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B: The right-hand part of a *stereo signal*.

baby boom: The nickname of the Dolby 70mm process that dedicates two of the six tracks on a 70mm print to low-frequency information (signals below 250 Hz) This term is no longer used as the new digital multichannel film sound formats specify a dedicated subwoofer track.

backbeat: A music term referering to the second and fourth *beats* in a four-beat *bar*, often emphasized by the drummer.

back coating: In *magnetic recording tape*, a thin coating applied to the non-oxide or back surface of the tape to reduce slippage between tape layers, prevent accumulation of static charge, and to minimize curling or wrinkling.

backfill: To edit fill between words so that the whole length of a scene, including sections where the take or angle in question is not being used, is contiguous.

backgrounds: Sound effects that sonically define the time and place of a location. Also called *ambience*, *atmos* or *atmospheres*, backgrounds give a sense of lush sonic effects and placements, more specifically, usually a tasteful use of *pan controls*, *reverbs*, *delays*, and other positioning tools. BGs are considered sound effects and are not the same as *room tone*.

backing track: Pre-recorded music used by a singer or other musician during performance and which augments or entirely replaces other performers. This has become increasingly popular as musicians attempt to recreate the sound of their studio recordings live on stage.

backing vocals: In popular music, extra vocal parts which fill gaps in, or harmonize with, the lead vocal line. Usually sung by specialist session singers. Usually abbreviated *bvox*.

backline: On-stage instrument amplification.

back plate: In a *condenser microphone*, the fixed, rigid *capacitor* element that is charged with an electric *polarity* opposite to that of the *diaphragm*.

backtiming: Subtracting the length, in minutes and seconds, of a recorded segment from the time in a longer program at which the segment is supposed to end. If a three-minute segment is to end a 30-minute program, backtiming will indicate that the end segment needs to roll at 27:00.

backward masking: See *temporal masking*.

BAC&S: British Academy of Composers and Songwriters. A group being formed among the current Association of Professional Composers, the Composers' Guild of Great Britain and British Academy of Songwriters, Composers and Authors, building a larger and more influential "umbrella" organization.

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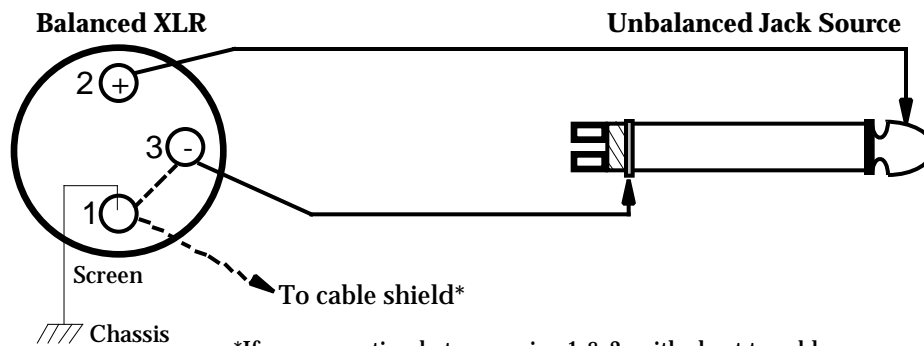
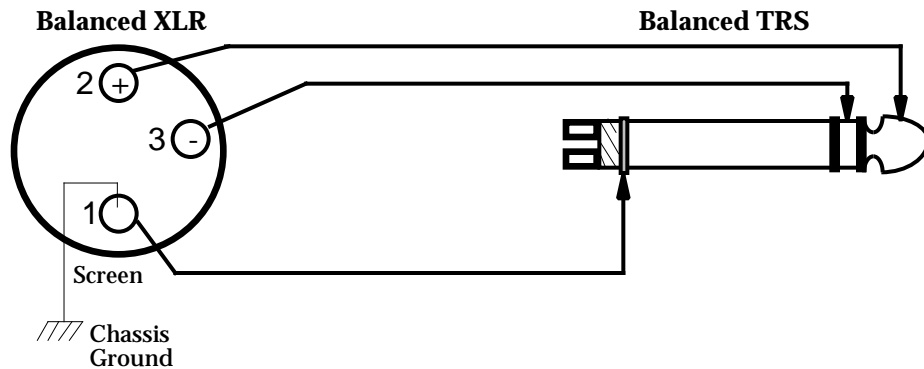
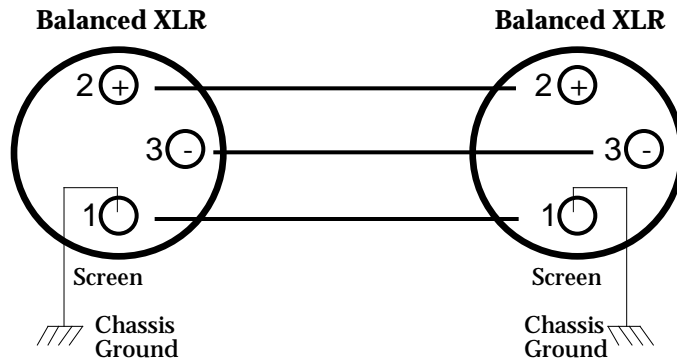
baffle: A partition placed between two sources of sound, or between a sound source and a microphone, to prevent sound from passing through. The baffle, or *screen*, may be made of any material with a high *absorbition coefficient*. Most baffles are designed as movable partitions, and are used to isolate individual instruments in recording studios.

