

The Audio Institute of America Music Production and Sound Engineering Online Course

All course content is copyright Audio Institute of America and is for the sole personal use of the enrolled student to whom it is issued.

Audio Institute of America, 814 46th. Avenue, San Francisco, CA,
94121, USA
audioinst@audioinstitute.com, Tel. (415) 752-070

AIA AUDIO DICTIONARY — The most commonly used

words and phrases heard in the recording studio

A-B'ING - Comparing two signals, by frequently switching from one to the other. Normally the input and the signal off tape.

ACCESS TIME - The time required by a hard disk or CD-ROM drive to seek the requested track and transfer the data to the destination.

ACTIVE COMBINING NETWORK (ACN) - see combining amplifier.

ACTIVE DEVICE - One that can control voltage or current.

ACOUSTIC CENTER - In a loud speaker, is the point at which the sound waves appears to originate.

ACOUSTIC LENS - A high frequency speaker attachment system, designed to provide a wide radiation.

ACOUSTIC SUSPENSION SYSTEM - A sealed loudspeaker cabinet, in which the enclosed volume of air behaves as an acoustic resistance to the movement of the speaker cone.

ACTIVE DEVICE - A network or circuit capable of supplying a power increase or voltage gain. For example, an amplifier.

ADAT (Alesis digital audio tape) - A format which originally recorded eight tracks digitally on a standard 1/2" SVHS video cassette.

ADC (Analog to digital converter) - An electrical circuit which converts an instantaneous point of an analog input signal into a digital word. This word is represented by binary numbers which are then recorded digitally.

ADDRESS BITS - In SMPTE time code, a bit group which may be assigned to various time, sync, or user-defined functions.

ADT - Automatic double tracking. An electronic effect which simulates the same part being recorded twice. (ATT is automatic triple tracking.)

AES/EBU INTERFACE - A two-channel, digital audio hardware/software standard. The AES/EBU interface allows for data communication between digital devices with AES/EBU outputs.

AIFF (AUDIO INTERCHANGE FILE FORMAT) - A file format for storing digital audio (waveform) data. It supports a variety of bit resolutions, sample rates, and channels of audio.

ALIAS FREQUENCY - An erroneous frequency created when sampling a signal whose frequency is higher than the Nyquist frequency.

ALIASING - The creation of unwanted, or alias frequencies when sampling a signal with a frequency higher than half the sampling rate. (Nyquist frequency).

ALIGNMENT - The physical adjustment of a device (usually recording heads), to make them perform with optimum results.

ALIGNMENT TAPE - see test tape.

ALTERNATING CURRENT, (AC) - Current that reverses direction at a regular rate. Alternating voltage reverses in polarity. The rate of these reversals is the frequency.

AMBIENT NOISE - Natural reverberation within a room.

AMPLIFIER - A device that increases the amplitude of a signal.

ANALOG - (Also spelled analogue.) A representation of an acoustical waveform, characterized by being continuously variable. (Rather than discrete - as in digital).

ANALOG CIRCUITS - Circuits that have continuous variations in voltage or current, unlike digital pulse circuits.

ANALOG DELAY - A device which delays audio signals without converting them to digital form.

ANALOG RECORDING - The traditional method of recording, in which the recorded waveform is analogous to the acoustical or electrical source signal.

ANCHOIC CHAMBER - A room designed to provide an absolutely reflection-free environment.

ANTI-ALIASING FILTER - A low-pass filter used at the input of digital audio recorders to reduce frequencies above half the sampling frequency, to prevent aliasing.

ASCII - American Standard Code for Information Interchange. A coding convention to represent characters in 8 bit binary format.

ASPERITY NOISE - An increase in noise level which occurs over a narrow bandwidth on either side of a recorded frequency.

ASSIGN - (in mixing consoles) to route a signal to another part of the circuit.

ATTACK - The initial transient that gives a musical note its quality.

ATTACK TIME - the amount of time it takes for the gain of a signal processing device to change in response to the input signal level.

ATTENUATE - Reduce.

ATTENUATION PAD - A resistive network to lower the level of a signal by a specific number of decibels. Normally found in microphones and at the input stages of mixers.

AUDIO FREQUENCY - The range of human hearing: about 16 to 16,000 Hz.

AUTO-LOCATOR - The remote tape transport control system.

AVERAGE VALUE - In sine wave AC voltage or current, is 0.637 of peak value.

AZIMUTH - The angular relationship in degrees between the gap on a tape head and the tape path.

"B" WEIGHTING - A filtering network, corresponding to the ear's sensitivity at a level of 70 phons. ("A" Weighting is at 40 phons; "C" Weighting at 100 phons).

BACKING TRACK (Basics) - The essential underlying structure of a song, typically consisting of drums, bass and rhythm guitar, upon which subsequent overdubs and embellishments are recorded.

BACK PLATE - The fixed rear element in the diaphragm of a condenser mic.

BAFFLE, ACOUSTIC (Gobo) - A moveable or standing partition, designed to be an acoustic obstruction to the passage of sound waves. Aids in the isolation of musical instruments.

BAFFLE, FOLDED - A speaker cabinet that is completely open at the rear.

BAFFLE, INFINITE - Theoretically, a baffle so large that sounds originating on either side of it never reach the opposite side, thus avoiding any phase cancellation. A practical example would be a speaker mounted in an opening in a wall.

BAFFLE, OPEN - A flat board, of less than infinite dimension, on which a speaker has been mounted.

BALANCE - The relative level of two or more sounds.

BALANCED LINE - A cable consisting of two conductor wires plus a shield. Better than unbalanced lines for longer cable runs.

BALLISTICS - Characteristics of VU or PPM meter movements, referring to their abilities to respond to the envelope of the signal being measured.

BAND PASS FILTER - A filter that limits response both above and below a particular bandwidth.

BAND REJECT FILTER - A filter that attenuates a desired bandwidth, while passing frequencies above and below.

BANDWIDTH - The range between the highest and lowest frequencies in an audio system.

BASE - Plastic film in recording tape upon which the magnetic oxide is coated.

BASIC TRACKS - The rhythm tracks that are recorded first.

BASS REFLEX ENCLOSURE - A loudspeaker enclosure which has an open port cut into the front baffle.

BI-AMPLIFICATION - The splitting of the audio bandwidth into low and high frequencies, and using separate amplifiers for each.

BI-DIRECTIONAL MICROPHONE - A microphone that is sensitive to a figure of eight pattern, and relatively insensitive to side-originating sounds.

BIAS - An inaudibly high frequency current which is combined with the program material and applied to the record head to linearize the transfer characteristic of magnetic recording tape and minimize distortion.

BIAS FREQUENCY - The frequency of the applied bias signal. Generally between 150,000 and 180,000 Hz.

BIAS OSCILLATOR - A fixed frequency oscillator to supply the bias current.

BIAS TRAP - A filter designed to prevent the bias current from overloading the record or playback amplifiers in the taperecorder.

BINARY - Characterized by or composed of two states, as in the binary number system (base 2) using the digits 0 and 1.

BINARY-CODED DECIMAL - A decimal number, in which each digit is encoded into its binary equivalent. For example decimal 265 = binary 100001001

BINARY DIGIT - Any one of the two digits (0, and 1) used in the Binary numbering system.

BINARY GROUPS - In SMPTE time code, eight groups of four bits each, are reserved to record user-assignable information.

BINARY NUMBER SYSTEM - A system with only two digits: 0 and 1.

BINAURAL RECORDING - A recording technique whereby two omni-directional microphones point in the same direction and are placed on each side of an acoustic baffle. The condition is designed to simulate the characteristics of a listener's head. For best results, the recording should be monitored with headphones.

BINDER - The medium in which magnetic particles are suspended to form the oxide coating on magnetic tape.

BIT - A binary digit. The smallest unit of digital information. A bit can store only two states, represented by a 0 or a 1.

BIT RATE - The rate or frequency at which bits appear in a bit stream.

BIT STREAM - A continuous sequence of binary digits.

BLOCK, DATA - A section of digital data. This is normally separated from adjacent data blocks by a gap.

BLUMLEIN PAIR - Two microphones, arranged for a stereophonic pickup, according to the methods invented by Alan Blumlein.

BOUNCING TRACKS (Ping-ponging) - The technique of transferring several previously recorded tracks to a single unused track on the same tape or disk, in order to extend track capacity. The previously recorded tracks may then be erased and re-used for new sounds.

BREATHING (Pumping) - An audible rising and falling of background noise that may be heard when using a compressor.

