



### A<sub>c</sub>

(alternating current) an electrical current with periodically changing polarity.

### Acoustics

the science of sound. The term also refers to the acoustical character of a room or hall.

### Ambience

the distinctive acoustical characteristics of an acoustic space.

### Amplifier

an electronic device used for magnifying (and usually controlling) electrical signals.

### Aux. Send

A term used to describe a secondary mix and output of the input signals, typically used for foldback monitors, headphone monitors, or effects devices.

### B<sub>ell</sub>

a boost or cut of a set of frequencies with an EQ with the center frequency having the most drastic change.

### Blumlein

a stereo recording technique invented by Alan Blumlein. The pair consists of an array of two matched microphones of bi-directional (figure 8) pickup pattern, positioned 90° from each other.

### Bus

An electrical connection common to three or more circuits. In mixer design, a bus usually carries signals from a number of inputs to a mixing amplifier.

### C<sub>omb</sub> Filtering

two signals arriving at the same location at different times. Because of the differences in the arrival times, the sound waves will have additions when they perfectly overlap and reinforce each other, and also have cancellations or nulls where they cancel each other out (the latter is called destructive interference). The frequency response of a comb filter consists of a series of regularly spaced spikes, giving the appearance of a comb.

### CPS

cycles per second, now called Hertz (Hz).



### Compression

a process that reduces the dynamic range of an audio signal, that is, narrows the difference between high and low audio levels or volumes.

### Crest Factor

the ratio of the peak value to the RMS value. Musical signals can have peaks many times higher than the RMS value. The larger the transient peaks, the larger the crest factor.

### dBfs

(full scale) the measurement scale of audio gain for digital audio.

### dBspl

(sound pressure level) the acoustical measurement scale of loudness.

### dBu

(unweighted) the measurement scale of audio gain for professional analog audio.

### dBV

(Voltage) the measurement scale of audio gain for consumer analog audio.

### DC

(direct current) an electrical current of constant and uniform polarity.

### Decca Tree

a spaced omni pattern microphone array of 3 microphones most commonly used for orchestral recording.

### Decibel

(dB) 1/10th of a Bell, the basic unit of measurement of audio gain or acoustical volume.

### Detent

a point of slight physical resistance (a click-stop) in the travel of a knob or slide control, used in Mackie mixers to indicate unity gain.

### Doppler Effect

named after Austrian physicist Christian Doppler who proposed it in 1842, is the change in frequency of a wave for an observer moving relative to the source of the wave.

### Dry

without ambience or some other applied effect.

### Dynamic Range

the usable region between the two extremes of the noise floor and the distortion ceiling.

### Engineer

the human interface to the equipment.

### Equalization

(EQ) refers to purposefully changing the frequency response of a circuit, sometimes to correct for previous unequal response (hence the term, equalization), and more often to add or subtract level at certain frequencies for sound enhancement, to remove extraneous sounds, or to create completely new and different sounds.

### Etiquette

the conduct or procedure that is required to be observed in social or official life.

### Fader

another name for an audio level control. Today, the term refers to a straight-line slide control rather than a rotary control.

### Family of Curves

a composite graph showing on one chart several examples of possible EQ curves for a given equalizer or equalizer section.

### Fidelity

faithfulness to an original.

### Filter

a simple equalizer designed to remove certain ranges of frequencies.

### Foldback

the use of headphones and/or speaker cabinets that often are an independent cue mix for the performers being recorded which is separate from what the control room is monitoring.

### Frequency

the number of sonic vibrations per second of any pure tone, or the number of impulses per second of an electrical signal.

### Frequency Response

the range of frequencies that can be produced by an audio system.



### Fundamental

the basic pitch of a musical note.

### Gain

the increase in power level of a signal produced by an amplifier.

### Gain Structure

the gain of each stage of audio.

### Harmonics

integral multiples of the fundamental frequency.

### Hertz

(Hz) a unit of frequency, equal to one cycle per second.

### HPF

High Pass Filter- used to filter out low frequencies starting at the corner frequency.

### Insert

an access point built into the mixing console, allowing the user to add external line level devices into the signal flow between the microphone preamplifier/line pre and the fader output of a console channel.