bake off: Hollywood colloquialism for the meeting of the Sound Branch of the Academy of Motion Picture Arts and Sciences in which the members hear ten-minute clips of the seven films that have made the semifinals of the Best Sound Effects Editing award.

balance: (1) The amount of relative signal provided to each of two (or more) audio channels. (2) A control on a synthesizer which adjusts the relative volumes of two different sounds which it can voice simultaneously. Not to be confused with *pan*.

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balanced line: Audio lines in which the signal *current* is not carried by the cable shield of a *shielded cable*. This requires two conductors for the signal, enclosed in a shield, with neither conductor connected to the shield. The circuit utilizes two identical conductors operated so that the voltages on each of them are equal in *magnitude*, but opposite in *polarity* with respect to ground. Compare with *unbalanced line*. See *common-mode*.



*If no connection between pins 1 & 3, with short to cable shield, there will be a 6dB loss in signal strength

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balance stripe: See *mag film*.

ballistics: The dynamic behavior of the needle in a meter, such as a *VU meter*.

balun: BALANCED-to-UNbalanced. A transformer device used to convert a singled-ended (unbalanced) signal to a differential (balanced) signal. A balun is a essentially transformer with one leg of the input and output windings hooked together. More complicated devices may also change impedences at the same time. The most common use for a balun is a 75 coaxial-300 twin-lead converter used in television.

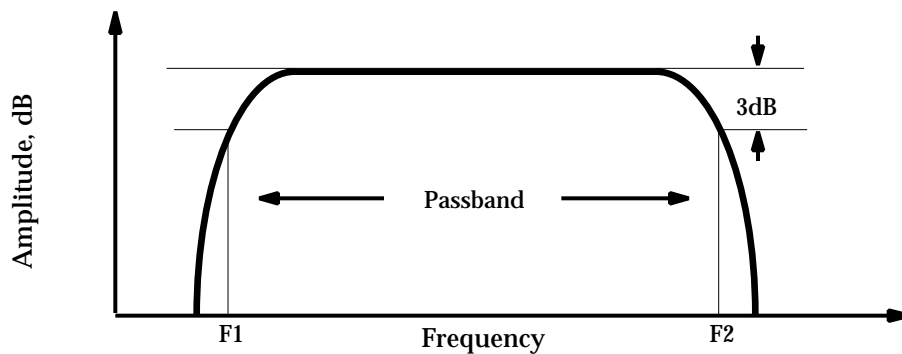
band: (1) An extent along the frequency dimension in which a signal exists is the *band*. For instance, an *octave band* is one octave wide. The *AF band* is 20Hz-20kHz wide. (2) The wider spiraled grooves that separate any two selections on a record. (3) Band is also used to indicate any single selection on a record, cassette, or reel-to-reel tape or CD, i.e., a *track*(3).

band-limited: A signal is said to be band-limited if its frequency content is restricted to a particular frequency range. For instance, the output signal of a CD player is band-limited to 20kHz by the *reconstruction filters* built into the player.

band masking: See *frequency masking*.

band part: A notated form of a piece of music, derived from a *full score*, usually containing only the music for a single instrument or pair of similar instruments.

bandpass filter: A filter which has both a high-frequency and low-frequency *rolloff*, and only frequencies in between are allowed to pass. When applied to sound synthesis, a bandpass filter makes the waveform sound like it is coming down a phone line as telephone lines cannot reproduce lows or highs. The opposite of a *band-reject filter*.