BULK ERASER (Degausser) - A strong electro-magnet which is used to erase an entire roll of tape.

BUS - An output or grouping point for several signals on a mixing console.

BUS SELECTOR SWITCH - On the console, a multi-position switch, which permits a signal path to be routed to one or more buses.

BYTE - A sequence of bits which is shorter than a digital word. A byte is usually comprised of a string of eight bits.

C.C.I.R. - International Radio Consultive Committee.

CD - Compact Disk

CD-R - Recordable Compact Disk. This CD-ROM technology allows you to use write-once CD-ROM media to record music, data, or "hybrid" on a special CD-ROM disk that can be read in most CD-ROM drives as long as the disk format is compatible.

CD-RW Rewritable Compact Disk. This CD-ROM technology allows you to record multiple times to the same CD-ROM disk media. A limitation of this media is that it can only be read in other CD-RW drives or CD-ROM drives that are "multi-read" compatible. Some older CD-ROM drives cannot read this media.

CALIBRATION (ALIGNMENT) - Adjustments in a taperecorder to optimise level, frequency response and bias.

CALIBRATION TONES (TEST TONES) - Sine wave tones which are recorded at the beginning of a reel of recorded tape. They are used to similarly align other machines on which the tape is to be played to ensure conformity of sound.

CANCELLATION - The severe degradation that occurs when two identical signals, (electrical or acoustical), of opposite polarity are combined.

CANS - Musicians' term for headphones.

CAPACITANCE - An opposition to a change in voltage. The ability to store electric charge.

CAPACITOR - An electronic component that opposes a change in voltage. It is used to store electric charge.

CAPACITOR MICROPHONE - A microphone in which the diaphragm is one plate of a capacitor.

CAPSTAN - The revolving shaft on a tape recorder that determines the tape running speed.

CAPSTAN IDLER (Pinch Roller/Puck) - The rubber coated wheel that forces the tape against the capstan when the tape recorder is in either play or record modes.

CARDIOID MICROPHONE - A mic with a cardioid polar pickup pattern.

CATHODE RAY OSCILLOSCOPE - A test instrument with a screen which is able to give a visual display of the waveform being measured.

CENTER FREQUENCY - In a peaking equalizer, the frequency at which maximum boost (or attenuation) occurs.

CHANNEL - A signal path which is isolated from other signal paths.

CHANNEL PATH - The signal path through an in-line console in which the signal is routed directly from the input to the output. The equalizer and the VCA fader are bypassed.

CHIP - A miniature semiconductor containing the elements of the device.

CIRC - (Cross-interleave Reed Solomon Code). A method of error detection and correction using data delay and re-arrangement and the Reed Solomon coding algorithm.

CLICK TRACK - A track on the multitrack used to store clicks from an electronic metronome. It is used to set tempos and keep the music steady.

CLIPPING - The distortion of the signal at full amplitude when the circuit runs out of headroom.

CLOCK - A device that supplies timing pulses for digital circuits.

CLOSED CIRCUIT - A continuous path for a current.

CLOSED LOOP TAPE PATH - Also called an Isoloop system by the 3M Company. A tape transport system in which the tape passes through two capstan/capstan idler systems; one on each side of the head assembly.

CLOSE MIKING - The technique of placing microphones extremely close to instruments, thereby eliminating almost everything but the direct sound.

COCKTAIL PARTY EFFECT - The ability of the brain to pick out one conversation in the midst of many that are

equally loud and going on simultaneously.

COIL - Turns of wire conductor to concentrate a magnetic field.

CODE, PARITY - An error-correction code created by adding several audio data codes. The parity code is later added to an incorrect data code in order to correct it.

COERCIVITY - The strength of the magnetic field required to bring a saturated tape to complete erasure. It is measured in oersteds (Hc).

COHERENCE - The instantaneous polarity relationship between two complex sound waves.

COHERENT SIGNALS - Two complex waveforms that are most of the time of the same polarity.

COINCIDENT MICROPHONES - A stereo microphone, or two or more microphones placed on the same vertical axis.

COLORATION - A distortion or degradation in frequency response.

COLOR-FRAME FLAG - In the SMPTE time code, bit #11 is assigned a '1' to indicate the color-frame mode. In black and white, bit #11 is assigned a '0'.

COMBINING AMPLIFIER - An amplifier at which the outputs of two or more signal paths are united to feed a single track on the tape or disk recorder.

COMPACT DISC - A 12cm. diameter plastic optical disc, typically holding a maximum of 80 minutes of data.

COMPANDER - The contraction of COMPRESSOR and exPANDER, often used to describe the actions of noise reduction systems where the dynamic range is limited during recording, and expanded by the same amount on playback.

COMPLIMENTARY SIGNAL PROCESSING - A signal processing technique, in which some processing is done before recording, with equal and opposite (complementary) processing done during playback.

COMPRESSION DRIVER - A midrange or high frequency speaker which produces sound through a small diaphragm. For maximum efficiency, it is coupled with a horn assembly.

COMPRESSION RATIO - In a compressor, the ratio of dB change in input level to dB change in output level.

COMPRESSOR - An amplifier which restricts a signal to a predetermined dynamic range.

CONDENSER MICROPHONE - The popular name for a capacitor microphone.

CONSOLE, RECORDING (MIXER, BOARD, DESK) - The control unit containing the input, output, signal routing, and monitoring controls.

CONTACT MICROPHONE - A microphone which is directly attached to an instrument. Usually, it responds to the mechanical vibrations.

CONTROL SURFACE - A hardware mixing surface that allows you to mix and record with a digital audio system as you would with a traditional analog mixing console.

COTTAGE LOAF MICROPHONE - A super-cardioid or hyper-cardioid microphone. Cottage loaf describes the polar pickup pattern.

CRCC - Cyclic Redundancy Check Code. This code is used for error-detection purposes in digital recording. A recorded code containing data derived from the audio data is recorded at regular intervals along the tape.

CROSS-FADE - A method of fading out one program segment while fading in the following segment.

CROSS-INTERLEAVING - An error-concealment scheme used in digital recording, in which sequential words of data are first separated and then recorded in odd and even groups (for example, 1, 3, 5, 7, 9, 2, 4, 6, 8, 10,).

CROSSOVER FREQUENCY - A single frequency at which both sides of a crossover network are down 3dB.

CROSSOVER NETWORK - A frequency dividing network designed to assign portions of the audio bandwidth to the optimum speakers in a given system. Typically 2, 3 or 4 way systems.

CROSSTALK - In a signal path, the unwanted detection of a signal from an adjacent signal path.

CUE (FOLDBACK) - Headphone mix that is fed to the musicians in the studio.

CURRENT - The rate of flow of electricity, measured in amperes.

CUT-OFF FILTER - A filter that sharply attenuates frequencies beyond a specified frequency.

CUT-OFF FREQUENCY - In a high or low-pass filter, the frequency at which the output level has fallen by 3dB.

CYCLE - One complete set of values for a complete waveform.

CYCLES PER SECOND - The number of complete oscillations per second of a vibrating object. This is the unit by which frequency is measured. Also called hertz, (Hz).

D/A CONVERTER (DIGITAL TO ANALOG) - An electrical circuit which converts binary numbers back into their equivalent continuous analog waveforms. Also known as a decoder.

DAT - Digital audio tape.

DATA STREAM - A series of pulses of digitally-encoded data, the term is often used to describe the entire digital signal including codes.

DAW - Digital audio workstation.

dB (DECIBEL) - The logarithm of the ratio of two power levels.

DC - Direct current. It flows in only one direction and has a steady polarity that does not reverse.

DDL - A digital delay line, for delaying a signal or to produce discrete echoes.

DECAY - The diminishing vibrations of a musical instrument, or lessening sound reflections within a room.

DECAY TIME - The time it takes for echoes and reverberation to die away.

dBm - A decibel level in which one milliwatt of power is dissipated in a 600 ohm line.

dBV - A decibel voltage level in which the reference level is 1.0 volt. A reference of 0.775 volts is also used.

DECIMAL DIGITS - the ten digits (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) used in the decimal numbering system.

DECODER - See D/A converter

DECODING - The process of applying complementary signal processing to restore a signal to its normal state, as in the playback mode of a noise reduction system.

DE-ESSER - A compressor specifically designed to lessen the emphatic effect of sibilants.

DE-GAUSSER - A device for demagnetizing the heads and other surfaces that build up magnetism on a tape recorder, by applying an AC field and gradually reducing it to zero..

DELAY - The time interval between a direct signal and its echo(es).

