W

wait: One of the characters transmitted for the purposes of handshaking in a data transfer. The character is sent back to the transmitting device by the receiving device to indicate that the receiver wants the transmitter to pause.

walla: Background *ambient sound* added to a *film soundtrack* to give the affect of an external environment, e.g., street noise, background conversation. See also *ambience*, *room tone*, *NC Curve*.

watt: A unit of electrical *power*. (1) The *SI* Unit of power: 1 Joule per second. 745.7W=1HP. (2) A unit of electrical power, indicating the amount of work deployable into a given load by an electrical device such as an amplifier or motor. It is strictly the product of the potential difference in *voltage*, (V), *current* in *amperes*, (A), and *power factor*. In practice, the power factor is often ignored and the term is reduced to *VA*. See *output power*.

WAV (.WAV): The Windows audio file format. Typically encountered as `FILENAME.WAV`, developed as the standard format for multimedia sound applications. WAV is the most common of several file types that conform to the *RIFF* specification, and so may be referred to as the RIFF WAV format. WAV files can include mono or multichannel audio at 8-bit or 16-bit resolution at a variety of sampling rates up to 44.1kHz. The format supports different compression schemes, but the most common is *IMA/ADPCM* at 4:1 for 16-bit sounds.

WAV/multi-WAV driver: Used by PC-type system application programs to play sounds on audio cards. Unlike the Mac's Sound Manager, WAV drivers can support multiple channels (i.e., more than stereo 2-channel), and depending on the hardware, resolutions above 16-bit, 48kHz.

waveform: The waveform of a signal is a two-dimensional graph of the instantaneous *amplitude* versus time. See *spectrum*. (1) A signal, either sampled (digitally recorded) or periodic, being generated by an oscillator. Each waveform has its own distinctive timbre. Also called a sample. (2) The graphic representation of this signal, as on a computer screen. See sound synthesis, Appendix C.
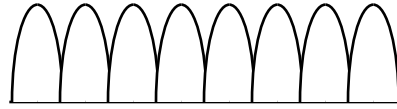
waveform modulation: A voltage-controlled change in the *timbre* of a note or entire samplepatch, independent of the pitch or frequency normally designated by the keystrokes. See *sound synthesis*, Appendix C.
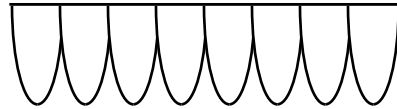
W

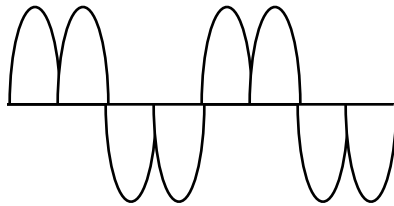**waveform rectification**: A Digidesign™ plug-in that creates new, hitherto-unexplored waveforms:
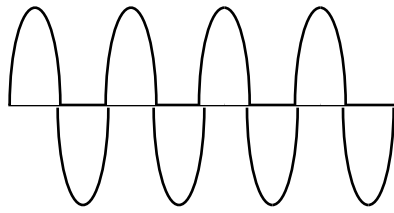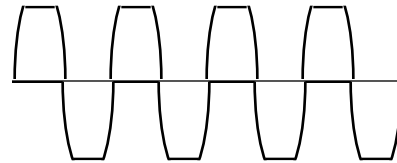

Unaltered Sine Wave

Positive Rectification (Phase is 100% positive)

Negative Rectification (Phase is 100% negative)

**Alternating Rectification
(Alternates between positive and negative)**

**"Alt-Max" Rectification
(Alternates between holding the peak value
of positive and negative wave cycles)**

Waveform Rectification

waveform selection: The waveform selection parameter allows the choice of the shape of the signal generated by the *LFO*. Typical shapes include sine, triangle (tri), square, and sawtooth (saw). The two most common waveforms used for *vibrato* or *tremolo* are the sine and triangle. The square wave is used for trills, and saw for special effects. Some LFOs offer a random (also called *sample-and-hold*) waveform, useful for "computer" sounds. See *sound synthesis*, Appendix C.

wavelength: In a sound wave, the distance between two successive pressure maxima is called the wavelength, and it is equal to the speed of sound divided by the frequency. See *compression*(**4**), *rarefaction*.

