8. GLOSSARY OF TERMS

The following section is a guide to some commonly encountered terminology relating to mixing consoles. Where alternative terms exist they will be quoted wherever possible.

**AFL** – 'After Fade Listen', found on channel modules for monitoring specific signals after the fader, without affecting the main outputs. There is usually an AFL bus which sums all the AFL'd signals and is routed to monitoring. Sometimes AFL is a stereo bus to allow monitoring of individual channels in their stereo panned positions.

**ATTENUATION** – is the reduction in level of a signal.

**AUDIO GROUPING** – so-called because it results in a single audio output which is a sum of all the channels in the group. A single fader controls the level of the summed signals and there will be a group output from the console which is effectively a mix of the audio signals in that group.

**AUX** – an auxiliary output from (or sometimes input to) the console, often an effects send. There will often be individual aux send level controls on channels as well as master controls for the entire console.

**BELL** – sometimes used to denote a 'peaking' equalizer rather than a shelving one (See Facilities – EQ). The term is derived from the shape of the filter curve, rather than the sound of the effect!

**BOUNCE** – a facility which allows the monitor signal of a particular channel to be routed back to the track assignment 'buses for 'bouncing down', where a number of previously recorded signals are re-recorded onto different tracks usually with some mixing, for reasons of track economy.

**BUS** – a 'Summing point' for all signals routed to the same place. A bus will usually be either a balanced or unbalanced line running most of the length of the console carrying a signal for a particular destination: eg 'stereo mix bus' picks up all signals routed from channels to the stereo mix. Bus is occasionally used to denote a channel module facility.

**CHANNEL** – should refer to a particular input path on the mixing console. It is sometimes used to designate the path from microphone to multitrack tape, where 'monitor' designates the return from multitrack to mix on an in-line console.
CLIPPING – an effect which arises when the electrical level of an audio signal at some point in the chain exceeds the overload level of the stage in question. This will result in squaring off from the waveform and resultant distortion.

COMMS – an abbreviation for 'communications': the talkback between artists and control room.

CONTROL GROUPING – control grouping differs from audio grouping primarily because it does not give rise to a single summed audio output for the group: the levels of the faders in the group are controlled from one fader, but their outputs remain separate. This grouping can be imagined as similar in effect to a very large hand moving many faders at the same time, each maintaining its level in relation to the others.

CONTROL ROOM MONITOR – a control is usually provided to adjust the level of the control room loudspeakers independently of the level mix.

CUE – an output from the console which carries a mix of signals to artists for monitoring on headphones. Cues are usually made up of individual signals sent from the channel aux buses, plus perhaps added affects. A cue may be stereo or mono.

CUT – a switch to mute the relevant signal from its destination. eg: CUT on monitor fader cuts that channel from the mix. Also known as mute, or inversely, 'ON'. Convention varies as to whether any light representing CUT should be on or off when the channel is cut.

DUMP – a facility for dumping the stereo mix of a channel to the multitrack assignment matrix.

ECHO RETURN/EFFECTS SEND – another name for aux send, but more specifically referring to an aux send used for effects.

EQ – abbreviation for EQUALIZATION (a means of controlling the frequency characteristics of a signal across the audio spectrum).

FADER – usually a sliding gain control, having full attenuation at the bottom of its travel, a unity gain position near the top, and usually some 10dB of gain above unity (in the case of channel/monitor faders).

FILTERS – often provided to cut the high or low end of the frequency spectrum at certain points in the signal chain.

FOLDBACK – outputs from the console which return cues to artists, similar to CUES.
GAIN – The amount of amplification provided by any stage in the signal chain. Negative gain is ATTENUATION.

GROUP – Audio Groups are so-called because they result in a single audio output which is a sum of all the channels in the group. A single fader controls the level of the summed signal and there will be a group output from the console which is effectively a mix of the audio signals in that group. See figure below.

HPF – High pass filter – allows the passage of signal content which is above the filter frequency.

INPUT MODULE – A physical module carrying an input from an external source and routing it to other destinations on the console, also providing some facilities for modifying the sound. There will usually be more input modules than anything else on a conventional console.