DELAY LINE, ACOUSTIC - The delay is accomplished acoustically, for example using a long tube which has a speaker at one end and a mic at the other.

DELAY LINE, DIGITAL - See DDL.

DEMAGNETIZATION - The erasure of a magnetic tape. Also the degaussing of the tape recorder heads and related parts.

DE-MULTIPLEXER - A serial to parallel data bit stream converter.

DIAPHRAGM - The moving membrane in a microphone or loudspeaker.

DIFFRACTION - The bending of sound waves, around or over obstacles. Low frequencies are more easily diffracted than higher frequencies.

DIGITAL - The use of numbers (typically binary) to represent information.

DIGITAL AUDIO - The use of sampling and quantization techniques to store or transmit audio information.

D/A OR DIGITAL-TO-ANALOG CONVERTER - The device that converts digital signals back into an analog format so that they can be heard.

DIGITAL I/O - Input and output connections where signals passed from one stage to another remain in the digital domain.

DIGITAL CIRCUIT - One that uses only two levels for a pulse of voltage or current: either high (1) or low (0).

DIGITAL DELAY LINE - see DDL.

DIGITAL IC - Digital integrated circuit.

DIGITAL RECORDING - A recording system whereby the continuous analog waveforms are broken down into steps and each step is assigned a numerical value prior to recording. On playback, the digital data is converted back to the analog form.

DIGITAL SIGNAL PROCESSOR (DSP) - A specialized circuit, usually a chip, designed to manipulate large quantities of data in real-time.

DIGITIZATION - The conversion of analog information into digital form.

DIRECT MODE - A single channel on the console is directly routed to its associated input channel on the multitrack recorder. Other input channels cannot now be routed to the same multitrack channel.

DIRECT BOX (DI) - A small box containing a transformer which is used to convert signals from the direct pickups of electronic musical instruments into a suitable level for optimum matching with the input requirements of the console.

DIRECT RADIATOR - A loudspeaker diaphragm that is coupled (united) directly with the surrounding air mass.

DIRECT SOUND - The sound that reaches the listener in a path which is a straight line from the sound source, with no echoes or reverberation.

DISCRETE TIME SAMPLING - The basis of digital audio. The technique of representing a waveform at a discrete instant of time with a set of periodic pulses. The basis of digital audio.

DISPLACEMENT - The distance a speaker or microphone diaphragm moves from its original position.

DISTANT MIKING - The placement of a microphone far from the sound source, thus picking up more reflected sound.

DISTORTION - Unwanted changes in a signal's waveform. When a signal passes the allowable headroom of an electronic component, severe deformation occurs.

DISTORTION, HARMONIC - The appearance of harmonics of the applied input signal, as measured at the output of an electronic component.

DISTORTION, INTERMODULATION - Unwanted frequencies that are created by the sums and differences between various components within a complex waveform.

DISTORTION, PERCENTAGE (%) - The amount of distortion, measured as a percentage of the amplitude of the total waveform.

DISTORTION, TRANSIENT - Occurs when an audio system is unable to reproduce a rapid transient.

DITHER - Dithering is a mathematical process where a random noise is added to the least significant bit of a digital word.

DOLBY - Trademark of a widely used noise reduction system.

DOLBY TONE - A reference tone, recorded at the head of a Dolby encoded tape. Like normal calibration tones, it is for purposes of alignment.

DOLBY DIGITAL 5.1 - A multi-channel surround format consisting of discrete front left, front center, front right, rear left, rear right, and a low-frequency-effects (LFE) channel.

DOMAIN - The smallest particle that may be considered a magnet.

DOUBLING - See ADT.

DOWN TIME - Studio time when recording cannot proceed owing to equipment malfunction. The client does not pay for this time.

DROP-FRAME - In SMPTE time code, this is a system in which 108 frames-per-hour are discarded, which compensates for the difference in rates between color and black and white frames: 29.97 and 30 frames per second respectively.

DROP-FRAME FLAG - In SMPTE time code, bit #10 is assigned a '1' to indicate the presence of the drop-frame mode.

DROP IN, (PUNCH IN) - Re-recording a section of a track rather than starting again.

DROP OUT - In analog: a temporary loss in recorded quality due to a fault in the heads or more likely an imperfection in the tape itself. In digital: an error condition in which bits are incorrect or lost.

DRY RECORDING - A recorded signal devoid of artificial reverberation, echo or effects.

DSD - Direct Stream Digital (DSD) Encoding is the technology used to record and produce audio content on the SACD

DSP - Digital Signal Processor

DTS - Digital Theater System features up to five discrete channels.

DUAL DIAPHRAGM MICROPHONE - A mic with two diaphragms. The second diaphragm may be electronically combined with the first to produce more than one polar pattern, or the two diaphragms might be for high and low frequencies.

DUCKER - A speech-activated compressor, in which an announcer's voice automatically affects the level of the underlying musical accompaniment.

DVD - Digital Versatile Disk is a high-capacity media using the same 5 inch disk form factor as the CD. Depending on the construction of the DVD disc, DVD's have different capacity for video and audio information.

DVD-AUDIO - is a format specifically designed to provide a very high audio fidelity capability on DVD which far exceeds the quality of conventional CD's. It provides for audio in stereo and in multi-channel surround in a wide range of specifications.

DVD-RAM - This disk is a rewritable version of the DVD disk. It can later be modified, erased, or updated.

DYNAMIC FILTER - A filter where response to the program level changes the bandwidth.

DYNAMIC LOUDSPEAKER - A moving coil or ribbon loudspeaker.

DYNAMIC MICROPHONE - A moving coil or ribbon microphone.

DYNAMIC MOVING COIL MICROPHONE - The diaphragm is joined onto the voice coil and moves in a magnetic field.

DYNAMIC RANGE - The difference between the loudest and quietest parts, often expressed in dB.

ECHO - A discrete repetition of a sound. One, or more repetitions of an audio signal.

ECHO PLATE - An electro-mechanical device used to simulate natural reverb.

ECHO, POST - A signal routed to an echo send line from a point on the console after the input fader.

ECHO, PRE - A signal routed to an echo send line from a point on the console before the input fader.

ECHO RETURN - The signal path and the associated level controls that affect the signal returned from echo and reverberation systems.

ECHO SEND - The circuit or bus used to send signals from the console to the echo units.

EDIT SWITCH - On a tape recorder, a switch that allows the machine to enter the play mode, while the take up motor remains disabled, so the unwanted tape being played spills off the machine on to the floor.

EDITING, ELECTRONIC - The procedure of assembling a final master tape by transferring required portions of the takes in sequence, onto a new roll of tape.

EDITING, RAZOR BLADE - The process of removing or rearranging certain segments by cutting and splicing the tape.

EFFICIENCY - In an audio system, the ratio of power output to power input.

EFM - (Eight-to-fourteen modulation). An encoding technique used in CD mastering to convert 8 bits of digital data to 14 bits. This defines pit structure and increases data density. The CD player performs EFM demodulation.

ELECTRET MICROPHONE - A mic which has a permanently charged capacitor/diaphragm.

ELECTROMAGNETISM - The effects of combining a magnetic field with an electric current.

ELECTROSTATIC LOUDSPEAKER - A speaker in which the diaphragm acts as one plate of a capacitor.

ELEVATED LEVEL TEST TAPE - A test tape which possesses a higher than normal reference fluxivity. These test tapes read about 3dB higher than standard test tapes.

EMPHASIS - The process of boosting high frequencies in the audio signal during recording which are then de-emphasised or correspondingly reduced during playback to increase signal-to-noise ratio.

ENCODER - See A/D converter.

ENCODING - the application of signal processing before recording, that will be removed by decoding during playback.

ENERGY CONVERSION - The process of changing a signal from one form of energy to another. For example a microphone, which converts acoustical energy into electrical energy.

ENVELOPE - The overall shape of the waveform of a musical instrument.

EQUAL LOUDNESS CONTOURS (FLETCHER-MUNSON CURVES) - A series of graphs depicting the ear's sensitivity to frequencies at varying levels of loudness. Also known as the Fletch-Munson curves.

EQUALIZATION - Selective modification of frequency response of an audio signal by means of selector switches and potentiometers.

EQUALIZATION, ROOM - The practice of tailoring the frequency response of a speaker to correct for certain frequency response inaccuracies created by the size, absorptive and reflective properties of that particular room.

EQUALIZER - A series of variable filters which modify the frequency response of a signal.

EQUALIZER, ACTIVE - An equalizer containing active components, such as tubes or transistors.

