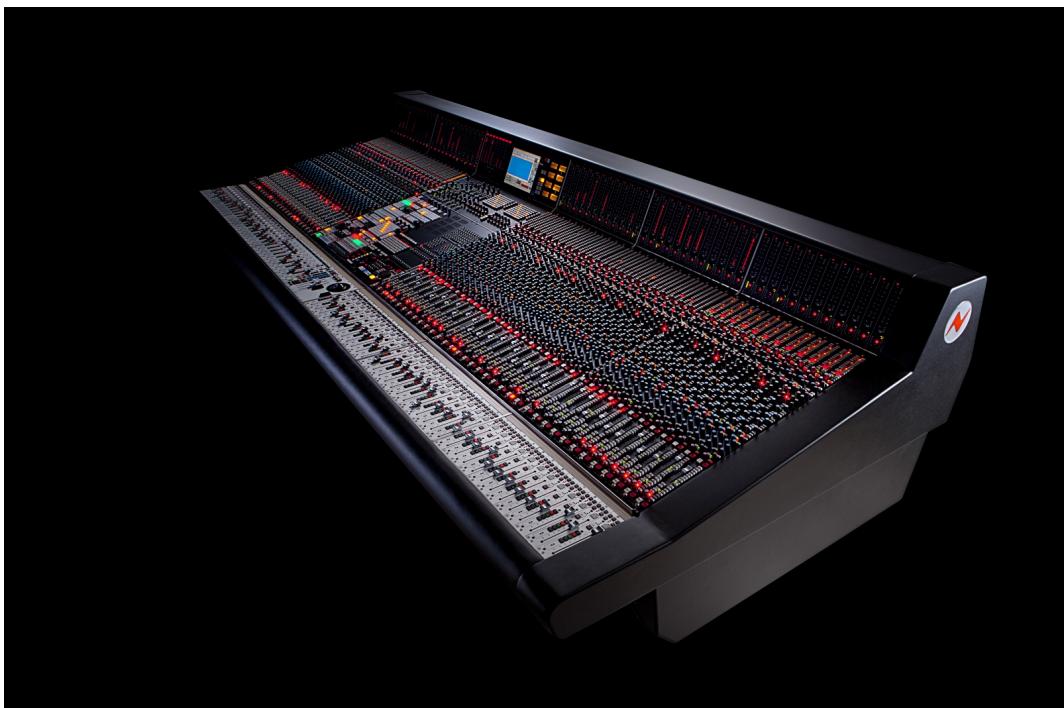


Figure: AMS Neve 88 RS analogue mixer (© AMS Neve. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: Studer Vista digital mixing console (© Studer Professional Audio GmbH. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Example models



Figure: Vintage mixer from the WDR's (West German Broadcasting) famous electronic music studio in Cologne (with thanks to Volker Müller)

Example models



Figure: Hear Technologies Hear Back mixer (© Hear Technologies. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

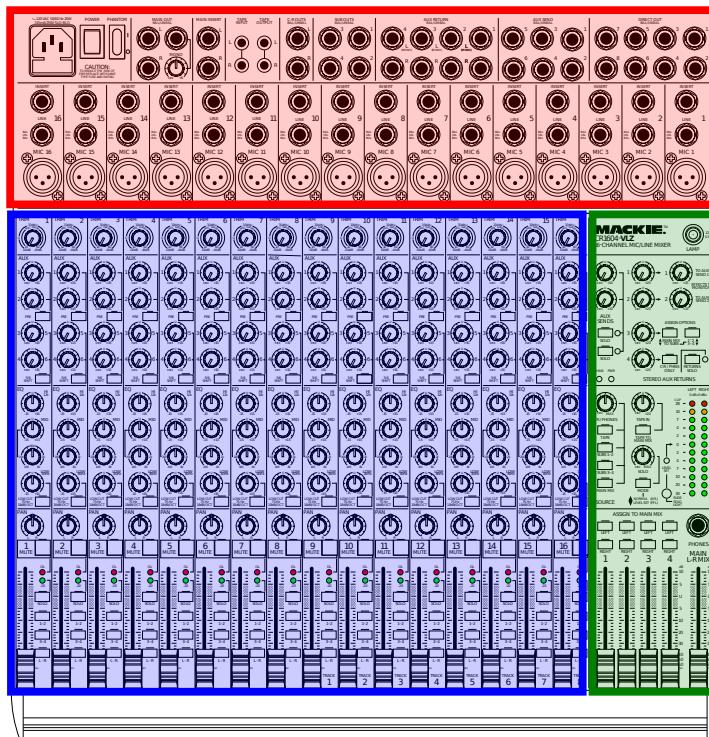
Example models



Figure: Software mixer in Reaper (© Cockos. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Topology

Input
channel
strips



Patchbay

Output
section

Figure: Mackie CR1604 VLZ mixer (© LOUD Technologies Inc. With edits. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

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Topology

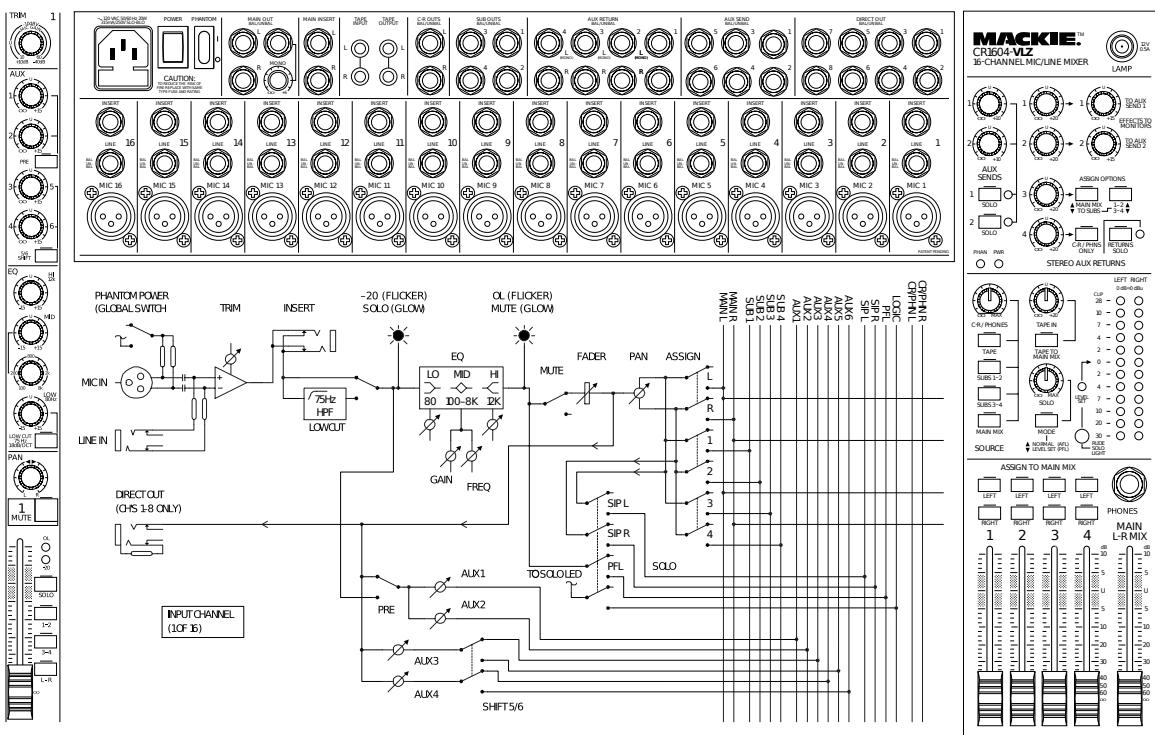


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Input channel strip Physical inputs