### Inverse Square Law

(as applied to microphones and speakers) doubling the distance creates a 6dB loss in sound pressure level. Halving the distance creates a 6dB increase in gain.

### kHz

(kilohertz) 1,000 Hertz.

### Limiting

the creation of a maximum loudness of the sound by preventing the sound going above a set threshold.

Gating: limits how quiet a sound can be by filtering any sound below a set threshold.

### LPF

the range of Low Pass Filter- used to filter out high frequencies starting at the corner frequency.frequencies that can be produced by an audio system.

### **M**ixer

an electronic device used to combine various audio signals into a common output.

### **M-S**

(Mid-Side) a stereo technique employing 2 microphones. One of the microphone capsules is designated to be the “mid” position (cardioid) while the other is designated to be the “side” position (figure 8).

### **O**ctave

a 2:1 ratio between any two frequencies.

### **O.R.T.F.**

(Office de Radiodiffusion-Télévision Française-French Broadcasting Organization) combines both the volume difference provided as sound arrives on- and off-axis at two cardioid microphones spread to a 110° angle, as well as the timing difference as sound arrives at the two microphones spaced 17 cm apart.

### **P**hantom power

+48 Volts DC that travels down a mic cable for the purpose of supplying power to condenser mics and active D.I. boxes.

### **Phase**

the time relationship between two signals.

### **Polarity**

the relative position of the high (+) and the low (-) signal leads in an audio system.

### **Potentiometer**

(pot) in electronics, a variable resistor that varies the potential, or voltage. In audio, any rotary or slide control.

### **Preamplifier**

any of the ways in which waveforms travel.

### **Proximity Effect**

The property of many directional microphones to accentuate their bass response when the source-to-mic distance is small.

### **Producer**

the person who oversees and is in charge of the production.

### Q

quality factor of an equalizer that determines the bandwidth.

### Reverberation

the reflection of sound from indoor surfaces.

### Return

a mixer line input dedicated to the task of returning processed or added sound from reverb, delay and other effects devices.

### RMS

(Root Mean Square) .707 times the peak value of the waveform's amplitude that gives an effective average of the waveform.

### Shelving

used to describe the shape of an equalizer's frequency response. A shelving equalizer's response begins to rise (or fall) at some frequency and continues to fall (or rise) until it reaches the shelf frequency, at which point the response curve flattens out and remains flat to the limits of audibility.

### Signal to Noise Ratio

the difference between the nominal or maximum operating level and the noise floor in decibels, (S/N).

### Solo

a circuit that allows the engineer to listen to individual channels, buses or other circuits singly or in combination with other soloed signals.

### Standing Wave

the formation of a stationary wave by the constructive interference of two harmonic waves of the same amplitude and frequency (and therefore same wavelength), but traveling in opposite direction.

### Timbre

the quality of sound related to its harmonic structure.

### Transducer

a device that changes energy from one form to another.  
Microphone: an acoustic-to-electric transducer or sensor that converts sound into an electrical signal.



### **Transient**

an abrupt change in signal amplitude.

### **U**nity Gain

the gain stage is neither boosting nor attenuating the signal.

### **V**U Meter

(Volume Unit meter) used to measure audio signal levels (in dB) relative to a fixed level.

### **W**<sub>et</sub>

with added ambience or other effect.

### **X**-Y

creates a stereo image by using two cardioid or hyper cardioid microphones placed as near as possible to each other at 90-135 degrees spread and with the center of the spread pointed at the sound source.

## CAMPUS LOCATIONS

Alhambra Campus  
1000 S. Fremont Avenue, UNIT 14  
Alhambra, CA 91803  
TEL: 626.284.0050

Admissions Director: Anton Croos  
[Anton.Croos@pinnaclecollege.edu](mailto:Anton.Croos@pinnaclecollege.edu)

Rancho Cordova Campus  
11050 White Rock Road, Suite 150  
Rancho Cordova, CA  
TEL: 916.366.3431

Admissions Director: Julie Munso  
[julie.munso@pinnaclecollege.edu](mailto:julie.munso@pinnaclecollege.edu)  
[www.pinnaclecollege.edu](http://www.pinnaclecollege.edu)