EQUALIZER, GRAPHIC - An equalizer with a set of slide controls which indicate a graphic simulation of the resulting frequency response.

EQUALIZER, PARAMETRIC - An equalizer in which the frequency selector controls are continuously variable over a wide range. Typically three or four overlapping bandwidths are available.

EQUALIZER, PASSIVE - An equalizer containing only passive components, such as resistors, capacitors and inductors. Usually these devices result in a loss of level.

EQUALIZER, SHELVING - An equalizer that supplies a constant amount of boost or attenuation at all frequencies beyond the turnover frequency of that particular equalizer.

ERASE HEAD - The head that applies a magnetic force to the tape in order to erase it just prior to recording.

ERASE OSCILLATOR - A fixed frequency oscillator which is built into the tape recorder to supply erase current to the erase head.

EXPANDER - An amplifier whose gain decreases as its input level is decreased.

EXPANSION PEAK - The use of an expander in a playback system to restore peaks that may have been compressed during recording. A peak expander may be used to widen the dynamic range of any program.

EXPANSION RATIO - In an expander, the ratio of dB change in input level to dB change in output level.

EXPANSION THRESHOLD - The user-adjustable level below which an expander begins to function.

FADE-OUT - A slow drop in level at the end of a recording.

FADER - A potentiometer which acts as a slider rather than a rotary control to alter levels.

FADER, MASTER - A single fader, which regulates the amplitude of all other faders that are assigned to it.

FEEDBACK - The return of some of an output signal back into the system's input which can result in a squealing sound.

FIBRE OPTICAL CONNECTOR - A device that transmits signals through light instead of conventional wire. Advantages include higher speed and the ability to carry multiple channels of information over a single, thin cable.

FIGURE of EIGHT MICROPHONE - A microphone with a bi-directional polar pattern which is equal at the front and back, and less sensitive at the sides.

FILTER - an equalizer designed to attenuate or boost certain frequencies, or bands of frequencies.

FILTER, ANTI-ALIASING - A low-pass filter used in digital recording to remove high-frequency components above the Nyquist frequency, which would otherwise create aliasing errors.

FILTER, HIGH FREQUENCY - A filter that attenuates high frequencies.

FILTER, HIGH PASS - A filter that allows high frequencies to pass, while attenuating those below a specified cut off frequency.

FILTER, LOW FREQUENCY - A filter that attenuates low frequencies.

FILTER, LOW PASS - A filter that allows low frequencies to pass, while attenuating those above a specified cut off frequency.

FILTER, NOTCH - A filter specifically designed to attenuate a rather narrow band of frequencies.

FIREWIRE - Apple Computer's version of a standard, IEEE 1394, High Performance Serial Bus, for connecting devices to a personal computer.

FLANGING - An effect similar to phasing, created by mixing a direct signal with the same signal slightly delayed. To create this effect, the delay time is varied continuously.

FLETCHER-MUNSON CURVES - Equal loudness contours depicting the ear's response to varying frequencies at different amplitudes.

FLUTTER - A cyclical pitch variation caused by mechanical imperfections in a taperecorder transport system.

FLUTTER FILTER (SCRAPE FILTER) - A low friction surface, placed in the tape path, to minimize flutter.

FLUX - Magnetic lines of force.

FLUX DENSITY - Amount of flux per unit area.

FLUXIVITY - The measurement of the flux density of recording tape, per unit of track width.

FLUXIVITY, REFERENCE - A specified fluxivity, as recorded and stated on a test tape.

FOLDBACK - The monitor mix which is routed to the musicians' headphones.

FOLDED HORN - A speaker system in which the horn is folded over on itself in the interest of space economy.

FRAME - (On a Compact Disc): The basic unit of data containing audio data, synchronization, subcode, and error detection information (parity bits).

FRAMES - On film or videotape, the series of single pictures.

FRAME RATE - The speed per second at which frames are recorded.

FREQUENCY - The number of vibrations per unit of time, measured in hertz (Hz). Cycles per second.

FREQUENCY RESPONSE - Amplitude variation within a given frequency range.

FRINGING - An unnatural increase in low frequency response; when a tape is reproduced by a playback head that is narrower than the record head that was used to record it.

FULL TRACK - A tape with a single audio track recorded across its entire width.

FUNDAMENTAL - The primary frequency of vibration of a sound source.

FUSE - Metal link that melts when excessive current is applied and opens a circuit.

GAIN - The amount of amplification of which a circuit is capable.

GAIN REDUCTION - In a compressor, the decrease in gain when the input signal level is above the threshold.

GAIN RIDING - Manual adjustments to the fader in a signal path in an effort to increase or decrease the level of the signal.

GAMMA FERRIC OXIDE - The compound that is used in the manufacture of recording tape.

GAP SPACE - The gap dimension in the head, measured in the direction of tape travel.

GAUSS - A unit of measurement of remanent magnetization in recording tape.

GENERATION - A copy of a tape. The original recording is a first generation tape. A copy of the original is a second generation; a copy made from the second generation tape is a third generation, etc.

GB - Gigabyte. One GB equals 1024 MB.

GOBO - (Go between) A sound absorbing panel, positioned to acoustically separate one musical instrument from another.

GOLDEN SECTION - A ratio of room height to width to length suggested by the ancient Greeks; the Golden Section is 1 : 1.62 : 2.62.

GRAPHIC EQUALIZER - see equalizer, graphic.

GROUP MASTER - A single fader assigned to a group of VCA's.

GROUPING - The practice of controlling a number of selected VCA's by a single VCA fader. The fader thus becomes a sub-master group fader, controlling the signal level through all the VCA's that have been placed under its control.

HARD DISK - A permanent storage medium for computer data, based on a rotating disc with a magnetically sensitive layer.

HARMONICS - Exact multiples of a fundamental frequency.

HEAD - On a tape recorder, the transducer used to apply and detect magnetic energy on the tape.

HEADGAP - The space between the two pole pieces in a head.

HEAD, PLAYBACK - The head that is used to pick up the tape's magnetic field.

HEAD, RECORD - The head that is used to apply a magnetic force onto the tape.

HEADROOM - The amount above normal operating level which is free from distortion.

HEAD SHIELD - A metal shield covering the front of the playback head. It protects the head from picking up stray magnetic fields which may produce hum.

HERTZ (Hz) - The unit of measurement of frequency in cycles per second.

HIGH FIDELITY (HI-FI) - Very accurate sound recording and reproduction.

HIGH OUTPUT TAPE - A high sensitivity tape.

HORN - A speaker system, so-called because of its characteristic shape. The horn design provides an efficient coupling of the diaphragm to the surrounding air mass.

HORN LOADED SYSTEM - A speaker system in which a horn is used.

HORN, MULTI-CELLULAR - A horn cluster, designed to provide a wider than normal angle of sound radiation.

HUB - The center of a tape reel, around which the tape is wound.

HYPER-CARDIOID MICROPHONE - A mic with a hyper-cardioid shaped polar pattern.

IC - Integrated circuit. Contains transistors, diodes, capacitors and resistors in one tiny package.

INITIALIZATION - The process whereby a CD player reads the table of contents when a disc is first loaded.

INPUT - Entry point of an electronic signal to a recording or processing device.

INPUT MODULE - On the console, a module containing amplifiers, equalizers, faders, filters, send controls etc.

INSULATOR - A device that does not allow current to flow when voltage is applied due to its high resistance.

INTERLEAVING - A process of error correction involving the re-arrangement of the time sequence of data. Upon interleaving, errors in consecutive bits or words are distributed to a wider area to guard against consecutive errors in the storage media.

INTERPOLATION - The method of concealing errors through the use of adjacent data to determine the approximate value of missing data.

IMPEDANCE, HIGH - A circuit with an impedance of several thousand ohms or more.

IMPEDANCE, LOW - A circuit with an impedance of 600 ohms or less.

TRANSFORMER, IMPEDANCE MATCHING - A transformer used to match the impedance of one line to another.

INCOHERENT SIGNALS - Two complex waveforms that are most of the time of opposite polarity.

INDIRECT RADIATOR - A loudspeaker diaphragm that is coupled to the surrounding air mass by a horn.

INDUCTANCE - An opposition to a change in current.

INDUCTOR - An electronic component that opposes a change in current.

IN-LINE CONSOLE - A console in which all controls (input, output and monitor) for a channel are placed in the location traditionally associated with only the input module.

INPUT/OUTPUT MODULE (I/O MODULE) - On an in-line console, a single module contains input, output and monitor controls for a single audio channel.