Bandpass Filter Frequency Response

band-reject filter: A filter that discriminates against signals in a specific frequency band. The most common band-reject filters reject a vary narrow frequency band, and they are usually called *notch filters*. The opposite of a *bandpass filter*.

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bandwidth: (1) The capacity of the channel through which information can pass. In audio, the *rated bandwidth* of a device is the portion of the frequency spectrum it can handle without significant degradation. In digital communications, the bandwidth is the amount of data that can be transmitted in a given period of time. (2) The bandwidth of a *bandpass filter* is the upper *rolloff frequency* minus the lower rolloff frequency, i.e., the frequency range in *Hertz*, or *band*, passed by the filter.

bank: (1) A set of patches. (2) A related set of items, e.g., a filter bank: a set of filters that work together to process a given signal.

Bank Select: A type of MIDI *controller message* which specifies which bank of (receiving) sequencer programs to use; a way to get around the 128 program limit specified by MIDI.

bantam: See *TT connector*.

bar: In written music, a grouping of pulses into a convenient unit which falls between two *barlines*. A barline is the vertical line which crosses the *stave* at regular intervals. The bar begins with the downbeat and ends immediately before the next downbeat, and will contain a constant number of beats of the type determined by the *time signature*, e.g., a bar of $\frac{4}{4}$ will have four quarter-note *beats*.

Barkhausen effect: The tendency of the magnetic elements or *domains* on a magnetic medium to influence one another and to become magnetized in one direction or another as a group rather than individually. This means that a magnetic medium, such as recording tape, has a graininess in its magnetic makeup which is what causes most background noise, or *tape hiss*. *Modulation noise*, which is only present in conjunction with a recorded signal, is also caused by the Barkhausen effect, and is sometimes called *Barkhausen noise*.

barney: See *blimp*.

base: In *magnetic recording tape*, the thin ribbon of polyester or other plastic material to which the oxide and *back coating* are applied, measured in *mils*. For example, the base of most professional recording tape is 1.42 mils thick.

basic channel: In a MIDI device, the channel on which the device receives fundamental messages governing its operation, e.g., Reception Mode changes. In *Mono Mode*, the basic channel is the lowest-numbered channel.

basic track: The group of instruments or vocalists recorded first during a multitrack session. This group, perhaps including bass, drums, and standard rhythm section, will be played back through headphones to other instrumentalists who later *overdub* solos, lead or background vocals, or narration, and other *sweetening* or sound effects. See also *backing track*, *bed*.

basket: The metal frame of a *loudspeaker*.

bass: The very low end of the audio spectrum, approximately 20Hz-200Hz or 300Hz.

Bass Intermodulation (BIM): Bass intermodulation is a type of *distortion* caused by the modulation of audible frequencies by *subsonic* noise.

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bass build-up: An increase in molecular pressure variation, not molecular velocity, which occurs at low frequencies at room boundaries. The pressure *nodes* for all frequencies build up in the corners of rooms, particularly at the intersections of the walls and floor or walls and ceiling. These regions can roughly be thought of as *resonant spaces*, and energy can be trapped quite effectively by placing frictional absorbers at the desired *quarter wavelength* out into the room from the corner. See *bass trap*, *boundary effect*.

bass reflex enclosure: A type of loudspeaker enclosure with a hole, or *port*, in the surface on which the speakers are mounted, usually the front. Since this allows some of the energy from the rear of the speaker cones to project into the listening area, bass reflex systems have relatively high *efficiency*. Sometimes called a *ported enclosure* or a *vented enclosure*.

bass tip-up: See *proximity effect*.

bass trap: A specially designed low-frequency sound absorber to reduce the effects of *standing waves* in recording studios. It is a tuned absorber and may have a narrow or wide range of frequencies over which it operates. It usually consists of resonant wood panels with absorptive material behind them, or suitably shaped slots in a wall or ceiling. See *bass build-up*, *boundary effect*.

B-chain: The film industry's term for the sound reproduction system, including *amplifiers*, *crossovers* and *loudspeakers*. See *A-chain*, *chain*.