Physical inputs

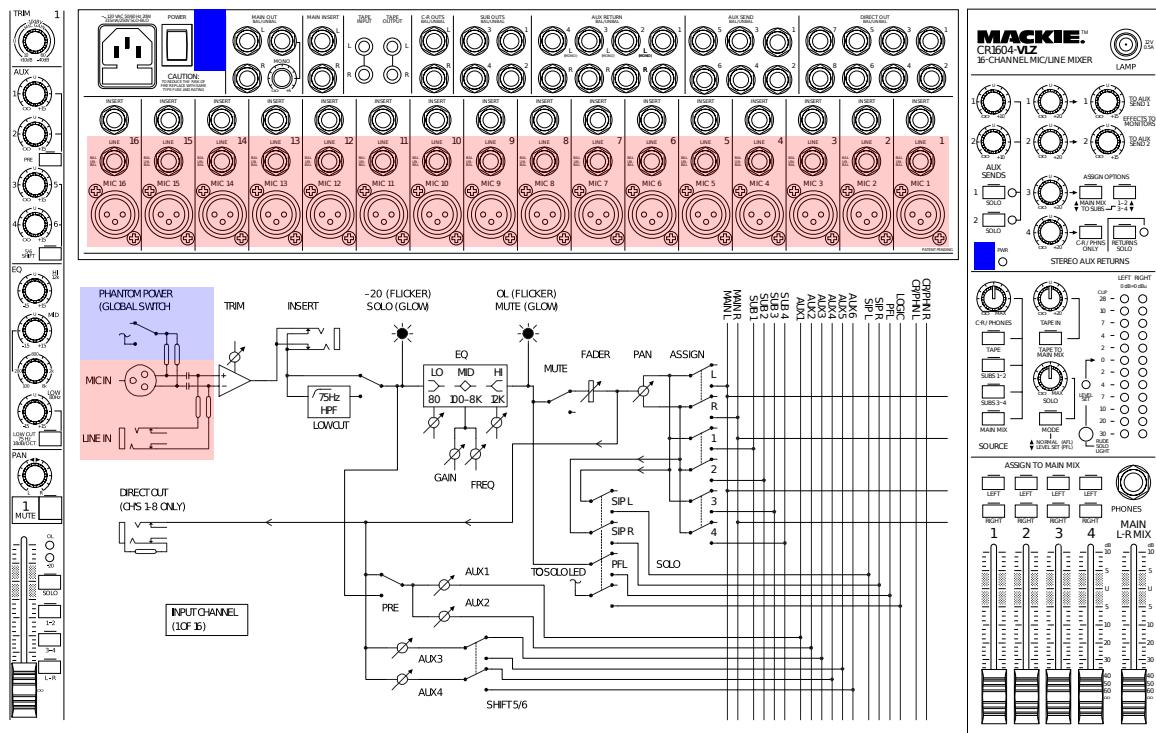


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Preamps & phantom power

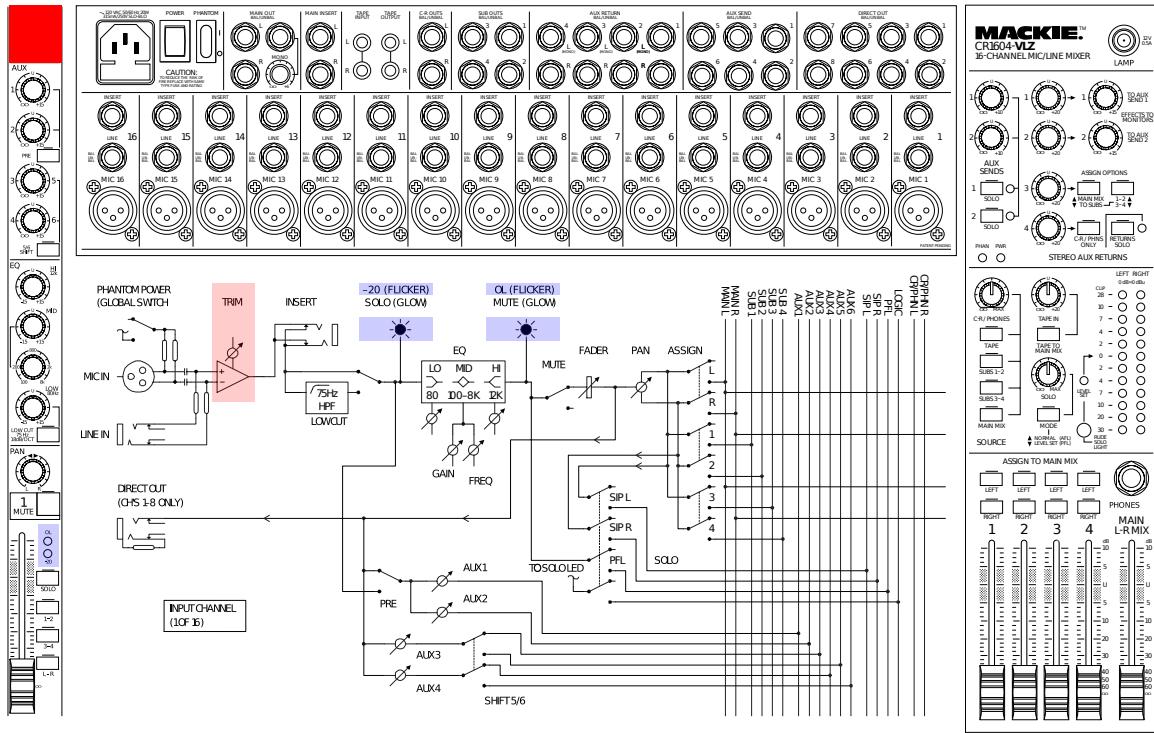


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Input channel strip Inserts

Inserts

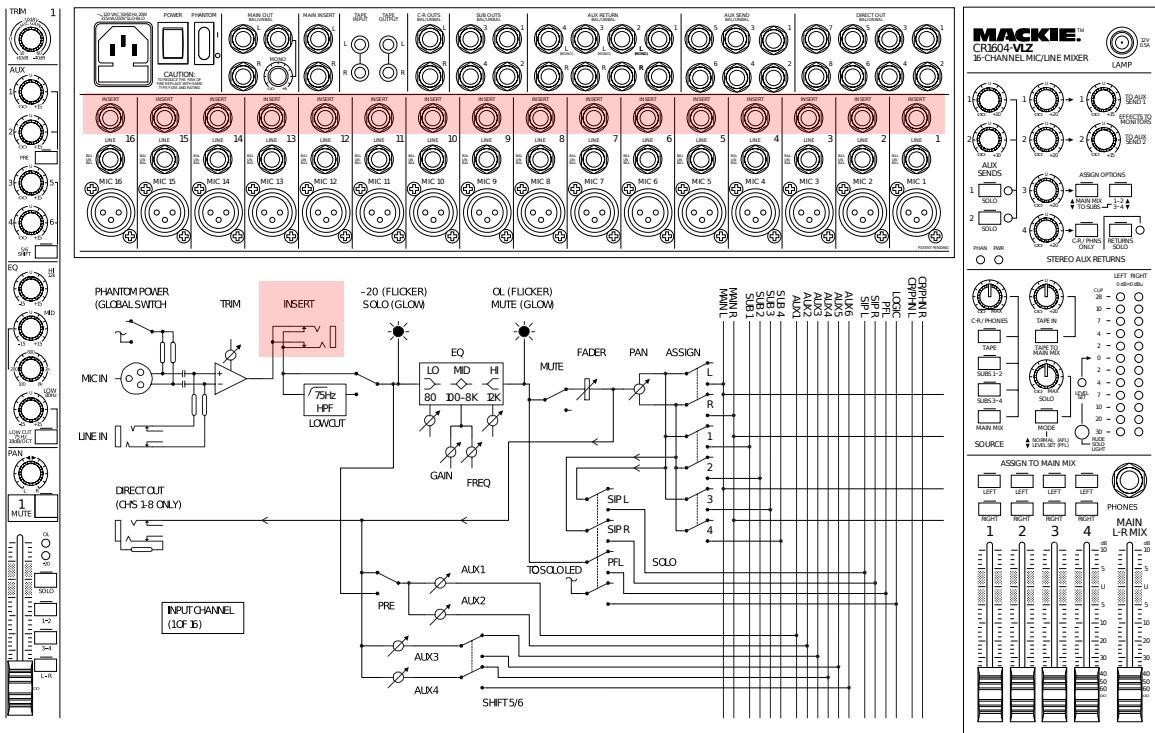
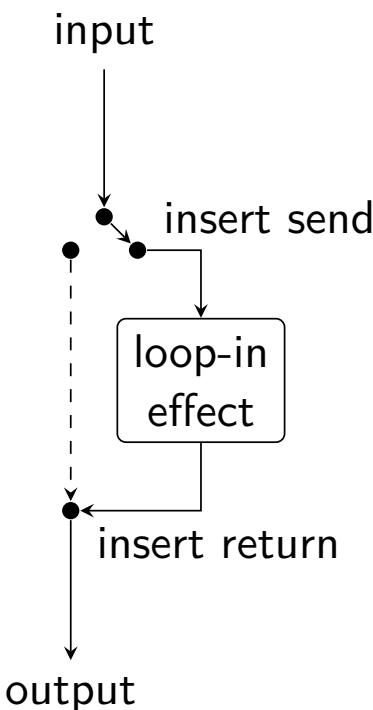


