A

**Autotune**: Tone correction software developed by Antares Audio Technologies.

**Auxiliary**: On a mixing desk, each input channel has one or more outputs labeled “auxiliary”. These can usually be toggled between “postfader” and “prefader” modes (see the corresponding entries later in the glossary) to choose whether the signal should be taken from before or after the fader. The fader controls the output volume of each input channel (track).

B

**Bus**: Temporary processing channel that allows several channels or inputs to be combined on a mixing desk.

**Bus master**: Combines all output channels of a mixing desk. In the studio, a copy of the bus master is typically sent to the monitor to allow the person managing the mix to listen in.

**Bypass**: Bypass mode allows an audio signal to pass through processing equipment without altering its sound characteristics.

C

**Cardioid**: Term that describes the directionality of certain types of microphone. Cardioid microphones are highly sensitive to sound from the front, but much less sensitive to sound from the rear. They are used to isolate sounds from unwanted
ambient noise, which makes them extremely valuable for recording in noisy environments.

**Coincident microphones:** Pair of cardioid microphones of same type coupled together for sound recording. The sensors (capsules) of the microphones are placed as close as possible (less than 40 cm) at a relative angle between 90° and 135°, pointing toward the sound source.

**Compressor:** Hardware or software that applies dynamic range compression.

**Crosstalk:** Interference between two audio signals.

**D**

**DAW (Digital Audio Workstation):** Workstation (on a computer or tablet) for recording, editing, mixing, manipulating, creating, processing and reading audio content. Examples of DAWs include Avid Pro Tools, MOTU Digital Performer, Magix Samplitude, Cakewalk Sonar, Apple Logic Pro, PreSonus Studio One and many others.

**Decibel (dB):** Unit used in acoustics and electronics, defined as 10 times the base-ten logarithm of the ratio of two powers.

**De-esser:** Tool for reducing whistles and occlusives (stops) in a sound.

**Distortion:** Undesirable alteration of an audio signal.

**Dithering:** Technique for improving digital sound data.

**Doppler effect:** Frequency shift in a sound wave caused by a variation in the distance from the source of emission over time.

**DSD (Direct Stream Digital):** Protocol for storing and recording audio signals on a digital medium, for example used by Super Audio CDs (SACDs).

**DSP (Digital Signal Processing):** Processor dedicated to and optimized for executing signal processing tasks (filtering, extraction, conversion, encoding, decoding, compression, etc.).

**Dynamic range compression:** Audio technique that reduces the difference in level between the loudest and quietest sounds of a signal.
Enhancer: Hardware or software tool for improving the sound rendering.

Equalizer: Hardware or software system for correcting the timbre of a sound. Equalizers can filter, boost and cut specific frequency bands of the audio signal. They are commonly used for sound recording, mixing and sound reinforcement.

Exciter: see enhancer.

Expander: Hardware or software tool for increasing (expanding) the dynamic range of an audio signal.

Fuzz: Sound effect that creates saturation in the sound signal by means of heavy clipping.

Harmonizer: Hardware or software tool that enhances vocals by duplicating them at higher or lower musical intervals (third, fifth, etc.), creating chords.

Insert: Integrated access point on the mixing console or desk that allows users to add new devices (peripherals) into the audio flow between the pre-amp and the mixing bus.

Leslie: Common name for an amplification cabinet with one or more rotating speakers designed to create a Doppler effect in the sound signal, usually a signal originating from an electronic organ. Named after their inventor, Donald Leslie, these speakers can also be used with instruments other than organs. Effects that simulate the sound of Leslie speakers are often called Leslie effects, “rotovibe,” “rotary” or “univibe”.

Leslie speakers: see Leslie.
**LFO (Low-Frequency Oscillator):** Oscillator specially designed for low-frequency variations, often used for tremolo and vibrato effects.

**Limiter:** Tool for processing the dynamics of an audio signal. Limiters allow us to optimize the overall volume of a sound message, perfectly complementing the possibilities offered by a compressor.

**Loudness:** Digital quantity representing the volume as a sound as perceived by a human observer. Loudness is a complex psychoacoustic concept that depends on a large number of parameters.

**M**

**Main bus:** Primary output bus from a mixing desk. Usually stereo.

**Mastering:** Final stage of audio postproduction during which the sound rendering of a mix is optimized and calibrated in order to be transferred (for example to a medium like a CD), used or played.

**Matrixing:** Another term for mastering (see above).

**Max/MSP:** Music software for synthesizing sound, controlling instruments, recording, performing audio analysis and so on. It was developed in France by IRCAM (Institute for Research and Coordination in Acoustics/Music) in the 1980s.