B-Channel: See *ISDN*.

beat: A regularly occurring *pulse* that can be heard or implied. (1) When two *periodic* signals are less than 20Hz or so apart in frequency, and if they are mixed together, the amplitude of the combined signals will fluctuate as they alternately reinforce and cancel each other. These amplitude fluctuations cause *loudness* fluctuations and are called beats. See also *difference tone*. (2) In music, the sensation of a basic pulse from which all rhythm in the piece is derived. Beats are of three types: *downbeat* is a strongly accented pulse, such as the first in the *bar*; *offbeat* is any pulse other than the downbeat; *upbeat*, also called the *anacrusis*, is a special case of offbeat which immediately precedes the first beat of the bar, and hence the *bar line*.

bed: Background music used underneath a narrator or foreground dialog. Primarily applied to commercial radio or television spots. Also called *basic tracks*.

bel: The logarithm in base 10 of the ratio of two different levels of *power*, acoustic or electric. Since large changes in *loudness* correspond to fractional portions of a bel, the *decibel*, $\frac{1}{10}$ of a bel, is used as the measurement unit of level for sounds and audio signals. See Appendix A.

bell filter: A type of filter that allows the boost or attenuation of a specified set of frequencies around a center frequency. Bell filters often allow user adjustment of the center frequency, *Q*, and the amount of boost or cut. Bell filters are sometimes also known as *haystack filters*.

bench: In film, the editing table which consists of rewinds handling reels of 35mm picture and *mag film*, a sprocketed *synchronizer* that keeps the reels in sync, in addition to providing a count, and a *squawk box*. See *mut*.

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bend: To change *pitch* in a continuous sliding manner, usually using a *pitch-bend* wheel or lever. An upward bend is created by pushing away from the front of the modulation controller, and creates an increasing pitch, and vice-versa. See *bend depth*.

bend depth: The amount of *pitch-shift* possible if the *pitch-bend* modulation controller is moved as far as possible. This is usually set to a *whole step*, but for special effects (such as electric guitar), it could be set to an octave or more.

Betacam: A professional analog videotape *format* employing the ½" Beta format, but at an increased tape speed, which gives picture quality comparable with the 1" C format. Betacam also allows separate recording of the red, green, and blue picture information via its RGB mode for computer use. This capability gives much better control of edge-cuts in special effects. Often called *Beta* for short.

Betamax: A system used for ½" color videotape recording, developed by Sony for consumer systems. Generally acknowledged to give higher picture quality than VHS.

B-format: A 1" professional video *format* developed by Bosch. Although generally considered superior to the standard *C-format*, B-format equipment is used only in a few production and post-production facilities. B-format video masters must be transferred to C-format for broadcast.

BG: Background. The *walla* in a commercial or other video production, over which other sound effects, music, and dialog are dubbed.

biamp: Short for biamplification. A two-way *crossover network*.

bias: (1) Bias is the voltage or current that establishes the *intrinsic noise floor* of an active device. (2) In an analog tape recorder, bias is an *ultrasonic* signal, usually between 100kHz-200kHz, which is mixed with the audio signal and applied to the recording head, reducing distortion by reducing the *hysteresis* inherent in the tape recording process. This process is known as *AC bias* because the bias current is alternating. The ideal setting of analog bias involves a compromise between the *MOL* of the tape, *noise*, and *third-harmonic distortion*. In general, classical recordings use a bias setting with lower distortion and lower MOL; rock or other recordings prefer a higher distortion in order to get the highest *S/N ratio*. Digital recorders do not require bias as the signal consists only of a bitstream of 0s and 1s, regardless of the audio frequency being recorded. (3) See *electret microphone*.

biased noise: A tape loop of audio silence, processed by a recorder with some kind of noise-reduction enabled, such as *Dolby-SR* (where it is called *SR noise*) or *dbx*. Used to check equipment for ground loops or other problems in recordings and/or masters. Sometimes called an *alignment recording*. See *Dolby noise*.

bi-directional microphone: A *figure-eight microphone*.

bin: (1) A barrel into which strips of film hang, suspended from a row of pins or small nails above. Also called an *editing bin*. (2) In tape duplication, the container or housing that holds a tape *loop* to be duplicated.

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binaural: Literally, “having two ears.” Because humans have two ears spaced apart by the width of the head, the human hearing mechanism can make use of *amplitude*, *phase* (arrival time) and *spectral* (*frequency response*) cues to help determine the direction from which a perceived sound is coming. See *binaural synthesis*.

binaural synthesis: A type of recording-playback system where two microphone inputs are specially processed to simulate the frequency-dependent time delays that would occur between the ears on a human head. The binaural localization cues are preserved, and the listener is able to achieve localization of sounds as if s/he were actually at the site where the recording was made, despite the fact that binaural recording has no ability to accurately *image* the sound. Also called *dummy head recording*.

binder: A liquid or gelatinous medium in which oxide particles are suspended for application to *magnetic recording tape*. Usually consists of a solvent that evaporates, and an adhesive substance which, when dry, permanently bonds the oxide to the base.

binding post: A type of *terminal* which allows wires, such as loudspeaker wires, to be connected to the output of an amplifier with alligator clips, banana plugs or bare wire.

binky: Film sound slang for a mixing “top sheet,” indicating the layout and content of the *premixes*. The layout is usually one column per premix.

bin-loop master: A special tape that is used in cassette duplication equipment. It contains both sides of the tape and is either run at a very high speed or, for higher quality *dubs*, in real-time.