INTENSITY, ACOUSTIC - A measurement of acoustic power per unit area.

INTERFACE - The inter-connection of two networks, or components.

I/O (Input/Output) - Equipment used to communicate from one circuit or system to another.

ISOLATION - The acoustic or electrical separation of one sound source from another.

ISOLATION BOOTH - A small room, used to acoustically separate a musician from the rest of the group in order to gain more control over the sound.

JACK BAY (PATCH BAY) - A strip of female input and output sockets to and from every piece of equipment in the studio. Used in conjunction with patch cords for signal routing purposes.

JAM SYNC - The practice of synchronizing, or jamming the output of a time-code generator to an external time-code signal.

JAM SYNC, CONTINUOUS - Whereby the time code is continuously synchronized to the external reference time-code signal.

JAM SYNC, ONE-TIME - The time code is synchronized to the external reference time-code signal just once. After this, it is generated independently of the external reference time code.

KB - KiloByte. One KB equals 1024 Byte.

KEYING INPUT - On a signal processing device, an input for a controlling input.

KEYING SIGNAL - A control signal which is routed into the keying input.

kHz (KILOHERTZ) - 1000 Hz

LASER - A device that generates coherent monochromatic light waves.

LCD (LIQUID CRYSTAL DISPLAY) - A semi-conductor display of numerical or graphical information requiring ambient light or back lighting.

LEADER TAPE - Non-magnetic paper or plastic tape, spliced between segments of recorded tape, to visually indicate the beginnings and ends of separate pieces.

LEAKAGE - The unwanted sound of one musical instrument as heard by the microphone in front of another instrument.

LEAKAGE, HEADPHONE - the transmission of sound, from a headphone into a nearby microphone. A feedback loop can be created in this way.

LED - Light emitting diode. A semi conductor display that is self-lighting.

LEVEL - The amplitude of an audio signal in decibels.

LEVEL SENSING CIRCUIT - A circuit that converts an audio signal into a control voltage, which may be used to regulate a signal processing device.

LIMITER - A compressor, whose output level remains constant, irrespective of its input level.

LINE - A transmission line or a signal path.

LINEAR IC - A device that contains analog circuits such as amplifiers, rectifiers, oscillators etc., rather than digital circuits.

LINE LEVEL - The input and output levels used by consoles and tape recorders. A signal whose level is about +4dBm.

LINE MATCHING TRANSFORMER - An impedance matching transformer, which is used to match the impedance of one line to another line.

LINE PAD - An attenuation network, designed for insertion in a line.

LINE, 600 OHM - A transmission line with an impedance of 600 ohms.

LIVE RECORDING - a location or remote recording made at a concert.

LOBES - The front and rear segments of a mic's bi-directional polar pattern.

LOGARITHM (LOG) - The logarithm of any number is the power to which 10 must be raised to equal that number.

LOOP - In a circuit, a closed path.

LTC (LONGITUDINAL TIME CODE) - Time code information encoded in binary coded decimal form which is recorded as an audio signal on a designated track of a VTR or an ATR.

LOUDNESS - The intensity of a sound.

LOUDSPEAKER - A transducer that converts electrical energy into acoustical energy.

LOUDSPEAKER, CAPACITOR (CONDENSER) - An electrostatic loudspeaker.

LOUDSPEAKER CONE - The paper diaphragm of a moving coil loudspeaker.

LOUDSPEAKER, DIAPHRAGM - The moving membrane within a speaker.

LOUDSPEAKER, MOVING COIL - The diaphragm is attached to a voice coil which is suspended in a magnetic field.

LOUDSPEAKER, RIBBON - The diaphragm is a delicate ribbon.

LOUDSPEAKER VOICE COIL - The moving coil to which the loudspeaker diaphragm is attached.

LOW PASS FILTER - A filter that allows all frequencies that are below a specified roll-off to pass. All frequencies above this point are attenuated.

M-S RECORDING - A technique using coincident mics, in which the M (middle) microphone is cardioid, points toward the Figure-8, with its insensitive sides on the same axis as the front of the cardioid mic.

MADI - Multi channel Audio Digital Interface. Also known as AES-10 standard, allows interconnection of two devices to transmit up to 56 channels of 24-bit digital audio with a single coaxial cable or via optical link. It is a standard interface to digital multitrack machines and mixers.

MAGNETIC FIELD - The magnetic lines of force (flux) surrounding a magnet or a piece of magnetic recording tape.

MAGNETIC POLE - Concentrated point of magnetic flux.

MAGNETIC RECORDING TAPE - Magnetic particles are suspended in a binder and coated onto a plastic base.

MAGNETISM - The effects of attraction and repulsion by iron and other similar materials without the need for an external force.

MASKING - When a sound is hidden by the presence of another sound source.

MASTER MODULE - On an in-line console, a single module with master controls for mixing bus outputs, cue lines, send and return lines, etc.

MASTER TAPE - The original finished tape. Not a copy.

MASTER TRANSPORT - In interlocked machines. The transport to which all other transport systems are locked in synchronization.

MB - MegaByte. One MB equals 1024 KB.

MEMORY - A buffer, into which program segments or whole programs may be transferred. The data can then be digitally manipulated.

METER, PEAK READING (PPM) - A meter whose ballistics allow it to closely follow the peaks in a program, unlike a VU meter which only gives an average reading.

METER, SOUND LEVEL - A decibel-calibrated hand-held meter which is used to take readings of sound pressure levels.

METER, VU - A meter which is calibrated to read sound volume units.

MIC/LINE SELECTOR SWITCH - On a recording console, a two position switch which allows an input module to accept either a mic signal or a line signal.

MICROBAR - A unit of pressure, equal to 1 dyne/cm²

MICROPHONE - A transducer that converts acoustical energy into electrical energy

MICROPHONE, LAVALIER - A small mic designed to be worn on a cord around the neck or attached to a tie or lapel.

MICROPHONE, OMNI-DIRECTIONAL - A microphone which possesses an omni-directional polar pattern.

MICROPHONE PREAMPLIFIER - In a recording console or as a separate unit, the first stage of amplification, which raises microphone levels to line level. Also, in a condenser microphone, the pre-amplifier may be built into it.

MICROPHONE, PRESSURE - A microphone that responds to variations in air pressure. An omni-directional microphone.

MICROPHONE, PRESSURE GRADIENT - A bi-directional microphone. A microphone that responds to the difference in acoustic pressure between the front and rear of the diaphragm.

MICROPHONE, RIBBON - A microphone in which the diaphragm is a ribbon.

MICROPHONE, SHOT-GUN - A highly directional microphone, so-called because of its appearance.

MICROPHONE, STEREO - A microphone with two separate transducing systems, built into one casing. The two outputs are kept separate, and are fed to two inputs on the console.

MICROPHONE, SUPER-CARDIOID - A mic with a super-cardioid polar pattern.

MICROPHONE, ULTRA-DIRECTIONAL - a mic with an ultra-directional polar pattern.

MICROPHONE, UNI-DIRECTIONAL - A mic with a uni-directional polar pattern.

MICROPROCESSOR - An integrated circuit that performs a variety of operations in accordance with a list of instructions.

MIXDOWN - To combine all the channels of a multitrack recording and reduce them to a stereo two track (or surround sound) master from which CDs and/or records can be produced.

MODULATION - The process of varying a carrier signal according to the instantaneous value of an input signal.

MONITOR - A quality assessing speaker systems used in control rooms.

MONITOR MODULE - On an in-line console, a single module allowing monitor switching and master level controls to various sets of speaker systems.

MONOPHONIC (MONO) - A single sound source.

MOTHER - A metal part in the vinyl record making process from which stampers are made.

MOTION SENSING - This tape transport system brings the tape to a complete halt before entering the play mode, thus avoiding tape stretching or damage..

MP3 - This is a digital audio file format. It is a popular format on the web because of its high sound quality and small file size, and because MP3 encoders are easily available on the Internet.

MTC - MIDI Time Code

MULTIPLEXER - This device converts an n-bit parallel digital word into a sequential series of n-bits, for transmission along a single channel.

MULTI-SESSION - Data is written to a CD as a session. The session includes writing the data track and audio tracks, followed by writing the disk catalog. It is the catalog that is read by the CD-ROM drive to determine the CD's contents.

MULTI-TRACK - More than two tracks of recorded information. Applicable to an analog or digital tape recorder, or hard disk recorder.

MULTICORE - A convenient single cable containing many balanced or unbalanced cables.