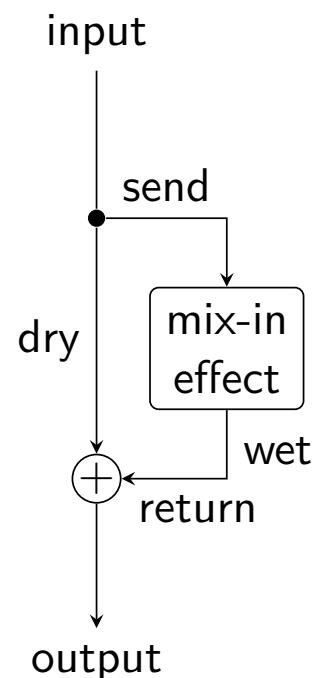
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Inserts



(a) Loop-in effect (e.g., EQ, compressor, distortion), typically implemented as an *insert*



(b) Mix-in effect (e.g., reverb, chorus, flanger), typically implemented as an *auxiliary*

Inserts

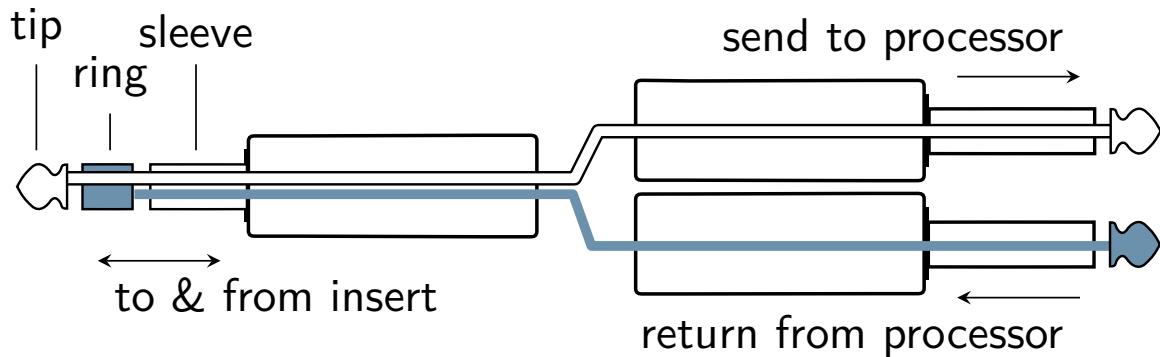


Figure: Typical 1/4" insert cable (© LOUD Technologies Inc. With edits. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/help/faq-fair-use/>)

Input channel strip EQ section

EQ section

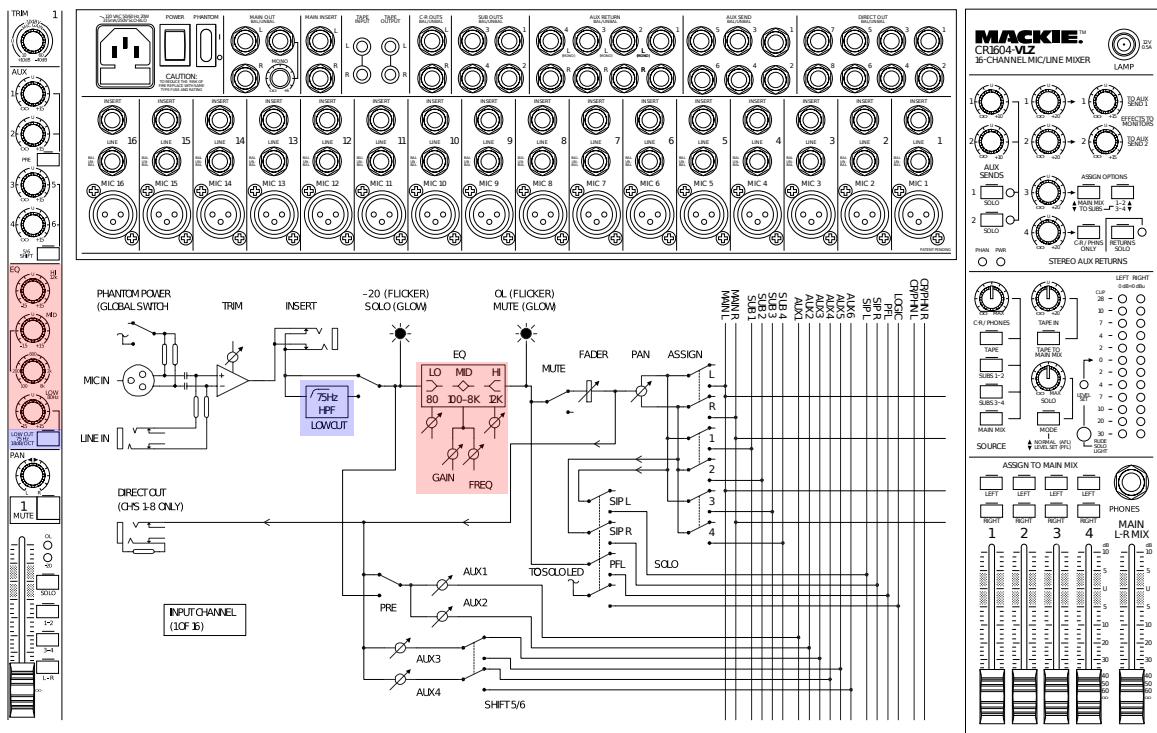


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Input channel strip Mute button