B inputs: (1) An additional set of inputs to a mixer channel that allow either additional (but not simultaneous) tracks to be assigned a mixer; (2) More commonly these days, a different source of the same information that is appearing on the A inputs. This latter technique allows a sound editor to work *offline* on a sequence while the mixer is adjusting the overall EQ and level in automation, while playing back from another copy. The material is recorded to tape, after *witching* inputs, when the editor is finished.

BIOS: Basic Input-Output System. An operating system which resides on ROM and is used to control disk access, exclusively. Used in some samplers and sequencers to control the internal hard drive.

bi-phase: An electronic reference signal used by mag recorders, editing stations, and film projectors. See *bi-phase modulation*, *pilot tone*, *neo-pilot*, and *control track*.

bi-phase modulation: In *SMPTE timecode* generation, the electronic process that produces the signal containing the SMPTE data itself. A 1.2kHz *square wave* is momentarily modulated to 2.4kHz with each new bit of location information coming from the *master clock*.

bi-phase/tach: An electronic pulse used by some film equipment and other motor-driven devices. Similar to a *bi-phase* signal, but different in the way directional information is provided. See also *tach pulse*.

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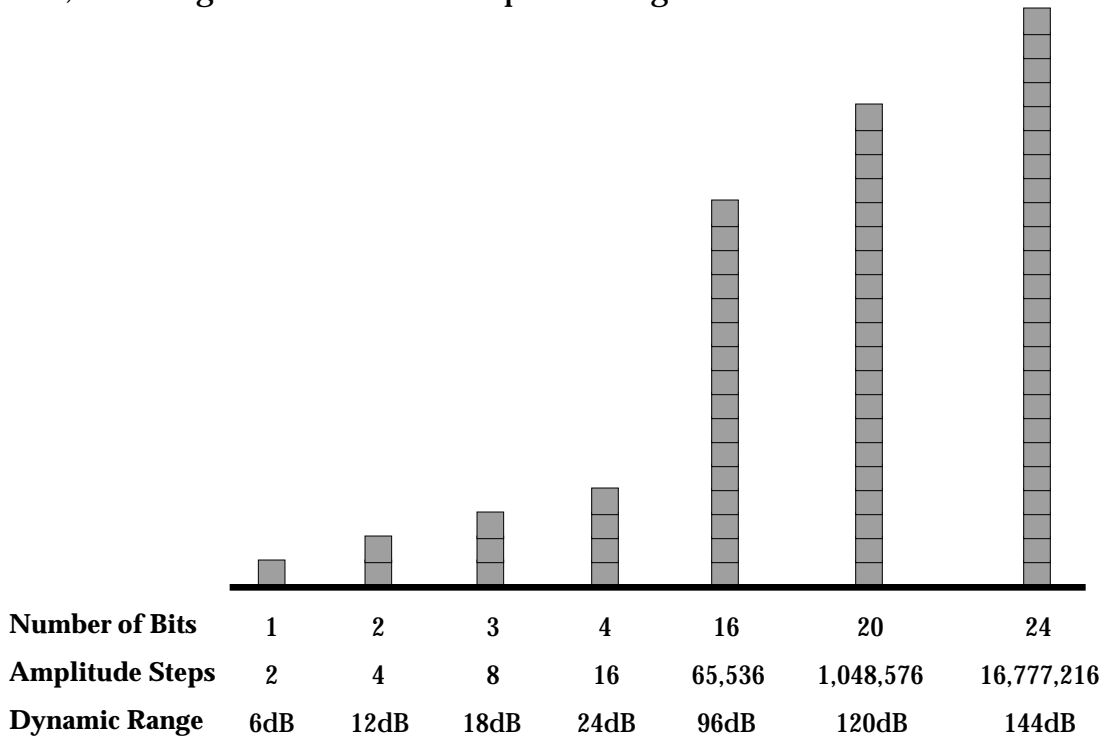
bipolar: A type of loudspeaker design where the sound emanates from the sides of the monitor, specifically designed to be *surround-sound* monitors. These type of speakers work well for *ambience* material, but less well for dialog, soundtrack or main effect sound. This is opposed to a *direct radiator* speaker which distributes the sound in front, or a *tripole* design which is a combination of a direct radiator and a bipole.