MUTE - An on/off switch which interrupts the signal flow. Usually located in each input module on a console.

N.A.B. - National Association of Broadcasters.

NANOWEBER - A unit of magnetic flux. The density of flux in a test tape is measured in nanowebers per meter.

NEAR FIELD MONITORING - The practice of monitoring with the speakers close to the listener in order to avoid hearing reflected sound.

NOISE GATE - A device that switches off the input below a preset threshold, eliminating noise when no signal is present.

NOISE LEVEL - The amplitude of noise.

NOISE, MODULATION - Noise components that are produced by an audio signal, occurring across the entire audio bandwidth.

NOISE, PINK - Wideband noise that maintains constant levels of energy at every octave.

NOISE REDUCTION - A companding system which treats signals during recording and also treats them in a complimentary way during playback. It is designed to attenuate noise components within the system.

NOISE, QUANTIZATION - The distortion that appears when an analog waveform is quantized into a series of discrete voltages.

NOISE, QUIESCENT - The noise of an audio system with no applied signal.

NOISE, RESIDUAL - The noise level a tape produces after it has been erased.

NOISE, WHITE - A wideband noise containing equal energy at all frequencies.

NON-DESTRUCTIVE EDITING - A hard disk recording term. Editing that doesn't change, erase or delete the original material.

NOTCH FILTER - A filter designed to affect a narrow frequency range.

NYQUIST FREQUENCY - The highest audio frequency that may be accurately sampled. One-half the sampling frequency.

NYQUIST RATE - Twice the highest frequency which is to be sampled. The sampling frequency that is needed in order to accurately sample all frequencies within a specific bandwidth.

OCTAVE - Frequency ratio of 2 : 1

OERSTED (Oe) - A unit of magnetic field intensity.

OFF-AXIS - Not directly in front of a microphone (or loudspeaker).

OFF-AXIS COLORATION - In a microphone, a deformation of true frequency response of sounds coming from off-axis locations. In a loudspeaker, a similar deterioration when the listener is off-axis.

OHM (Ω) - The unit of resistance to current flow.

OMF - Open Media Framework (Interchange). A file format that can be read by many professional-level audio programs containing audio and/or video information.

OMNI-DIRECTIONAL MICROPHONE - A mic that is equally sensitive to signals arriving from all directions.

ON-AXIS - Directly in front of a microphone or loudspeaker.

ONE-ON-ONE RECORDING - The technique of recording one instrument on one track with one microphone.

OPEN REEL - Reel to reel tape format, as opposed to cassette or hard disk.

OPEN TRACKS - Tape recorder or hard disk tracks that are unused.

OSCILLATOR - A signal generator, whose output is a sine wave. The output frequency may be varied over the complete audio frequency bandwidth.

OUTBOARD - External signal processing equipment usually mounted in a rack.

OUT OF PHASE - Polarity reversal of one signal relative to an identical second signal. The result would be certain frequency cancellations.

OUTPUT - Opposite of input.

OUT TAKE - A take, or section of a take, that is not to be used.

OVERDUB - The addition of new musical or vocal material to pre-existing tracks on the same piece of tape or digital disk.

OVERLOAD - The distortion that occurs when an applied signal exceeds the maximum operating level of the system.

OXIDE - A solution of magnetic particles suspended in a binder and layered onto a plastic base to form recording tape.

PAD - see attenuation pad.

PAN POT - A panorama potentiometer. It is used for panning an audio signal to a specific location within the stereo image, or odd and even subgroups

PARALLEL OUTPUT - A group of output terminals, across which each bit of a digital word appears simultaneously.

PASS BAND - A band of selected frequencies that are not attenuated by a filter.

PASSIVE DEVICE - Components, such as resistors, capacitors and inductors. They do not generate voltage or control current.

PATCH BAY - see jack bay.

PATCH CORD - A short cable, with a plug at each end which is used for signal routing in a jack bay.

PATCH POINT - A socket in a jack bay.

PATH LENGTH - The distance between a sound source and a listener.

PC BOARD - A device that has printed circuits.

PCM - See pulse-code modulation.

PEAKS - The sudden high level transients of an audio signal.

PEAK TO PEAK VALUE - The amplitude between opposite peaks.

PHANTOM POWER SUPPLY - A method of powering condenser microphones and active direct boxes by sending DC signal over audio lines. (Usually 48 v).

PHASE - The relationship in time between two identical or related signals. When the two outputs are of the same polarity, the signals are said to be in phase. When the outputs are of opposite polarity, they are 180° out of phase. Other polarity relationships are stated by the number of degrees of phase shift.

PHASE CANCELLATION - The attenuation that occurs when two waveforms of equal frequency and opposite polarity are combined. If the waveforms are of equal amplitude, attenuation may be total.

PHASE SHIFT, EQUALIZER - The phase shift in a signal path by the introduction of equalization.

PHASE SHIFTER - A device which gives a variable comb filter effect. A direct signal is mixed with the same signal after it has passed through a phase shift circuit.

PHON - A unit of loudness level, related to the ear's impression of signal strength.

PICKUP PATTERN - Pertaining to a microphone's directional characteristics.

PINK NOISE - Wideband noise that maintains constant levels of energy at every octave.

PITCH - The distance between tracks on either a vinyl or CD record.

PITCH SHIFTER - A device which will alter the pitch of a signal. It can also create an artificial harmony.

PITS - The physical impressions on a CD. They are viewed as bumps by the reading laser. They diffract the light, decreasing its intensity when returned to the pickup.

PLATE REVERBERATION SYSTEM - An artificial reverberation system which uses a large steel plate to simulate the sound of natural reverberation.

PLAYBACK HEAD - The head that picks up the tape's magnetic field.

PLUS-ONE FRAME - The addition of one frame count to the SMPTE time-code readout. This compensates for the time code readout always being one frame count behind the actual tape position.

POLAR PATTERN - The graph of a mic or speaker's directional sensitivity, measured and drawn in a circle around the transducer.

POLAR PATTERN, BI-DIRECTIONAL, FIGURE-8 - A polar pattern with axes of maximum sensitivity at 0° and 180°, and minimum sensitivity at 90° and 270°.

POLAR PATTERN, CARDIOID - A uni-directional polar pattern, with the axis of maximum sensitivity at 0° and minimum sensitivity at 180°.

POLAR PATTERN, COTTAGE LOAF - A hyper or super-cardioid polar pattern.

POLAR PATTERN, HYPER-CARDIOID - A uni-directional polar pattern which is a little narrower than a normal cardioid pattern with a lobe in the rear. Axes of minimum sensitivity lie at approximately 110° and 250°.

POLAR PATTERN, MICROPHONE - A graph depicting a microphone's relative output level for sound sources arriving from each point around it.

POLAR PATTERN, OMNI-DIRECTIONAL - A circular polar pattern, indicating equal sensitivity at all angles.

POLAR PATTERN, SUPER-CARDIOID - A uni-directional polar pattern, which is a little narrower than a normal cardioid pattern, with a lobe in the rear that is slightly wider than a hyper cardioid pattern.. The axes of minimum sensitivity lie at 125° and 235°.

POLAR PATTERN, UNI-DIRECTIONAL - A cardioid polar pattern that is most sensitive to sounds coming from the front.

POLARITY - The positive or negative direction of an electrical or magnetic force.

POLARIZING VOLTAGE - The charging voltage that is applied to the capacitor or diaphragm in a condenser microphone.

POP FILTER - A wind screen for microphones.

PORT, SPEAKER - An opening cut in the front baffle of a speaker cabinet.

PORTS, REAR- AND SIDE-ENTRY - Openings in the rear and sides of a uni-directional mic, allowing sound waves to reach the rear of the diaphragm in order to prevent phase cancellation..

POST-EMPHASIS - Playback equalization.

POTENTIOMETER - A rotary control giving a continuously variable resistance.

POWER - Rate of doing work in an acoustical or electrical system. Power is measured in watts.

POWER, ACOUSTIC - The sound energy produced by a sound source.

POWER, ELECTRICAL - The energy produced or lost in an electrical circuit.

POWER SUPPLY - A circuit which produces D/C power to an amplifier, console, or any other electronic system.

PQ SUBCODE - Data encoded on a CD that contain information such as track number, timings, copyright and copy inhibit.

PREAMBLE - In digital recording, a system-defined digital word, which occurs at regular intervals. Its purpose is to indicate the beginning of each new block of digital data.

PREAMPLIFIER - A high gain, low noise amplifier used to boost low level signals to line level. It is usually the first stage of amplification.