Frequency (Hz)	Wavelength feet/inches	Wavelength meters/cm
20	50'	16.5m
50	20'	6.6m
100	10'	3.3m
250	4'	1.32m
500	2'	66cm
1,000	1'	33cm
2,000	6"	16.5cm
5,000	2.4"	6.6cm
10,000	1.2"	3.3cm
20,0000	.5"	1.65cm

W

wavelength response: The distance spanned by one complete cycle of a sine wave, or the *fundamental frequency* of any complex musical tone, as it travels through an elastic medium, e.g., air, or as it is recorded on tape, film, or vinyl disc.

wavetable: The contents of the *waveform* ROM. A set of numbers stored in memory (ROM) and used to generate a waveform. The wavetable synthesizer on a soundcard typically plays sounds whose digital representations have been stored in a wavetable. See *sound synthesis, wavetable synthesis.*

wavetable lookup: The process of reading the numbers in a wavetable (not necessarily in linear order from beginning to end) and sending them to a *voice channel*.

wavetable synthesis: A method of generating waveforms through lookup tables. Digitized waveforms are organized in a bank, the *wavetable*, where they can be randomly accessed. In many wavetable synths, the resulting waveform is used in *subtractive synthesis*.

weave job: A type of musical track for a spot in which short segments of lead vocal or instrumental lines are interspersed between lines of narration or dialogue. The music weaves in and out, taking the foreground whenever there is no spoken copy.

weber: The basic unit of *magnetic flux*, defined as one volt-second.

weighting: In measuring *frequency response*, introducing a predetermined *equalization* to the signal before taking the measurement. See *A-Weighting, B-Weighting, C-Weighting*.

weighting network: A *filtering network* or *active equalizer* precisely designed or calibrated for use in weighting.

Westrex: The film sound company that, along with RCA, had a monopoly for over forty years, including the whole recording/playback chain. This equipment was leased to studios for royalty fees. By the mid-1970s, this equipment was being replaced by manufacturers of more highly specialized devices such as consoles by Quad-Eight, mag machines by Magna-Tech, and sound format processes by Dolby.

wet: Consisting entirely of processed sound. The output of an effects device is 100% wet when only the output of the processor itself is being heard, with none of the *dry* signal.

white label: A small pressing of a record of CD with an anonymous blank ("white") label, used for market-testing a track on a limited audience before release. Also used by artists to issue a track rejected by the record company to which s/he is under contract.

white noise: A special type of *random noise* where the energy content is the same at each frequency. Strictly speaking, true white noise would have energy extending from DC, or zero frequency. In practice, we see only *band-limited* white noise, e.g., the noise heard when an FM receiver is tuned between stations is quite close to white noise over the AF range. Because of the ears' peculiar method of determining *loudness* of sounds, white noise sounds as if it has more energy at high frequencies than low. Also (imprecisely) called *thermal noise* and *resistance noise*. See *pink noise, noise floor*.

whole-step: The musical interval of a major *second* in a *diatonic scale*. The frequency ratio between the notes of a major second in *just intonation* is $\frac{9}{8}$, and in *equal temperament* it is the $\sqrt[6]{2}$, or about 12%. See *half-step*.

W

wide-range curve: See *X-Curve*.

wide-range monitoring: See *X-Curve*.

wig-wag: Film slang for the warning lights outside *sound stages* to indicate when shooting is taking place.

wild score: See *scoring wild*.

wild sound/wild track: A *film soundtrack* recorded for motion picture where the audio elements are not recorded synchronously with the picture. Wild tracks are frequently used to get a clean recording of dialog that was otherwise unobtainable because of noise on the set. The opposite of *sync sound*. **See also** *scoring wild*.

window: **(1)** The frequency *band* in which a device is operational, e.g., the *passband* of a *band-pass filter*. **(2)** Short for *timecode* window.

window dub: See *BITC*.

windshield/windscreen: See *pop filter*.

wiper: The movable contact in a *pot* is called the wiper, or sometimes, the *arm*.

wireless microphone: A microphone, typically a *Lavalier* microphone, attached to a miniature FM transmitter that broadcasts to an FM receiver. Because the signal is transmitted, no cable is necessary between the microphone and the rest of the audio *chain*.

wobble: To vary between recording or sampling rates. See *variable-rate digital converter*.

wolf note: A term used to describe the inaccuracy in *pitch* which can occur when an instrument such as a harpsichord, which has not been tuned to *equal temperament*, is played on a remote *key*. Also used to denote the undue stridency of a note on an instrument such as a cello, where the pitch of that note is related to the *resonant frequency* of the instrument.