birdies: Extraneous high-pitched whistles sometimes present in tape-recorded signals where the high-frequency content of the signal causes *beats* with the *bias* signal. Also used to refer to high-pitched interference in AM radio reception.

bit: Binary digIT. The representation of data using base-2 arithmetic, i.e., a series of ones and zeroes. Digital audio is encoded in *words* that are usually 8, 12, 16, 20 or 24 bits long (the *bit depth*). Each added bit represents a theoretical improvement of about 6dB in the *S/N ratio*.

BITC: Burnt-In Timecode. Video that shows the *SMPTE* time on-screen in a window along with the picture, eliminating the need to watch a time-code reader. Accurate in still-frame. Sometimes called a *window dub*.

bit depth: The number of data bits used to encode each *sample* point. Bit depth determines the accuracy of a sampler, converter, or other digital device in capturing momentary changes in a sound's amplitude. Typical bit depth is 16 bits, which is good for capturing loud sounds, but less good for sounds in a quieter range. Also called *bit resolution*.



Dynamic Range as a Function of Resolution (Bit-Depth)

bite: A subjective term for the sharp onset or *attack* of a musical instrument, especially brass instruments. Excessive bite can result from positioning microphones too close to the instrument or from *distortion* caused by a momentary overload. See *attack transient*.

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bit resolution: See *bit depth*.

bit shifting: A technique for *lossless compression* which, rather than encoding the entire data word, only bit cells with data (ones) are stored, and the null data (zeroes) are removed. For example, if only 19 bits of a 24-bit word contain data, only those bits are transmitted.

bit-splitting: A feature on some *A/D converters*, digital recorders, DAW or other digital devices to choose *word lengths* to accommodate various output channels, such as a choice between six outputs at 20-bit resolution, or four output channels at 24-bits per sample.

black-burst: A type of clock reference, this is essentially a video signal without any picture and without any positional information. Also known as *house sync* as a black-burst signal is typically distributed throughout a recording/editing facility as the facility *master clock* due to the extremely accurate clock signal provided. See *video black*.

blacking: The recording of a *periodic signal* on a blank video tape which marks the start of each video frame. See *video black*, *video sync*, *control track*.

black-track print: A version of the *answer print* which has no sound, i.e., it is “silent,” made from the original camera negative. The first answer prints are usually black-track in order to proceed with the color timing, even when though post-production sound has not been finalized.

blanking interval: The blanking interval occurs at the end of each video *frame*, during which video information is absent. The interval occurs when the CRT electron gun scanner goes from the bottom-right corner of the screen to the beginning of the next *field*(4) in the top-left corner.

bleeding: See *crosstalk*, *channel separation*.

blimp: A solid cover for a motion picture camera, designed to completely contain camera noise. A *barney* is a padded cover for a portable camera which attenuates, but does not eliminate, camera noise.

blocking: Plotting actor, camera and microphone placement, and movement in a production.

Blue Book: A *CD* specification for data, as opposed to sound or video.

Blumlein pair: A stereo miking technique which uses two *figure-eight* mics, crossed at a 90° angle, set up as closely as possible to one another. This is also sometimes called *coincident figure-eights*. See also *coincident pair*.

BNC: (1) Bayonet-Nut Coupler. A two-conductor, low voltage, locking connector most commonly used for the connection of video and high-frequency *clock* signals. (2) Blimped Newsreel Camera. The 35mm Mitchell Camera model which was the industry standard for over 30 years. See *blimp*.

board: A synonym for a recording console or *mixer*. (2) Short for a film storyboard.

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boom: (1) In general recording, any sort of microphone stand with extending sections that allows the microphone to tilt and be pointed at a target, such as above a performer or some section of an orchestra, etc. Also called a fishing rod, although the latter usually refers to a lighter-weight rig more suitable for close miking. (2) The *LFE* in a mix. See *baby boom*.

boomerang: To mix a *sample* with a backward version of itself.

boost: Boost refers to an increase in *amplitude*, usually of a specific frequency or within a frequency *band*. *Equalizers*, the most common of which are tone controls, cause boost or cut of selected frequency ranges.

boost/cut control: A single control which has “no change” at its center-point. If the knob is rotated counter-clockwise, the input is attenuated; rotated clock-wise, the input is amplified.

