GLOSSARY

A

A/D or Analog-to-Digital Converter

The device that converts an analog audio signal to digital audio. Once encoded, all audio is stored or processed as a series of numbers rather than as the audio itself.

AES/EBU Interface

A two-channel, digital audio hardware/software standard. The AES/EBU interface allows for data communication between professionally-oriented digital devices (such as digital signal processors, hard disk recording systems, synthesizers with AES/EBU outputs, digital audio workstations, etc.).

Autolocation

The process of automatically rewinding or fast forwarding, as necessary, to find a specific point on tape. Autolocation is usually initiated by pressing a button that tells the machine the point to which you want it to autolocate.

Automation

Generally, automation means using a machine or computer to perform or repeat one or more tasks. In recording systems, automation refers to the process of recording and playing back mixer movements such as faders and mute buttons. In many sophisticated systems, all controls can be automated.

Auto Loop

A combination of two functions, *Auto Return* and *Auto Play*, which allows a specific section of tape to be played over and over again; particularly useful for *looped recording* whe used along with the *Auto Record* function.

Auto Play

A function whereby playback is automatically engaged upon completing a locate.

Auto Record

A function whereby recording is carried out automatically. The point where recording begins is determined by the Mark In point. The point where recording ends is determined by the Mark Out point.

Auto Return

A function whereby the transport automatically begins to rewind once reaching a certain point, and returns to an earlier point. The point at which rewinding begins is called the Auto Return End point. The point that is returned to is called the Auto Return Start point.

B

Balanced Audio Signals

Signals that are carried on three-conductor cables, with two of the conductors carrying the same signal 180∞ out of phase and third as ground. Balanced connections usually cost more than unbalanced connections, but are less susceptible to picking up hum and interference with low-level signals.

Bounce

Bouncing means taking audio from one track and placing it on another. The term, sometimes called “bouncing down,” also describes the process of mixing several tracks onto one or two.

Bus

A bus generally refers to any common signal pathway. In a mixer, a bus is usually a wire that is or can be made common to the outputs of any or all channels in the mixer. Examples of buses include the main stereo mix, sub-mixes, monitor buses and aux sends.

C

Channel

In audio, a channel is an internal audio path maintained separately from other audio paths of identical function. Mixer input strips are examples of channels, but an audio snake also has channels.

Chase/Lock

Chase/Lock refers to a tape machine’s ability to read incoming timecode, locate its tape to the position indicated by the timecode, and synchronize playback to the incoming timecode.

Clip

In the analog world, clipping occurs when the input to a circuit exceeds the gain of the circuit. The circuit passes the signal at its maximum value. All input values exceeding the maximum value are “clipped.” The result is audio distortion. In digital audio, clipping occurs when the input to an A/D exceeds the voltage represented by the maximum number the A/D is capable of transmitting.

Crossfade

A crossfade is a gradual “dissolve” between two portions of audio; one segment of audio fades out while the other fades in. When punching in on the XT, the audio on tape is faded out while the new audio which is being recorded is faded in.

D

DAT

Digital Audio Tape. This term has come to mean specific digital audio tape recorders that use cartridges smaller than those of a standard cassette, and which record two tracks of digital audio (and sometimes timecode).

Digital I/O

Input and output connections where signals passed from one stage to another remain in the digital domain. The XT has digital I/O connectors that carry digital data for all eight tracks.

D/A or Digital-to-Analog Converter

The device that converts digital signals back into an analog format so that they can be heard.

E

F

Fiber Optical Connector

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

G

H

House Sync

A video signal distributed to any device that requires a reference to maintain proper sync relationship with other devices. The signal comes in several forms: Blackburst results in a black video screen when fed to a video monitor; Color bars are the standard reference for adjusting video equipment. Color bars can be seen on many stations just before they come on the air.

I

Input

An input is a path through which audio passes from one electronic device into another. types of inputs vary in connector type, level, use (sends, monitor, mix), and electrical characteristics (impedance, balanced or unbalanced). They can be analog or digital.

J

K

L

M

MIDI

Musical Instrument Digital Interface (MIDI). A protocol whereby various MIDI-compatible products can communicate various musical and non-musical messages (such as notes, controls, etc.).

MMC

MIDI Machine Control (MMC). A subset of MIDI messages which correspond to tape machine's transport controls and other functions.

Mute

Used as a verb, to "mute a channel" means to turn off the audio for that channel. Used as a noun, "mutes" are the buttons which turn off a particular channel. Mutes are usually non-destructive, though not always. Mutes are often automated as part of mixer automation systems.

N
O

Output

A path through which audio passes from one device to another. Types of outputs vary in connector type, level, use (sends, monitor, mix), and electrical characteristics (impedance, balanced or unbalanced). They can be analog or digital.

Oversampling

The process of taking more samples than is required in order to more accurately reconstruct a digitized signal back into analog audio.

P

Post-production

Begins after the film or video location shoot and is the process of combining, editing and processing audio elements into a final product to be married with the picture.

Punching

The process of entering and/or exiting the record function while the tape is playing. This allows recording over specific pieces of tape, such as recording over a section with bad notes, as opposed to recording over the entire length of the track.

Q
R

Record-Ready

A track mode, often called “armed.” When you want to record on a track, you “ready” or “arm” the track. When you push the record button, all tracks that are ready or armed will go into record mode.

Rotary Head

A type of tape head, as used in the XT, that spins at a high rate of speed in order to create the same effect as having the tape moving by at rates not physically possible with today’s tapes and transports.

S

Safe

A track mode. When a track is safe, it is *not* ready for recording.

Sample Rate

A digital representation of an analog signal created by checking, or sampling, the analog voltage a fixed number of times per second. The greater the number of samples, the more accurate the representation of the analog signal. The CD uses a sampling rate of 44.1 kHz; it checks the analog signal 44,100 times per second.

Sample Rate Conversion

Sample rate conversion is the process by which audio originally recorded at one sample rate is converted to another sample rate. The audio is converted by shifting its pitch up or down, and then played back at the new sample rate.

SMPTE/LTC

Society of Motion Picture and Television Engineers (SMPTE and Longitudinal Time Code (LTC). A standard for LTC was specified by the SMPTE, and has been adopted

by the motion picture and television industries. A complete description of LTC can be found in *The Time Code Handbook*, by Walter Hickman. SMPTE timecode is the standard sync reference for professional audio and video post-production.

S/PDIF Interface

Similar to the AES/EBU interface, but created by Sony and Philips with consumer applications in mind. The optional AI-1 from Alesis offers both the consumer S/PDIF interface and professional AES/EBU format for use with the XT.

S-VHS

Acronym for Super Video Home System, an improved version of VHS with greater resolution and dubbing capabilities, as well as improved sound.

T

Track

An area of tape on which audio is recorded. A track can be thought of as a picture of an output over time.

U

Unbalanced Audio Signals

Signals that are carried on two-conductor cables, one “hot” and one ground. Unbalanced connections save costs, but are more prone to picking up hum and interference with low-level signals.

V

VHS

Acronym for Video Home System, a video recording system introduced for consumer use and using standardized cartridges.

VITC

Vertical Interval Time Code (VITC) is timecode information encoded in the vertical retrace interval of the video signal (this is the time when the beam is getting back to the top of the screen). The advantage of VITC is that the timecode value can be read when the video deck is paused, and is accurate to the frame.

W

X

Y

Z