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the MUSIC TECH DICTIONARY

– A Glossary of Audio-Related Terms and Technologies –

by Mitch Gallagher

The Music Tech Dictionary: A Glossary of Audio-Related Terms and Technologies

Mitch Gallagher

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ELOP. ☞ See *electro-optical*.

EMI. Electromagnetic Interference. Errant electromagnetic fields that are picked up through the air by circuitry or cabling and that result in hum or buzz in the audio signal. EMI can be prevented or reduced using shielding, proper grounding, balanced lines, isolation transformers, and other methods.

emphasis. Modifying a signal as it is recorded (called *pre-emphasis*), by, for example, boosting the high frequencies. As the signal is played back, the modification is removed (called *de-emphasis*), in this example, by reducing the high frequencies. As the emphasis is removed, any noise added during the recording process is removed. In this example, hiss generated during recording will be removed when the high frequencies are reduced on playback.

emulation. Using modeling or other digital processing to re-create the sound or functions of a device or instrument.

encoder. 1. A device or algorithm that creates a representation of information that must be translated or decoded to be understood. Encoders are used to create versions of data that can be easily and safely stored and transmitted. 2. A knob found on some control surfaces, digital mixers, and other devices used to send digital control messages that are used to control parameter settings in a DAW or other destination.

encrypt. To encode information so that it cannot be understood without a key or other means of translation. Encryption is used to protect the privacy of data for storage and transmission. ☞ **See also** *data encryption*.

end address. A microphone that is physically designed so that its diaphragm is perpendicular to the body of the mic, with the capsule oriented to pick up sound best from the end of the mic, rather than from a side or sides (see Figure E.3). ☞ **See also** *side address*.

endian. A system for ordering the bits in a binary word. Some computers use "little endian" systems, in which the bits go up in binary value toward the left of the binary word. Others use "big endian" systems, in which bits go up in binary value toward the right of the binary word.

engine. The algorithms that provide the audio or MIDI processes in a DAW, sequencer, audio editing software, or plug-in.

ensemble. 1. A group of vocalists and/or instrumentalists. 2. An effect similar to chorusing, designed to create the sound of many instruments playing a part at once.

Figure E.3 An end-address microphone picks up sound best from the end of the mic.

envelope. 1. The volume "shape" of a sound. For example, most drums have a fast attack and a quick decay, with little sustain. A violin has a slower attack (unless it is played pizzicato) and sustains for as long as the player draws the bow across the string. 2. A multistage response curve that takes place over time and can be applied to control a synthesis parameter, such as volume or pitch (see Figure E.4). For example, the stages of a volume envelope might include an attack time, or how fast a sound begins; a decay time, or how fast the sound's initial transient settles to the sustain level; a sustain level, which determines how loud the sound will be while it is being held; and a release time, which determines how long the sound rings on after the sound ends.