WOM: Write-Only Memory. Memory that can be overwritten by the user, but cannot be read by the user. An example is *WOM/MA* (Manufacturer-Accessible) is used by some hardware manufacturers as a sort of "black box" for units returned for service as a means of recording some of the history of the device.

woofer: A *loudspeaker* designed to reproduce low frequencies only.

word: The smallest possible unit of digital audio; a single number (sample word) that represents the instantaneous *amplitude* of a sampled sound at a particular moment in time. See *bit depth*.

word clock: A signal internally by all digital audio devices, and externally for locking together high-end devices. Word clock is accurate to a single sample word, usually 44.1kHz or 48kHz, i.e., the *sampling rate*. Specialized hardware is required for syncing a digital audio recorder's word clock to *SMPTE timecode* or some other timing reference, usually through a *BNC*-type connector, rather than the XLR connector used by an AES/EBU *null clock* signal. See *self-clocking, master clock, Super Clock*.

word length: See *bit depth*.

W

workprint: Copies of the original film or video used as a reference during the sound and/or picture editing process or a *linear* editing system. Also used during *sweetening*. The workprint is usually the first print made of the camera negative with all or selected takes included in their entirety, *slates* and all, also called *dailies*. (2) The edited dailies of a film in an *assembly*, *rough cut* or fine cut. Workprint is often loosely used to refer to all the edited materials, including *magnetic film* tracks, etc. A film copy, usually black-and-white, is sometimes referred to as a *slop print*, and is used to save stress of repeated *rollback* during the mix on the much-spliced workprint. Workprints include *Acmade* edge numbers and *key numbers*. Video copies with *BITC* are known as *window dub*s.

workstation: A *synthesizer* or *sampler* with which the tasks usually associated with electronic music production such as sequencing, effects processing, rhythm programming, data storage on disk, and the editing of stored sequencer data can all be performed by components found within a single physical device, sometimes called a *DAW* by the acronym-friendly.

worktrack: The sound analog of the *workprint*.

worldize: To re-record a track or tracks, usually music, in the space where it would naturally occur in a film.

WORM: Write Once Read Many. Any form of memory which allows data to be stored once only, but the information can be read an unlimited number of times. Recordable CDs are an example of this, although the term generally refers to programmable ICs.

wow: A type of *frequency modulation* distortion which manifests itself as a relatively slow variation in frequency of reproduced sound caused by slow speed variations in the transports of turntables, tape recorders, etc. Pitch fluctuations of 1Hz-2Hz are classed as wow, while faster variations are called *flutter*.

WPC: Watts Per Channel. A unit intended to give an indication of the output of a *power amplifier*. It should be qualified by a *load* condition such as the *impedance* of a loudspeaker, e.g., 200WPC/4 , otherwise it is meaningless.

wrap: The parameter of *tape-head* alignment that determines how large an area of tape oxide is in contact with the front surface of the tape head, i.e., the surface containing the *gap*. Also called contact. The correct wrap is different for heads of different frontal design. The combination of wrap and tape tension determines whether the tape makes adequate contact at the gap itself.

write mode: In mixer *automation*, the operational mode in which the system scans channel *fader* levels and perhaps other parameters, making continuous note of the engineer-specified initial conditions for each channel and all changes made by the engineer in *real-time* during a *mixdown*. The scanned data is continuously written to storage, either on one track of the multitrack tape itself, or onto a floppy or hard disk. If stored to disk, the multitrack tape and disk must carry identical *timecodes* for later reproduction of the mix by the system when operating in its *read* or *update* mode.