**MIDI (Musical Instrument Digital Interface):** Protocol, communication standard and file format (MIDI file) created for electronic musical instruments, officially released in 1983. MIDI connections are based on three 5-pin DIN connectors: input (MIDI in), output (MIDI out) and forwarding (MIDI Thru). Two cables are required for two-way communication between each device in the musical sequence.

**Mixing:** During postproduction in a recording studio, mixing is the operation that combines multiple sound sources together to construct a single cohesive overall sound. Mixing is also performed in real time and on-site for live events such as concerts.

**N**

**Noise gate:** Processing operation that filters unwanted sounds before amplification.
O

**Overdrive:** Sound effect used to modify the sound of an instrument by increasing the gain of the amplifier to create controlled distortion.

P

**PCM (Pulse Code Modulation):** Processing operation for digitizing an electrical signal or analog audio. After sampling, each sample is quantified and transformed into a digital code.

**Phoneme:** Smallest distinguishable element when dividing a spoken message into segments. This term is used in the field of linguistics, most notably in phonology.

**Pitch shifter:** Hardware or software tool for applying a sound effect that modifies the pitch of a sound signal while keeping the same tempo (without modifying the duration of the sound).

**Postfader:** On a mixing desk, the auxiliary “postfader” output is usually a dial that copies part of the signal after it has passed through the fader (linear potentiometer) of the corresponding channel (track). The position of the fader modifies the level of the signal sent to the “postfader”.

**Prefader:** On a mixing desk, the “prefader” output copies part of the signal before it passes through the fader (linear potentiometer) of the corresponding channel (track). The level of this auxiliary output is not affected by the position of the fader.

**Presence:** System for adding trebles and sharpness to a sound. This is usually done directly at the power stage of the amp via a feedback system (part of the input signal received by the amp is fed back into it).

Q

**Quadriphonic sound:** Also known as “tetraphonic sound”. Procedure designed to create a spatialized sound signal by using four independent channels: front right, front left, back right, back left.

R

**Re-recording:** Technique that involves recording sound messages by adding them to and mixing them with other prerecorded sounds.
Rotary: See Leslie.

Rotovibe: See Leslie.

RS422: Digital transmission standard based on a serial communication protocol.

S

SACD (Super Audio Compact Disc): Optical digital medium that allows music to be stored in very high quality, created by Sony and Philips and first marketed in 1999.

Saturation: Saturation occurs in an electronic circuit whenever the output level does not increase any further when the input level is increased. Saturation is therefore an alteration or deformation of the sound signal, which is said to be distorted (saturation generates distortion).

Sibilance: Whistling caused by strongly accentuated “sq”, “sh”, soft “ch”, “z” and “j” sounds in speech. Also called the “sibilants” or “occlusives” of a sound.

Sidechain: Feature that varies the sound parameters (usually but not always the gain) as a function of an input signal, typically an external input.

S/PDIF (Sony/Philips Digital Interface): Digital interface for transferring digital audio data, also known as IEC 958. This standard was designed by Sony and Philips in 1989. It competes directly with the professional standard AES/EBU (Audio Engineering Society/European Broadcasting Union).

T

Timbre: The set of sound parameters that characterize instruments and voices and which enable us to identify them.

Tremolo: Periodic variation in the volume (and/or pitch) of a sound signal, usually created by a low-frequency oscillator (LFO).

U

Univibe: See Leslie.
USB (Universal Serial Bus): Standard for serial transmission connecting multiple devices to a computer or any other compatible host. USB was designed in the mid-1990s to replace various other communication devices, such as parallel ports, serial ports, SCSI ports, etc. It requires a specific type of cable and has evolved and improved over time. The latest version, USB 3.1, released in 2014, can theoretically achieve 10 Gbits/s.

V

Vacuum tubes: Also called “electronic tubes”. Active electronic component usually used for signal amplification, later replaced by semiconductors (transistors, diodes, etc.). Vacuum tubes were invented by Lee De Forest in 1907 (triode).

Vibrato: Periodic variation in the frequency of a sound signal, usually created by a low-frequency oscillator (LFO).

W

Wah-wah: Musical effect used by trumpeters, trombonists and guitarists based on the principle of shifting the sound spectrum. It can be generated mechanically, with a mute, or electronically, usually with a pedal. Sometimes written “wha-wha” or “wa-wa”.

Wurlitzer: Brand of a famous electric piano with 64 keys, based on a mechanism with hammers that strike metal blades. It has a very distinctive and unique sound. Many musicians have used it in the past and still (occasionally) do to this day, especially for rock and jazz. It was invented by Ben F. Meissner in the early 1950s, and peaked in popularity from 1960 to 1975. This piano was a serious competitor of the Fender Rhodes piano, although much less widely used.

X

XLR: Type of connector with a circular cross-section used for connecting professional audio and lighting equipment. It can have three to seven pins. The three-pin version is much more commonly used.