bootstrap: An arrangement where the apparent *impedance* of a circuit element is reduced by applying an appropriate *feedback* voltage to it, improving the *linearity* of a circuit, thus reducing its *distortion*. It is especially useful in circuits that are required to carry a very wide range of power or voltage levels. Used in power amplifier output *stages*.

bounce: In *multitrack* recording, the process of recording several tracks and mixing those sounds down to one or two unused tracks. For example, on an 8-track recorder, you could record six tracks, bounce them down to the two remaining tracks, freeing up the original six tracks for recording use.

boundary effect: A sound reflection effect due to *room modes* (*standing waves*) which accumulate at walls. Sound wave reflections appear to make the localized sound level increase as all of the room modes terminate at the boundary (wall). Essentially as the wavefront approaches the wall, the amounts of molecular motion become smaller and smaller while the pressure differences become greater and greater as the wall resists the motion of the air molecules, the wall becoming a pressure *node*. The rigidity of the wall surface determines how much the pressure rises, i.e., how much of the pressure is reflected versus how much is absorbed. This occurs on a mode-by-mode basis at each *resonant frequency*. At very low frequencies, nothing large is rigid. However, at higher frequencies, boundary effect is more pronounced, e.g., frequencies above 100Hz in a room with typical walls. A related effect is often observed at a control room window, where the window itself will resonate at one or more resonant frequencies so that the window passes the resonant frequencies through to the (recording) space on the other side, somewhat reducing the boundary effect within the control room, but not providing sound isolation from the adjacent space(s). This last effect is worse for lower frequencies as higher frequencies tend to be absorbed by the glass in the window. Also called the *pressure zone effect*. See *absorption coefficient*, *bass build-up*, *bass trap*.

boundary microphone: A boundary mic uses a small *condenser microphone* capsule mounted very near a sound reflecting plate, or boundary, so there is no delay in the reflected sound. Direct and reflected sounds add in-phase over the audible range of frequencies, resulting in a flat response, free of phase cancellations, excellent clarity and reach, and the same tone quality anywhere around the mic. Boundary mics have a *directional* response that is either *half-omni*, *half-cardioid* or *half-supercardioid*. An example of a boundary microphone is a PZM (pressure zone microphone.)

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bpm: Beats Per Minute. The usual measurement of *tempo*.

bps: Bits per second.

Bps: Bytes per second.

break: In a piece of music, a break is a solo or section of reduced instrumentation, or even complete silence. In modern usage the term usually implies an opportunity for an instrumental solo.

breakjack: A type of *jack* socket fitted with switching terminals, so that insertion of a plug breaks an existing connection. Also called a *normalled connection*.

breakpoint: On synths and samplers, the specific value at which the tracking of scalable parameters, such as *velocity*, starts to take effect, or at which the nature of the *scaling* changes.

breath controller: A device which a performer blows into, bites, or presses with the lips, allowing the articulated sound to be digitally recorded by a synthesizer or sampler. Breath controllers can control volume, *filter* frequency or amount of *LFO*. They incorporate a device known as a *stress bridge*.

breathing: Audible fluctuations in the noise level of a signal caused by poorly adjusted or unsuitable *noise reduction* systems which produce a variable *program level* and/or *noise floor*. Also called *pumping*, *noise pumping* or *breathing*. Pumping is caused by the action of a *compressor*, occurring when one loud sound source causes severe gain reduction in the compressor. With each loud sound, the level of the other instruments will decrease sharply. Pumping occurs during program material. Breathing, on the other hand, occurs when the program stops long enough for the compressor to cease its gain reduction, suddenly boosting the noise floor of the program. *Quantization noise* can also exhibit breathing. See also *compander*.

brick-wall filter: A very sharp filter which masks any frequency outside the *passband*, for example, the lowpass filter at the input of an *A/D*, used to prevent frequencies above the *Nyquist frequency* from being encoded by the converter. See *aliasing*, *reconstruction filter*, *anti-aliasing filter*, *decimation*, *FIR*, *IIR*.

bridge: (1) Meter bridge. A structure mounted at the rear of a mixing desk, or on other equipment such as a tape recorder, which contains a number of *VU* or *PPM* meters. (2) Bridge mode. A method of driving a single load, such as a loudspeaker, from two similar (ideally identical) amplifiers in order to double the power presented to the load; a stereo amplifier operating at 200W per channel could provide approximately 400W into a single load in bridge mode. Many stereo amplifiers designed for sound reinforcement offer this option. See *bridged mono*. (3) See *bridging*. (4) Originally an eight-bar section of contrasting material in the middle of a song, but later applied to a linking section of any length. Also called a *bridge passage* or *middle-eight*. See also *break*.

bridged mono: A method of combining both channels of stereo power amplifiers to create a doubly powerful single-channel (*monaural*) amplifier. See *bridge*(2).

bridge passage: A section of music which links two musical ideas. A bridge is usually used to connect movements in different *keys* and/or *tempos*. See *bridge*(4).