PRE-EMPHASIS - Record equalization. Also a noise reduction technique which boosts the high frequencies going to tape and reduces them by the same amount on playback.

PREMASTERING - The process of integrating digital data code error correction, and sub-codes and converting them to the CD data format prior to disc mastering.

PRE-POST SWITCH - In consoles with respect to echo send circuits. Pre indicates that the echo is being sent before the fader. Post means after the fader.

PRE-ROLL - Beginning a playback or recording several seconds early in order to allow for time codes and count-offs etc.

PRESENCE - An EQ boost in the mid or upper-mid frequency range.

PRESSURE LEVEL, SOUND - Acoustic air pressure, expressed in decibels.

PRINT-THROUGH - The transfer of a signal from one layer of tape to its adjacent layers, as they lie on the reel. Particularly noticeable when using very thin tape, or if the tape has been in storage and unplayed for a long while.

PROTECTION COPY - A copy of a master tape.

PROXIMITY EFFECT - This refers to a cardioid microphone. It is an increase in low frequency response

when the mic is used at very close working distances.

PSYCHOACOUSTICS - The brain's perception of, and reaction to sound.

PUCK - see capstan idler.

PULSE - A sharp rise and decay in voltage or current of a specific peak value for a very brief period of time.

PULSE-CODE MODULATION (PCM) - A modulation process whereby an analog signal is digitally encoded as a series of pulses (a bit stream).

PUNCH IN - The practice of re-recording a portion of a track while retaining the remainder.

PURE TONE - A sine wave with no harmonics.

Q - In an equalizer, the ratio of surrounding frequencies that are also affected when a specific frequency is adjusted.

QUANTIZATION - The process of converting an infinitely-variable analog waveform into a finite series of discrete digital levels or steps. The resulting signal is said to be quantized. This job is accomplished by the A/D converter.

QUANTIZATION ERROR - An error resulting from quantizing an analog waveform. The longer the word the smaller the error.

QUANTIZATION, N-BIT - Each quantization level is expressed as an n-bit digital word. For example, some digital recorders use a 16 bit word.

RADIATION PATTERN - The polar pattern of a speaker

RADIATOR, PASSIVE - An unpowered speaker cone which is placed in the port of a vented speaker enclosure system.

RAM - Read and write or random access memory. It can store input instructions and also supply output information.

R-DAT - (Rotary-head digital audio taperecorder). A digital audio cassette system using a revolving head similar in design to that used in a video taperecorder.

READ - Playback. Also to take out digital information from a memory device.

RECORD HEAD, SYNC - In digital taperecording, an additional record head, positioned after the playback head. It is used for punch-ins and cross-fades.

REFERENCE ACETATE - A lacquer disc that is made to preview what a record will sound like, and a check against possible defects that may occur later in the record making process.

REFERENCE LEVEL - A standard level by which other levels may be compared.

REFERENCE TONE - A single frequency tone which is recorded at the head of a tape and used for calibration purposes when the tape is replayed at a later date, possibly on a different machine.

REFLECTED SOUND - Sound waves that are reflected from one or more surfaces before reaching the ear..

REFRACTION - The bending or change of direction of a sound wave as it passes from one medium to another.

REINFORCEMENT - An increase in amplitude when two sound waves are combined.

RELEASE TIME - The amount of time it takes for a signal processing device to return to its normal level once the applied signal is removed or attenuated.

RELAY - An automatic switch operated by a current in a coil.

RELUCTANCE - Opposition to magnetic flux. Corresponds to resistance in current.

REMANENCE - The magnetization remaining on tape after the magnetic force is removed.

REPRODUCING CHARACTERISTIC - The frequency response of the post-emphasis circuit

RESIDUAL MAGNETIZATION - The magnetization remaining in a magnetic material once a magnetic force is removed.

RESISTANCE - The opposition to current. It is measured in ohms (Ω).

RESISTOR - An electronic component that opposes current flow.

RESONANCE - When the applied frequency is equal to the natural vibration frequency of that system.

RESONANCE, ROOM - A resonant frequency that is governed by the dimensions of that room.

RESONANT PEAK - The increase in amplitude that occurs at the resonant frequency.

RETENTIVITY - A measure of the flux density remaining on magnetic tape after a saturation-producing magnetic field is withdrawn.

REVERBERATION - The natural sound reflections found in an enclosed space and all simulations thereof.

REVERBERATION SYSTEM - An electronic or acoustical device used to simulate the natural reverberation of an enclosed space.

REVERSE, CHANNEL/LINE - A mode whereby a selected module switches itself to the opposite mode from that selected for the rest of the console.

RF - Radio frequencies. Generally above 30kHz.

RING MODULATOR - A signal processing device found in many synthesizers.

RMS VALUE - For sine wave AC waveforms it is 0.707 of peak value.

ROLL-OFF - A filtering system usually found at extreme highs or lows in the audio spectrum. Often seen in

microphones to attenuate the low end.

ROM - Read only memory. Cannot store input instructions, but can supply output information. Cannot write or record data.

ROOM SOUND - The ambient acoustical sound of a particular room.

ROUGH MIX, QUICK MIX - A mix that is done at the end of each day's recording to assimilate how the project is coming together.

ROUTE - Assign.

RUMBLE - Ultra low frequency signals that emanate from mechanical vibrations.

SACD (Super Audio Compact Disc) - This is a two-layer hybrid disc, one layer containing traditional "Red Book Audio" 16bit / 44.1kHz CD standard so that the new disc can still be played on standard CD players and a second high-density layer, which can be played on a SACD player offering the ultimate quality in 2 channel (stereo) and multi-channel (6 channel or surround).

SAMPLE AND HOLD CIRCUIT - A circuit that captures and retains an analog signal for a finite period of time.

SAMPLING - Examining an analog signal at regular intervals and representing the results numerically.

SAMPLING FREQUENCY, SAMPLING RATE - The frequency in hertz (Hz) at which an analog signal is sampled. A sampling rate of 50kHz indicates that 50,000 samples are being taken every second.

SATURATION - Exceeding the magnetic capacity of a tape.

SATURATION DISTORTION - The distortion created by driving a magnetic tape beyond its saturation point.

SATURATION POINT - The level at which tape saturation begins.

SCRATCH VOCAL - An approximate vocal performance that is sung during or after the basics session as a reference guide for the musicians. With this vocal, they can locate where they are in the song while overdubbing.

SCSI - Small Computer System Interface. A popular computer interface which allows up to 8 (or 16 for wide-SCSI) peripheral devices to be chained to a PC-system.

SD2 (Sound Designer II) - A monophonic/stereophonic audio file format, originally developed by Digidesign for their Macintosh-based recording/editing products.

S-DAT - Stationary digital audio tape. A digital recording system that uses a non-moving head.

SDIF - Sound Description Interchange Format

SEALED ENCLOSURE - A speaker cabinet with no vents or ports.

SELF-ERASURE - The condition whereby record heads tend to partially erase some high frequency signals as they are recorded.

SEL-SYNC - (Selective synchronization.) The procedure of using the record head as a playback head in order to hear previously recorded tracks, while using the same head to simultaneously record new material on open tracks

SENSITIVITY - The sharpness or alertness of the ear, and the response of a transducer to frequency, level, angle of arrival, etc. of sound waves. With regard to recording tape, sensitivity is an indication of the tape's relative output level, as compared to the level of some specific reference tape.

SEPARATION - A measure of the degree of isolation between two or more signals.

SEQUENCER - A device that can record performance data for synthesizers and other electronic instruments and then, on playback, pass that data on to the instruments so that they'll play what has been recorded.

SERIAL OUTPUT - A single output terminal at which each bit in an n-bit word appears sequentially. Opposite to a parallel output where each bit arrives simultaneously.

SERVO MECHANISM - A control device or system that reads its own output to determine the degree of continuing output as compared to its input.

SHIELD - A metallic covering used to reduce the effects of unwanted magnetic fields such as radio waves on a cable, signal path or system.

SHIELDED CABLE - A cable in which the conductor wires are protected by a surrounding shield.

SHOCK MOUNT - A spring suspension system which mechanically isolates a mic from its stand, thus eliminating vibrations.

SIBILANCE - A type of distortion produced by the presence of high energy levels in words containing 's', 'c', 'z', or 'sh' sounds.

SIBILANT - Those consonants that contain high levels of energy. ('s', 'c', 'z', or 'sh') etc.

SIDE CHAIN - A secondary signal path through which a signal may be routed for processing before it is recombined with the original signal path.