Mute button

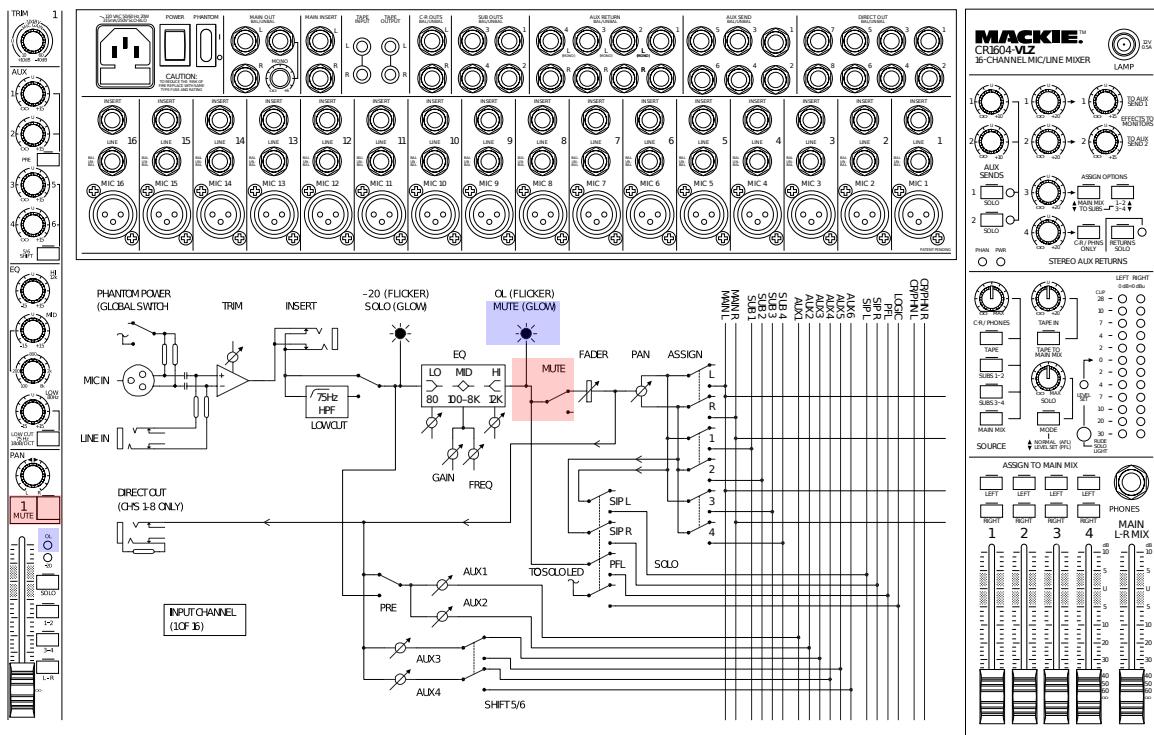


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Input channel strip Fader

Fader

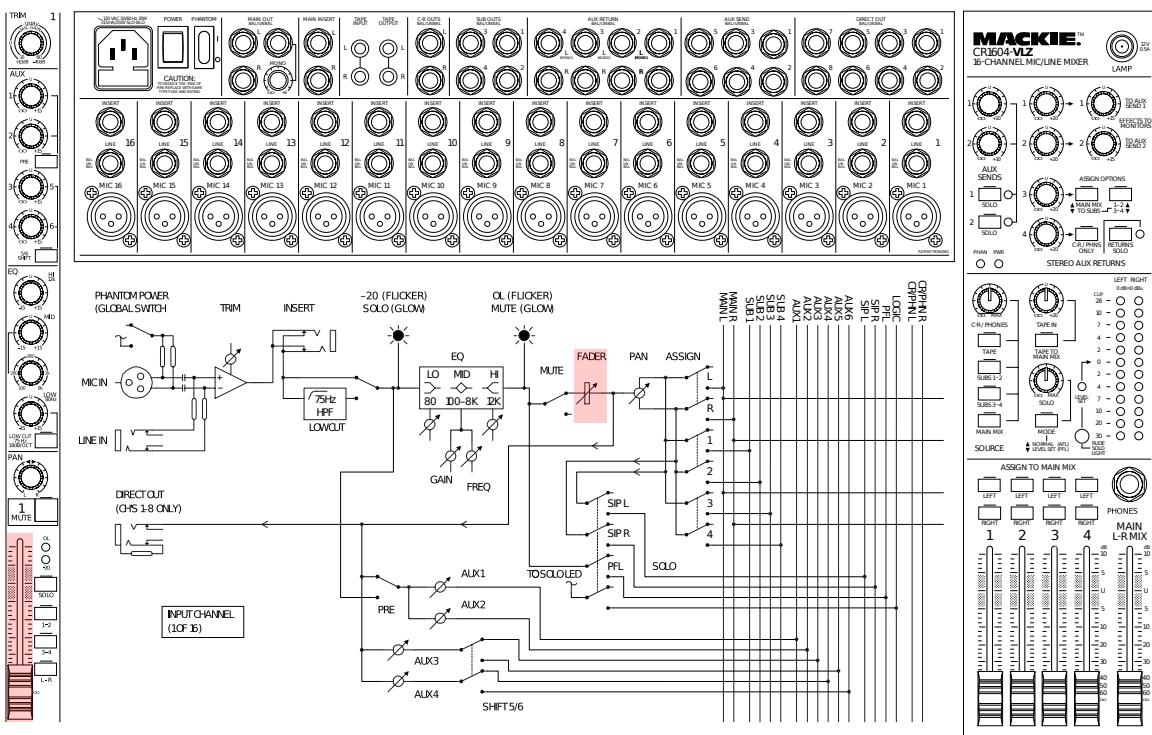


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Input channel strip Direct outputs

Direct outputs

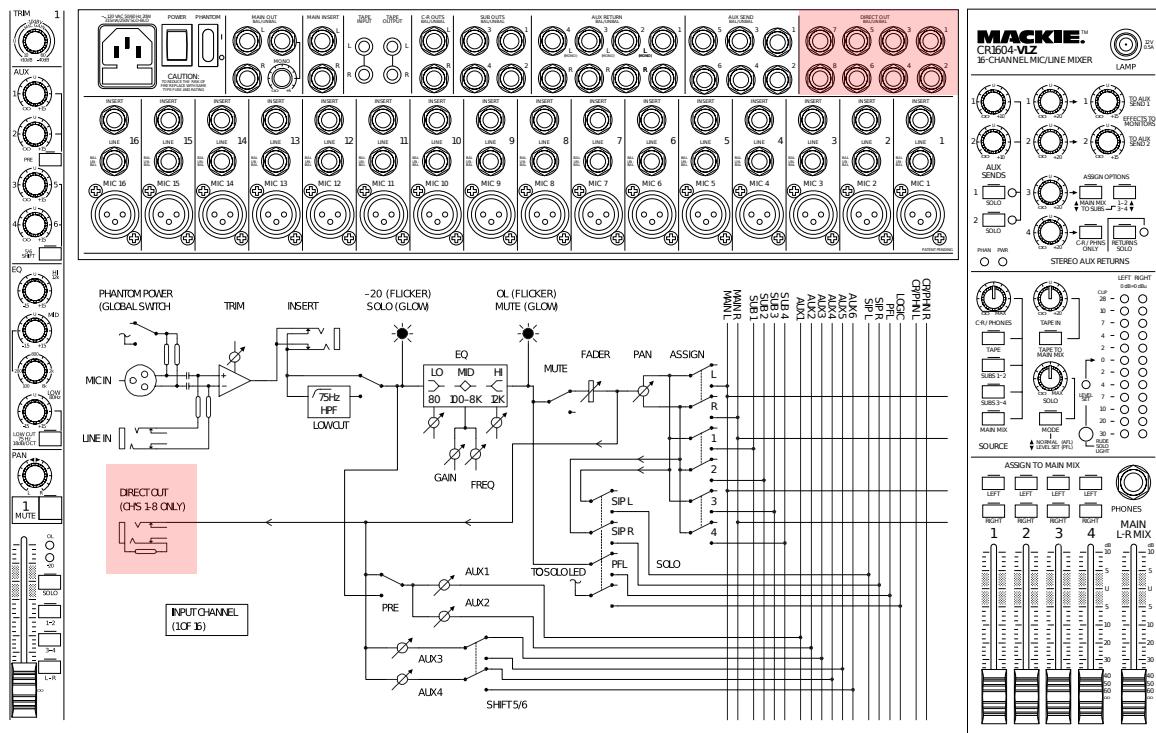


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Input channel strip Auxiliaries