JACKFIELD – A collection of sockets carrying signals from various points in the signal chain, to allow 'patching' of signals from place to place.

LIMITER – Sometimes provided as part of a DYNAMICS PROCESSOR to limit the level of a signal to a particular point. This may either be for an effect, or to prevent overload elsewhere in the system.

LINK – A function found in dynamics sections to link the dynamics control signal between adjacent channels, so as to operate simultaneously on stereo pairs such that no image shift occurs in the case of level discrepancies between channels.

LPF – Low pass filter – allows the passage of signal content which is below the filter frequency.
MODULE – a piece of removable hardware in the control surface of the console, eg: 'master module' or 'input module'.

MONITOR – refers to many things in a studio, but usually means the stereo mix when concerned with mixing consoles.

MUTE – see CUT.

NORMALLING – the process by which jacks are connected together so that a signal flows between two rows when no insertion is made.

NULL – VCA faders are commonly provided with null LED’s. LED’s are little lights on the fader package which point in the direction that the fader must be moved to makes its position correspond to the gain of the VCA. When the light go out (or when they are both on), the fader position is correct. The null lights allow the user to move the fader towards the null position.

OSCILLATOR – an oscillator produces tones at various frequencies for lining up the system. It may be routed to a number of outputs on the console, and usually appears on the patchfield as well.

PAN – This control is used for moving a signal to a point somewhere between left and right in the stereo mix image. It does this by splitting the single signal from the monitor fade into two signals (left and right), setting the position in the image by varying the level difference between left and right channels.

PARAMETRIC EQ – equalisation which is fully and continuously variable in frequency, Q, and level.

PFL – 'Pre-fade listen': found on channel modules for monitoring specific signals before the fader, without affecting the main mix outputs. There is usually a PFL bus which sums all the PFL'd signals and is routed to the monitoring. PFL is always in mono and on broadcast consoles often appears on a small loudspeaker mounted in the meter bridge.

PHANTOM POWER – Most professional mics require 48 volts phantom powering, supplied through the mic cable. There is sometimes a switch on the input module to turn it on or off, although most balanced mics which do not use phantom power will not be damaged if it is accidentally left on.

POST – 'after' usually referring to a signal take-off point such as an aux send and meaning that it is after the fader.
PRE - 'before': usually referring to a signal take-off point such as an aux send and meaning that it is before the fader.

Q - The Q of a filter is defined as its centre frequency divided by bandwidth (the distance between frequencies where the response is 3dB down on the peak). In practice this affects the 'sharpness' of the filter peak or notch: high Q giving the sharpest response and a low Q giving a very broad response.

Low Q would be used when boost or cut over a relatively wide range of frequencies is required, while high Q is used to boost or cut one specific region.

RETURN - an additional input to the console usually used for returning effects to the mix.

REVERSE - sometimes refers to the swapping of the large and small faders on an in-line module (fader-swap on V Series consoles).

SEND - an output from the console (see AUX, CUE, ECHO SEND).

SLATE - a function which allows the output of a microphone usually located on the console to be recorded onto tape, sometimes along with a low frequency tone, to identify takes. The LF tone can be heard when winding tape at high speed.

SOLO - Solo functions are useful when applying effects and EQ, in order that one may hear the isolated sound and treat it individually without hearing the rest of the mix. Often a light is provided to show that a SOLO mode is selected because there are times when nothing can be heard from the loudspeakers due to a SOLO button being down with no signal on that track.
SUBGROUP – Channel signals can be made more easily manageable by grouping perhaps eight faders together. This group of faders is known as a sub-group. The sub-group is routed to the stereo mix or perhaps panned between two subgroups and then to the main mix via a single level control (the subgroup fader), as shown in the figure below.

TRIM – Used for trimming the overall level of the send to multitrack for a particular bus. It will normally trim the level sent to the track which corresponds to the number of the module.

TAPE – a function which selects the multitrack tape as the input to the monitor of an in-line module as opposed to the line output of the console.

TALKBACK – see COMMS

WIDTH – a control found occasionally when a stereo width control is present to widen or narrow the image of a stereo pair.