SIGNAL GENERATOR - A test instrument which produces a sine wave, square wave or sawtooth wave etc.

SIGNAL PROCESSING DEVICE - A unit through which a signal is passed in order to modify it.

SIGNAL ROUTING - Directing a signal path through a piece, or pieces of equipment.

SIGNAL-TO-NOISE RATIO - The ratio of the signal voltage to the noise voltage. It is usually expressed in decibels as the difference between the signal level and the noise level.

SINE WAVE - The waveform of a single frequency.

SKEW - The angular deflection of tape as it passes over an improperly aligned head or tape guide.

SLAP-BACK - A discrete echo of 1/10th. of a second behind the original signal.

SLATE - Recording the announcement of the song title and take number at the top (beginning) of a recording.

SMPTE TIME CODE - It is used to synchronize audio and video machines or multiple audio machines. Each tiny recorded tape segment is assigned a unique 80-bit digital word code, which indicates precisely the hour, minute, second and frame number at which that piece of tape was recorded.

SOLDER - An alloy of tin and lead. It is used with a soldering iron for fusing wire connections such as plugs onto cables.

SOLO SWITCH - A switch that turns off all other channels, leaving on only the appropriate signal.

SOUND PRESSURE LEVEL (SPL) - Acoustic energy expressed in decibels.

SOUND WAVE - The variations in air pressure which radiate away from a sound source.

S/PDIF INTERFACE - Similar to the AES/EBU interface, but created by Sony and Philips.

SPECTRUM, FREQUENCY - The complete range of frequencies within the audio bandwidth may be called the audio frequency spectrum.

SPLICE - The joining of two pieces of recording tape.

SPLICING BLOCK - A block of aluminum used for positioning and holding down both ends of the tape while making splices.

SPLICING TAPE - A special adhesive tape used for joining tapes.

SPLIT FEED - A network that enables a signal to be divided and sent to two or more separate outputs.

SPRING REVERBERATION SYSTEM - An artificial reverberation system that uses springs to simulate natural reverberation.

SQUARE WAVE - A waveform comprised of a fundamental sinewave frequency and its odd-numbered harmonics.

STANDARD OPERATING LEVEL - A specified reference level. In recording, it is defined as being 0 VU, (+4dBm). In radio broadcasting however, it is +8dBm.

STANDING WAVE - It is created when a wave is reflected back towards its sound source, and looks like a stationary waveform.

STEREO - A 2 channel audio system which reproduces spatial information, giving the dimensional illusion of width and depth to the sound.

STEREO LIMITERS - A pair of matched limiters which operate together so that both channels of a stereo signal receive equal processing.

STEREO SYNTHESIZER - A device that adds spatial enhancement to monophonic recordings.

STEREOSONIC RECORDING - A stereo recording made with only two bi-directional mics whose axes are exactly 90 degrees from each other. They are aimed at the extreme right and left edges of the sound source.

STROBE TUNER - A visual tuning device for musical instruments.

SUPPLY REEL - On a tape recorder, the left hand reel that supplies the tape to the heads, and onto which tape is rewound.

SWEETENING SESSION - The addition of strings/horns etc. to a rhythm track.

SYNC HEAD - The record head, when used as a playback head during overdubbing.

SYNC LEVEL - The output level of the record head when in the sync mode.

SYNC-WORD BITS - In SMPTE time code, a 16-bit word which is used to identify the end of each frame. (0011 1111 1111 1101)

TABLE OF CONTENTS - Non-audio data contained in the lead in area of a CD storing initialization data such as track and time information. It is read during disc initialization.

TAKE - A term used to identify an individual recorded performance.

TALKBACK - The circuit used for communication between control room, studio and headphones.

TAPE DELAY - A delay system using an auxiliary tape recorder.

TAPE HISS - Broadband noise inherent in analog tape recording.

TDIF - Teac Digital Interface Format.

TENSION SWITCH - On a tape recorder, a 7" and 10" (two position) switch which changes the torque applied by the reel motors depending on the sizes of reels that are loaded on the taperecorder. Sometimes called the speed switch.

TEST TAPE - A tape reproducing test tones at a predetermined standard reference fluxivity. It is used to check and optimise the performance of the taperecorder's electronic circuits. (Record, Playback, Erase, Bias.)

THRESHOLD, COMPRESSION - The level above which a compressor begins to act.

THRESHOLD, LIMITING - The level above which a limiter begins to act.

THRESHOLD OF HEARING - The quietest sound that a young ear can detect.

THRESHOLD OF PAIN - The sound level at which the ear begins to experience

TOGGLE - To consecutively

press a key to enable or disable a feature.

TOSLink - An optical version of the S/PDIF interface.

TRACKS - The recorded paths of signals on tape or disk.

TRACKING ERROR - (On a CD) An error condition in which the optical pickup deviates from the data track, perhaps caused by an obstruction or disc defect.

TRANSDUCER - A device which converts energy from one medium to another. For example a mic or a speaker.

TRANSFER CHARACTERISTIC - A curve on a graph which depicts input against output

TRANSFORMER - An electrical network consisting of two or more coils. It is **TRANSIENT RESPONSE** - An audio system's ability to accurately capture and reproduce transients.

TRANSISTOR - A semiconductor device used in amplifiers.

TRANSPORT SYSTEM - The system of motors, capstan and tape guides, etc., used to shuttle tape past the head assembly.

TRIM POTS - Internal controls on a tape recorder to optimize bias, frequency response, etc. Used during calibration procedures.

TURNOVER FREQUENCY - In a shelving equalizer, the frequency at which the equalizer begins to flatten out.

UDF (Universal Data Format) - A CD-ROM disk format standard introduced with CD-RW media requires Direct CD or compatible software to access the data.

USB (Universal Serial Bus) - An external interface for peripherals which support plug-and-play and hot plugging.

VINDALOO - Probably the world's hottest, spiciest Indian curry!

VIRTUAL TRACKS - A hard disk recording term. Independent tracks that can be recorded on and cued up for playback, but cannot all be played back simultaneously.

VOICE COIL - The coil winding that is attached to the diaphragm of both a dynamic microphone and a loudspeaker.

VOLTAGE - Voltage is the difference in potential between two points in an electrical circuit.

VOLTAGE-CONTROLLED AMPLIFIER (VCA) - An amplifier whose gain is keyed by an externally supplied control voltage. (DC)

VOLTAGE-CONTROLLED ATTENUATOR - Either a resistive network or an amplifier whose gain is less than unity, whose attenuation is keyed by an externally supplied control voltage. (DC)

VOLUME UNIT - A unit of measurement which is related to the loudness that the ear perceives.

VTR - Video Tape Recorder.

VU METER - Abbreviation for volume unit meter. A measuring device used to indicate average amplitude levels relative to a standard.

WATT - A unit of power.

WAV - Digital audio file format. It is not a compressed format, so WAV files are usually very large. It is often used as an intermediate format when recording from a CD. WAV files can be compressed as MP3 files.

WAVEFORM - A graphic representation of a signal's amplitude against time.

WAVELENGTH - The length of one complete cycle of a sine wave.

WEIGHTING - The filtering of a frequency response, before measurement.

WEIGHTING NETWORK - A filter which is used for weighting a frequency response before it is measured.

WE'LL FIX IT IN THE MIX - A big lie -- to keep the session moving!

WET RECORDING - Opposite of dry. A printed signal with effects on it.

WET SOUND - A sound with reverberation or effects present.

WHITE NOISE - see noise, white.

WIND SCREEN, (POP FILTER) - a cellular foam covering placed over a microphone to shield it from wind-induced vibration.

WOOFER - A low frequency speaker.

WORD - One sample of audio data.

WORDCLOCK - is a sync pulse which allows devices to determine where the start of each digital word is.

WOW - A low frequency fluctuation in tape speed, especially noticeable on sustained piano tones.

WRITE - Record or put information into a memory unit.

X AXIS, Z AXIS - The horizontal axis on a graph or oscilloscope.

XLR CONNECTOR - The most widely used type of plug for audio cables.

X-Y RECORDING - A stereo recording made using two cardioid patterned microphones placed in the same vertical plane, with their axes about 90° - 135° to each other.

Y AXIS - The vertical axis on a graph or an oscilloscope.

Y CONNECTOR - An adapter that will permit a split feed.

ZERO LEVEL - A reference level, usually -10dB or +4dB.

ZZZZZ - The sound of a bored snoozing recording engineer who is waiting for the band to get their darned instruments in tune!