Auxiliary sends

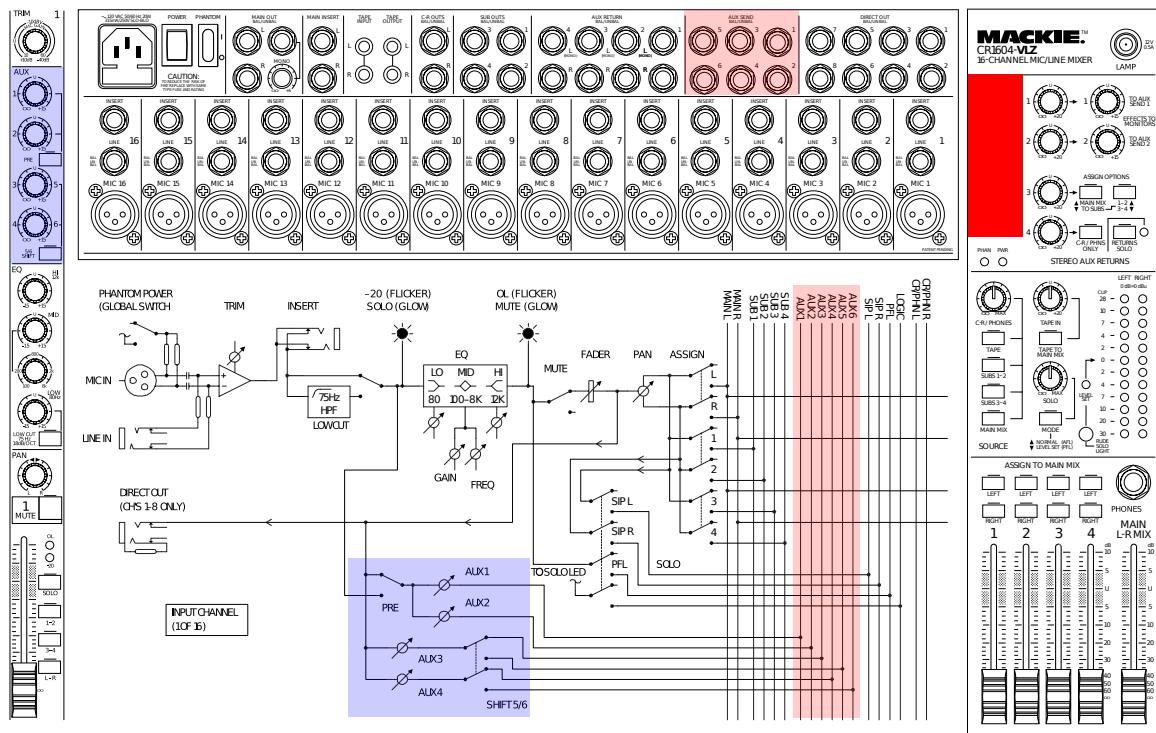


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Pre-fader auxiliaries

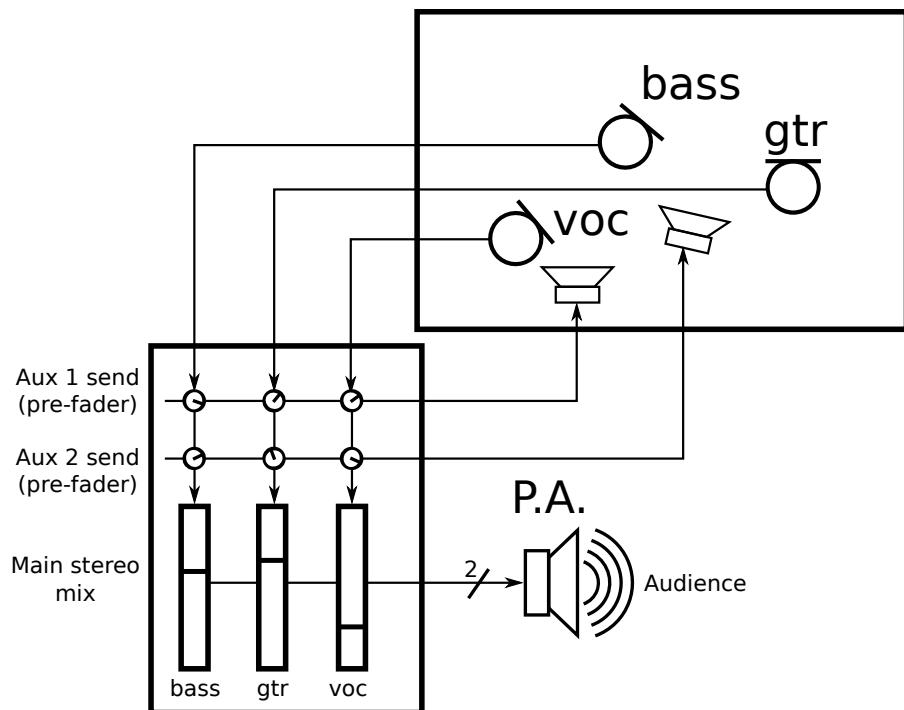


Figure: Using pre-fader auxiliaries for providing independent mixes on on-stage monitor loudspeakers

