

The basics of a Mixing Board

A mixing board is a device that blends and routes audio signals from multiple inputs to multiple outputs, allowing you to use several inputs (microphones, tape returns, line level instruments) at the same time while also being able to connect specialized devices (compressors, equalizers, reverbs) to further enhance the sound. A mixing board is the “Grand Central Station” of any recording studio.

INPUTS

XLR inputs on a mixer are used to connect microphones and are the most sensitive inputs. Most mixers also have a phantom power feature on a mic input to power condenser mics. XLR inputs are easily distinguished by their three small holes- thus they are called ‘female XLR’ (XLR outputs have three small pins- they are called ‘male XLR’).

LINE inputs (1/4”) are used to connect keyboards, effects devices, and other ‘line level’ devices, including tape returns from a tape machine/computer interface.

INSERT input/output is a 1/4” female connection point where an external device (compressor, equalizer) can be inserted on one channel at a time. A special insert cable is required that carries both the ‘send’ and ‘return’ signal.

TAPE RETURNS inputs are not always found on mixers, but if they are present they are used to connect tape machines (similar to LINE inputs).

RCA inputs are used for consumer grade equipment (CD players, etc).

OUTPUTS

STEREO and/or MIX outputs are at the end of a mixer’s internal chain and provide a stereo mix of all signals.

BUS outputs are assignable ‘extra’ outputs that can be used to create submixes or separate mixes.

AUX outputs are used to split a signal and send an adjustable portion of it to a external device, usually an effects processor or a monitor mix.

EQUALIZER (EQ)

Each channel of a typical mixing board has an equalizer, usually three or four bands. Each band of an EQ allows the user to focus on a specific frequency range, depending on what kind of EQ is provided:

Shelving: a simple raising or cutting of a frequency below/above a user selectable frequency (usually two controls provided).

Parametric: A more complex EQ that gives the user the ability to focus on a frequency with more accuracy and detail (usually three controls provided: Frequency/Gain/Bandwidth).

Graphic: A fixed frequency that can be raised or lowered with one control. Often used on insert EQs.