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bridging: The opposite of *impedance-matching*. When the input of an audio device is connected to the output of another device, it is a bridging connection if the second device does not appreciably load the first device and essentially no power is transferred. The second device is sensitive to the output voltage of the first device, and this is maximized when the loading is minimized. Most audio connections are bridging, and the load impedance is at least ten times greater than the source impedance. A bridging connection is made by connecting everything in *parallel* (all the plus inputs connect to the plus output, all the minus inputs connect to the minus output.) This not only allows for a number of loads to be connected to the same source before overloading it, but this also gets the maximum voltage swing possible from the source.

brightness: The amount of high-frequency signal present in a sound, which tends to make the sound appear closer. The opposite of *darkness*.

broadband: Including a wide range of frequencies, generally the entire *audio* range. Usually used in terms of referring to the broadband performance of an audio device with respect to some specification such as *noise*, *distortion*, etc.

B roll: See *A-roll*.

broom: To discard recorded sound during a mix. “Site brooming” is when a director rejects a whole group of effects, often the product of several days’ work.

BTSC: Broadcast Television Systems Committee. The FCC committee that decided upon the *MTS* standards for stereo television sound in the U.S.

BTX: A brand name of electronic devices that will maintain synchronization between two tape recorders, tape recorder and a projector or video playback machine, etc. Used primarily to *interlock* one or more multitrack recorders to a video playback, for purposes of recording, overdubbing, or mixing music in sync with picture. The device uses *SMPTE timecode* for electronic control of all machines.

bucking: The cancellation of one signal or frequency component of a signal by another signal with equal amplitude but opposite *polarity*. See also *phasing*, *flanging*, *comb filter*.

buffer: An amplifier with a high input *impedance* and approximately *unity gain*. Used, for example, in a *mixer* at the back panel outputs for headphones and control room monitors to prevent the two loads from overloading the fader output and causing A-rolloff in high-frequency response. A sort of internal distribution amplifier.

bug: A small *contact microphone*, designed for stringed and wind instruments which work along similar lines to a *piezo pick-up*.

bulk dump: A *System-Exclusive* description of an actual sound sent over MIDI.

bulk eraser: A tape demagnetizer that can erase an entire cassette, reel of $\frac{1}{4}$ ” or multitrack tape without removing the tape from its carrier. Essentially a powerful electromagnet. Some bulk erasers have circuits built in that automatically fade the magnetic field up from and ultimately back down to zero. This eliminates pops and other erasure noise normally left on tape if the eraser is suddenly turned on or off. Also called a *degausser*.

B

bulk tuning message: A System-Exclusive message of the non-real-time type that allows the exchange of tuning data between MIDI devices as well as other devices such as computers, allowing microtuning or different *temperaments* by defining a specific pitch value. The frequency range is from 8.1758Hz to 13,289.73Hz, in steps of one half-step/ $2^{14}=0.0061$ cents, for each of the 128 notes in the MIDI range. Two messages are involved: a bulk tuning dump request message which is transmitted by a device in order to signify that it is ready to receive, and a bulk tuning dump message which contains the data for 128 tuning programs, each containing 128 pitch values.

bumpers: Small segments of music in a television or film score that usually precede a dissolve. In television, usually used before commercial breaks.

burnt-in timecode: See *BITC*.

bus or buss: In a *mixer*, a path via which the user can route a signal from one or more inputs to a specified destination. Typical destinations include: groups, mix, *auxiliary send*, *foldback*, etc. For example, "routing inputs 1-8 to the mix bus" means that the eight input signals appear additively at the mix output.

buzz track: Alignment film used to set the lateral alignment of the *optical film* recording areas for replay.

bvox: See *backing vocals*.

B-weighting: Frequency correction approximately corresponding to human hearing at 70dB SPL. See *A-weighting*, *C-weighting*, *equal loudness curves*.

bypass: A facility on an *effects* unit which allows the user to switch the incoming signal directly through to the unit's output, cancelling the effect so that an *A/B* comparison may be made quickly between the *wet* and *dry* signal.