Post-fader auxiliaries

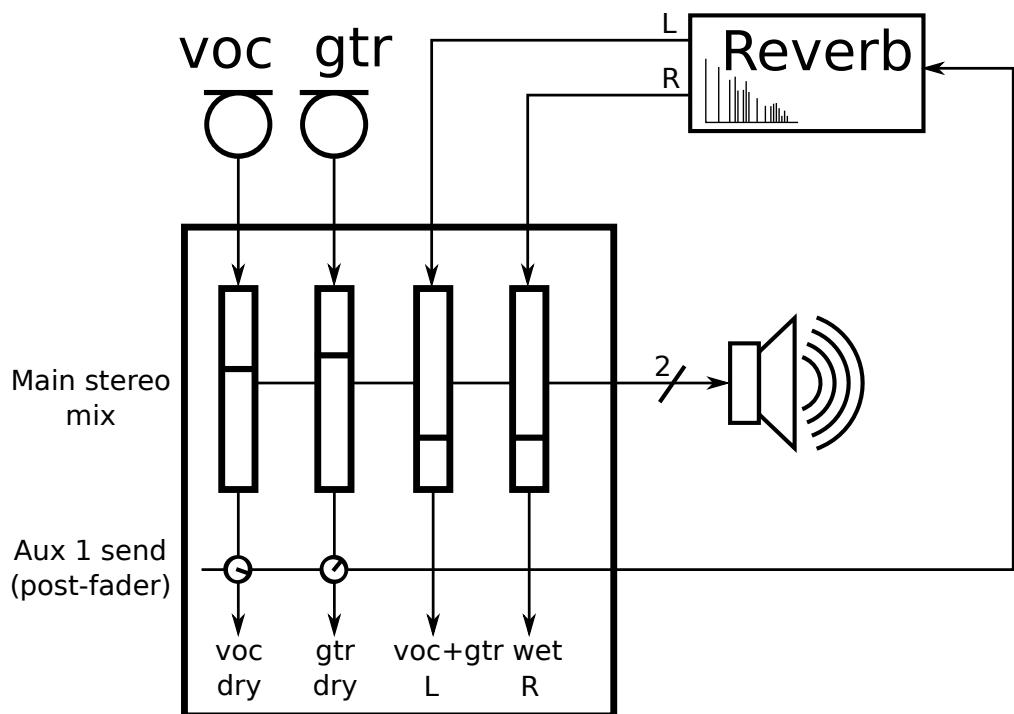


Figure: Using a post-fader auxiliary for a mix-in effect

Input channel strip Auxiliaries

Auxiliary returns

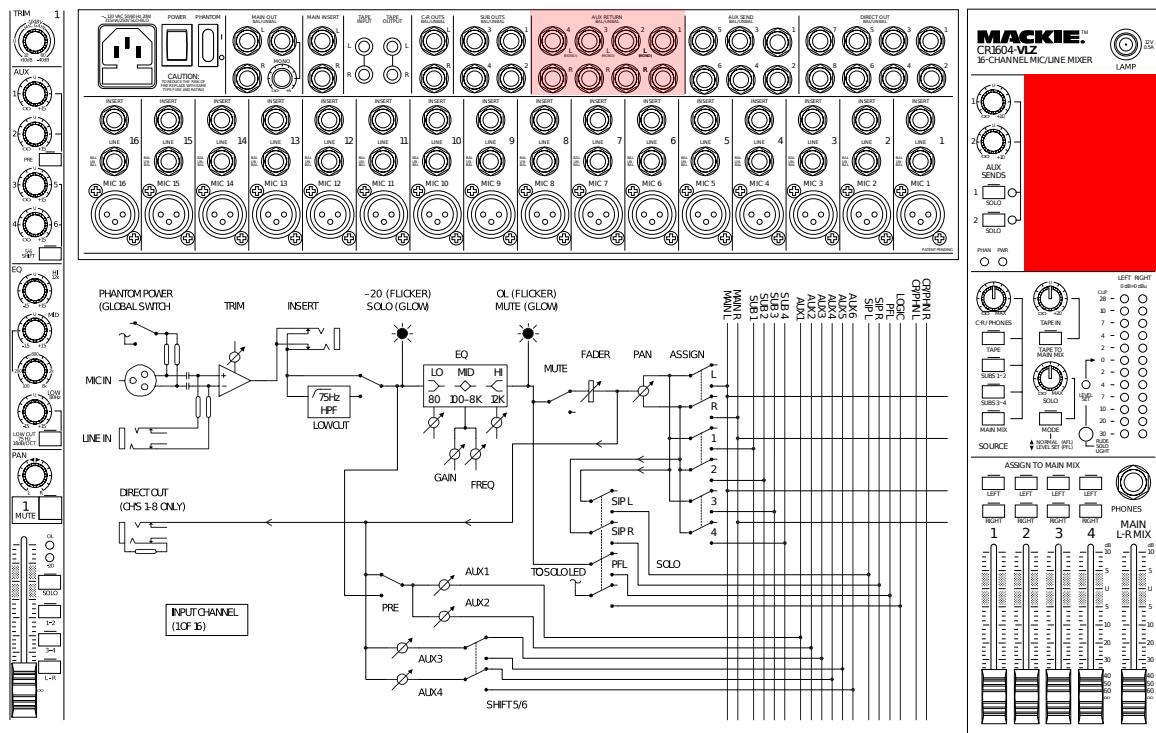


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Input channel strip Panpot or balance control

Panpot or balance control

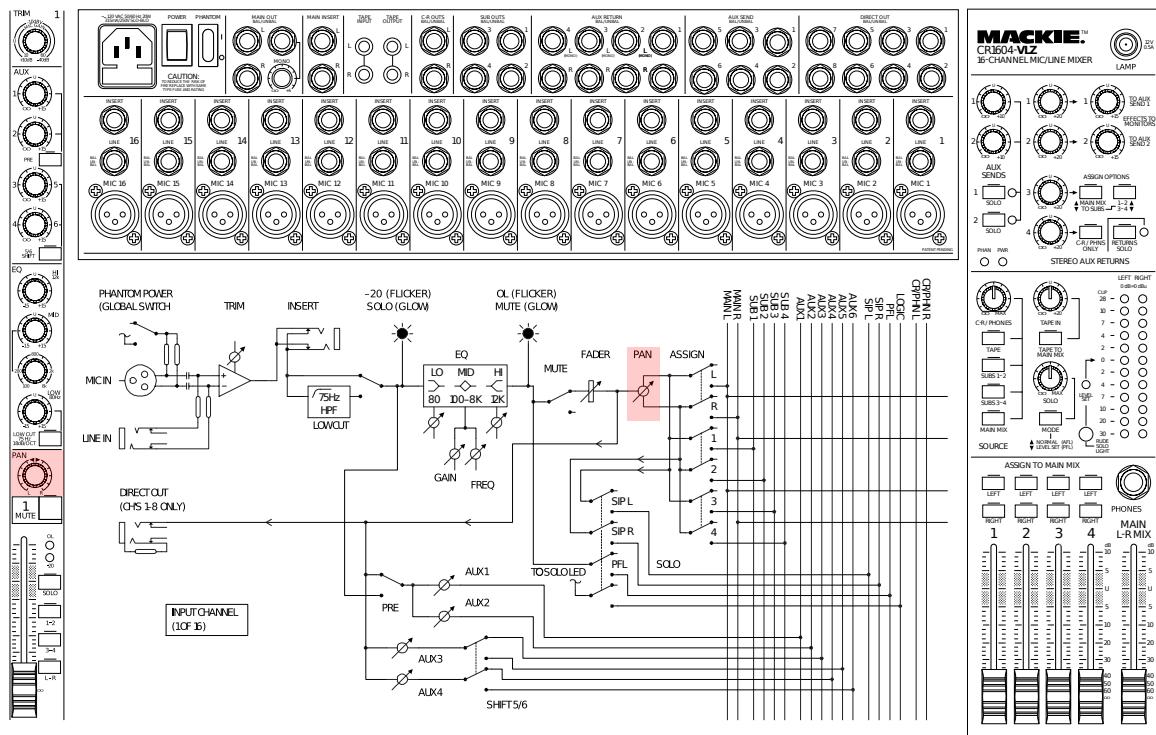
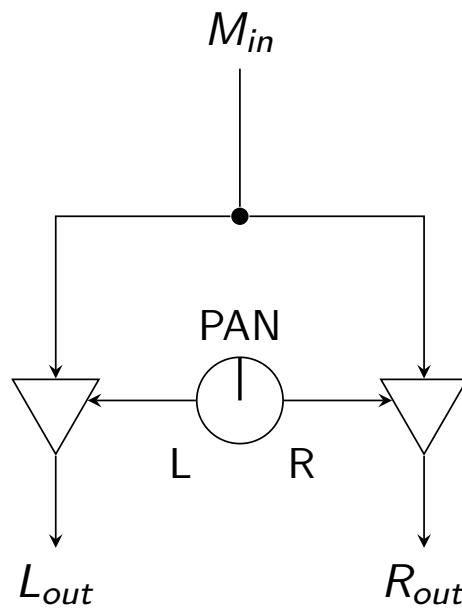


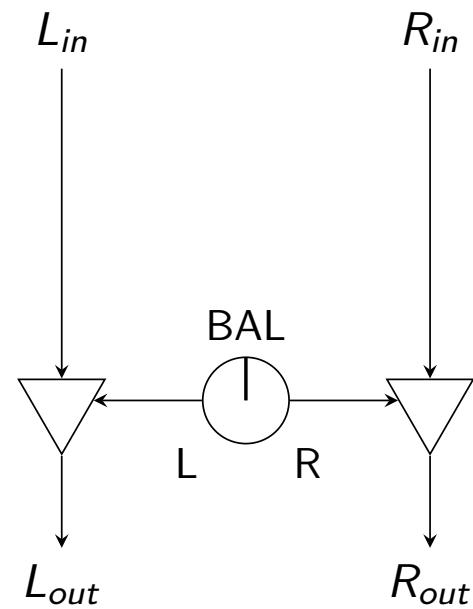
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Panpot or balance control



(a) Panpot (mono input) ➔



(b) Balance control (stereo input) ➔

Figure: Panpot vs. balance control

Input channel strip Solo function

Solo function

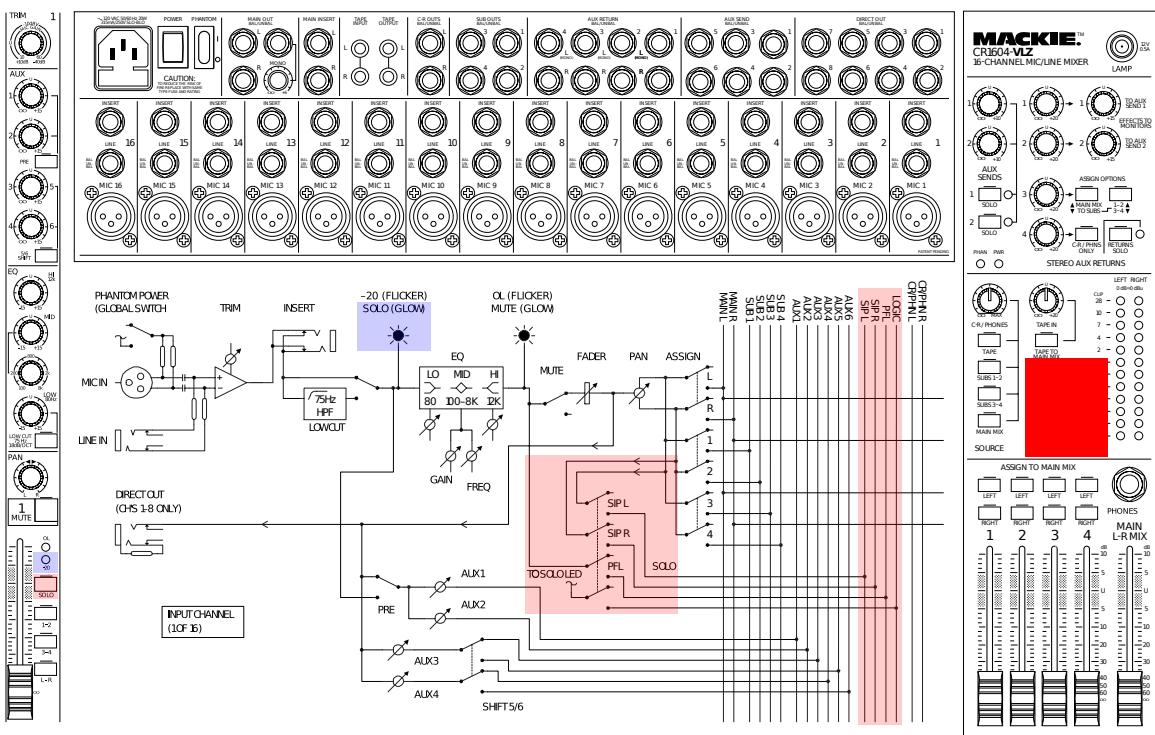


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Solo function

Mode	Meaning	Output bus used	Application
PFL	Pre-fader listening	Solo (mono)	Live mixing
AFL	After-fader listening	Solo (mono)	
SIP	Solo-in-place	Main mix (stereo)	Mixdown

Table: Solo modes (cf., Thompson 2005, p. 76)

Routing inputs to outputs

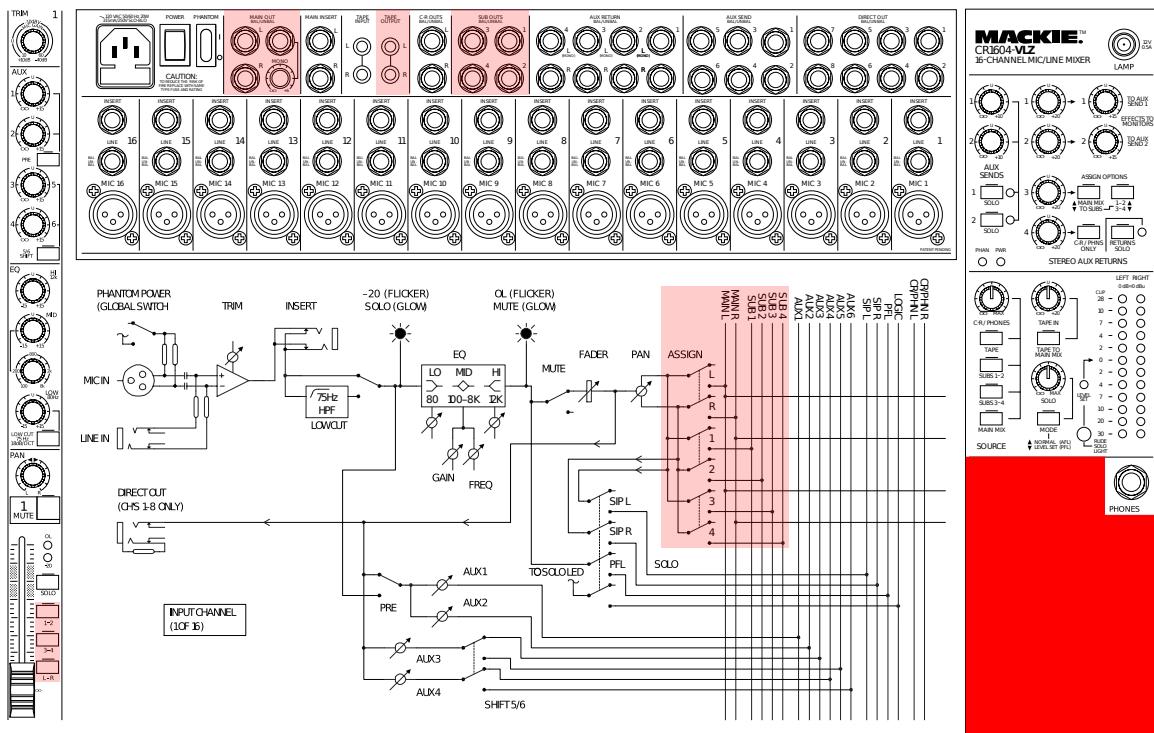


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Output section Signal meters

Signal meters

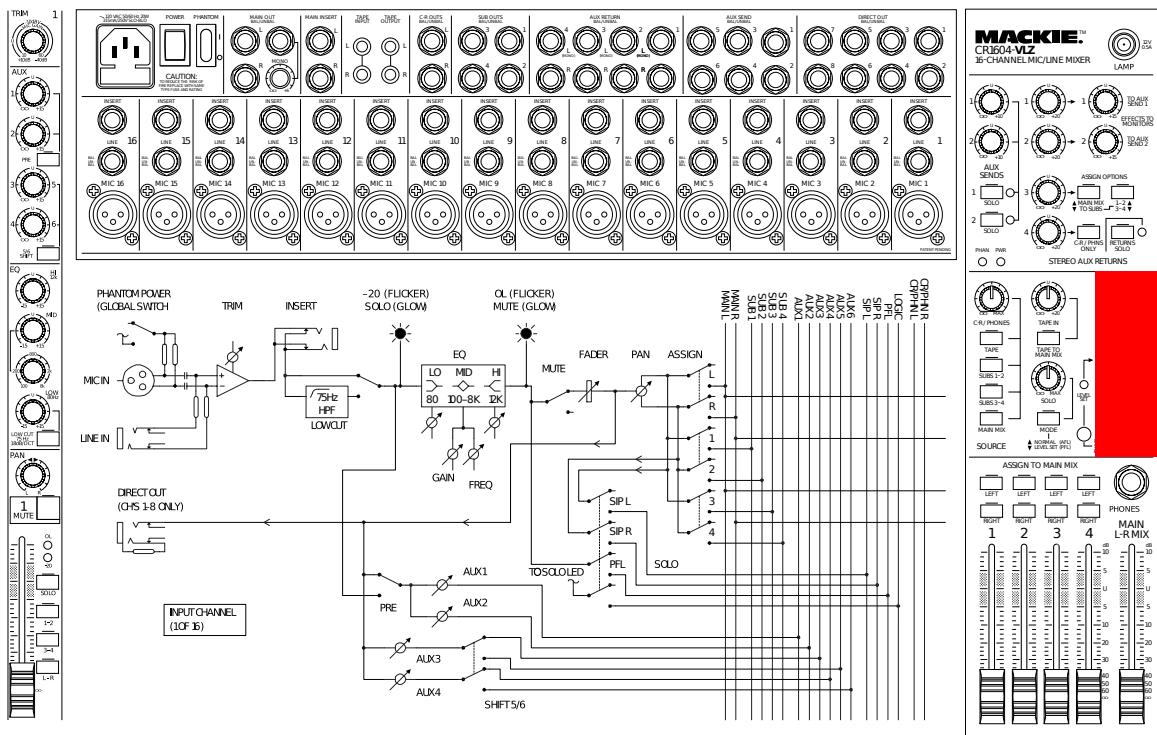


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Output section Main inserts

Main inserts

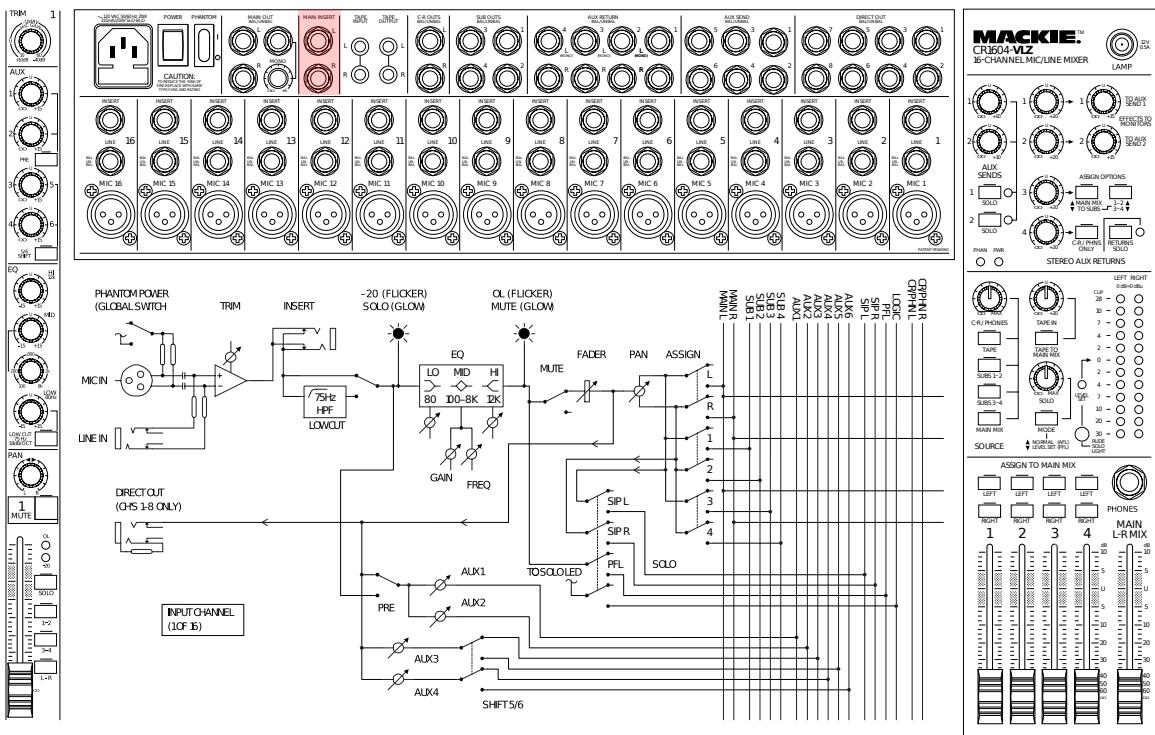


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Control-room monitoring

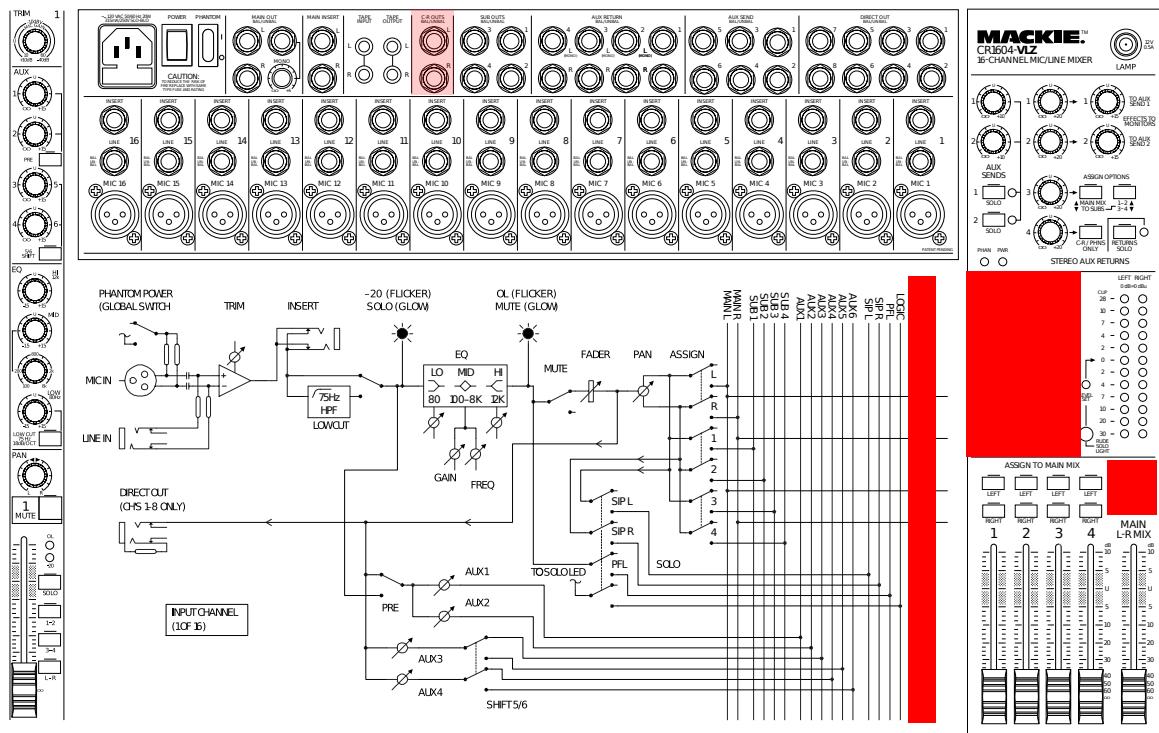


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Output section Tape return

Tape return

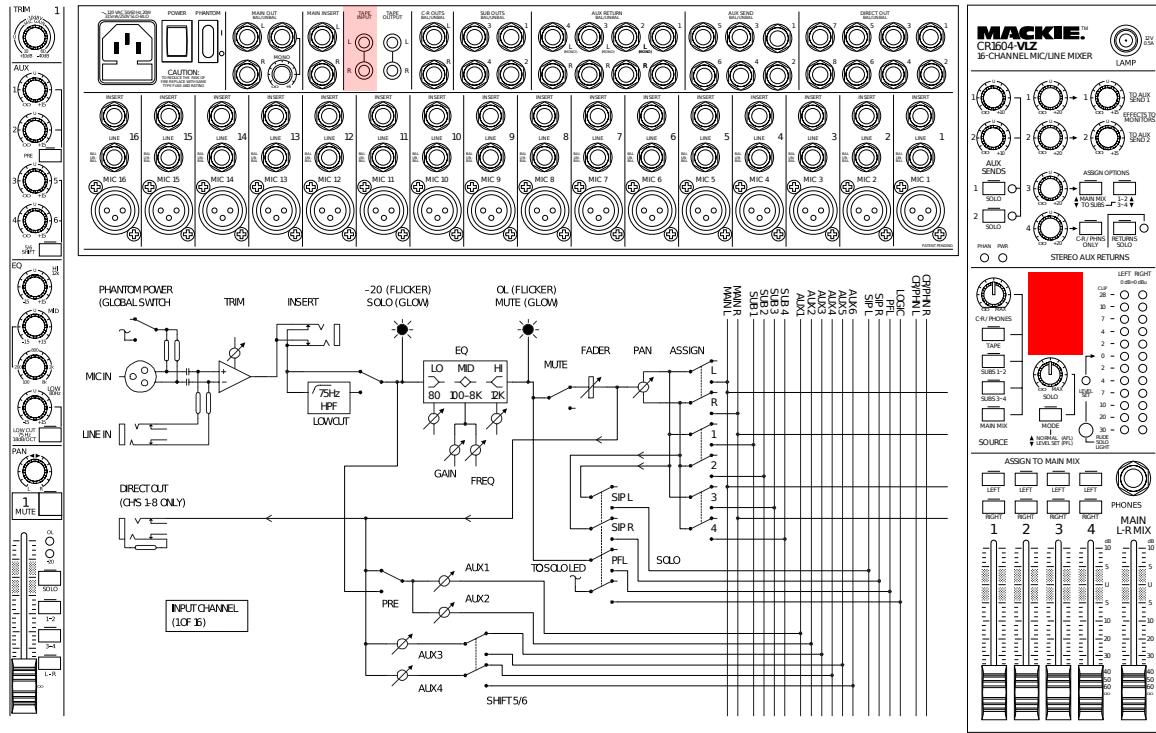


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21M.380 Music and Technology Recording Techniques & Audio Production

Lecture 15: Student presentations: Recording session plans

Massachusetts Institute of Technology
Music and Theater Arts

Monday, October 31, 2016

