THE SSL: It all starts here…

Large format analog consoles like SSL, Neve and API are super flexible, but that flexibility comes at a price – not just $$$, but also an increased complexity that can be hard to understand. The SSL has 8 possible STATUS settings, each one useful to engineers who understand their purpose.

Since each status option would require it's own block diagram, I based my diagrams on 'triangle' mode…

FIGURE-1: 'Triangle' status. These buttons can be found in the Master Section.

To understand large format consoles, it is important to zoom out and look at their more simple predecessors…

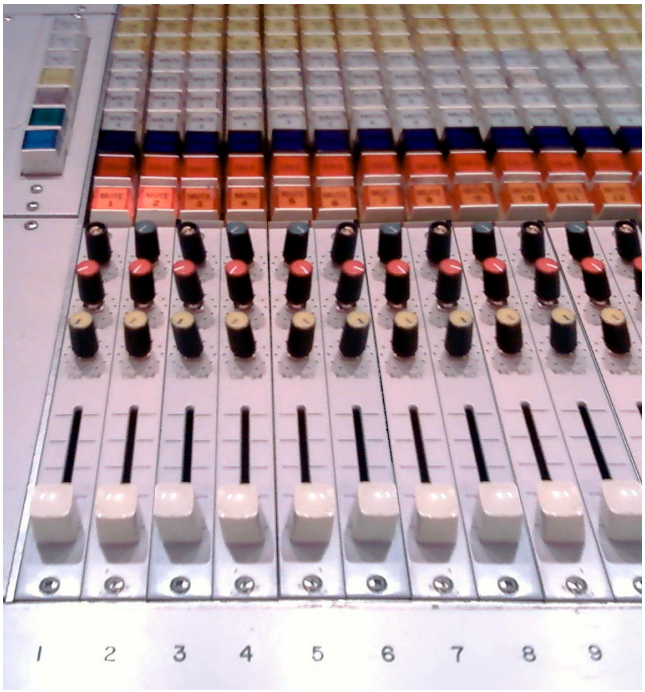

FIGURE-2: The Tape Monitor section, called the "Juke Box,' from an API console. The knobs are for Cue (2, prefader) and FX (1, post fader)

SPLIT CONSOLE

In the Seventies, Trident, API and Neve made ‘split’ consoles, where the ‘Channel Strips” where simple INPUT modules, mic or line. They could be routed to the multitrack / group buss or to the stereo mix buss. A separate section of the console, called the MONITOR MIXER, was reserved for the tape machine playback during tracking and overdubs.

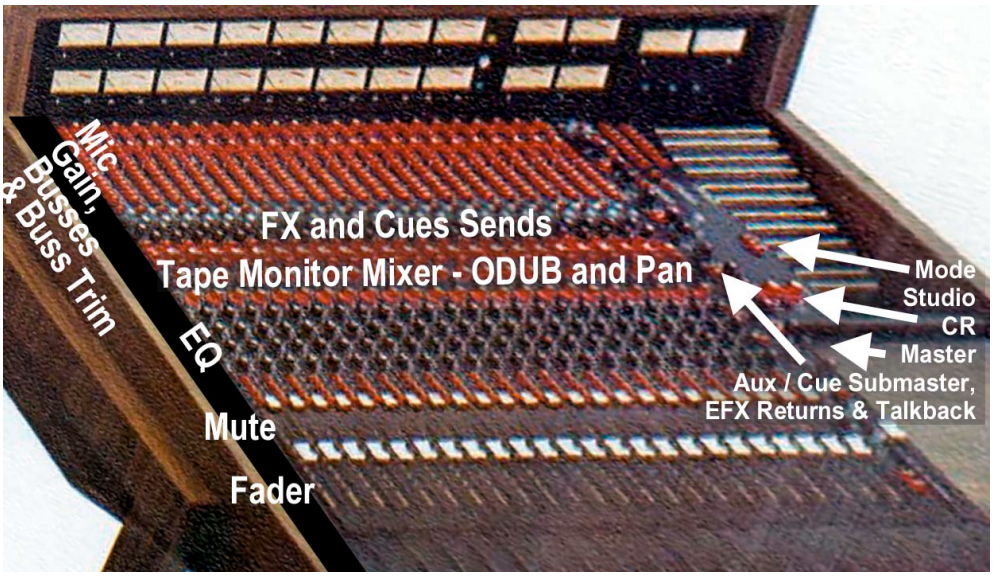

FIGURE-3: MCI JH-416, the first In-Line Recording Console

THE FIRST IN-LINE CHANNEL STRIP

In the mid-seventies MCI’s Jeep Harned and Dave Harrison (who later made his own consoles) introduced the idea of the in-line ‘channel strip.’ Also known as Input / Output modules or I/O, each channel strip has two primary signal paths – **Mic** – also known as the Record path (using the Large Fader) and the **Monitor** path (for rough mixes during tracking and OverDubs using a rotary pot). Itwas quite manageable by SSL standards, possibly even restricting...

SUPER-SIZE ME (From the SSL WIKI page)

When Colin Sanders built the first two SL4000 A Series consoles in 1975, he redefined in-line mixing console architecture in the process. Paul Bamborough designed the first SSL Studio Computer that was used in the six SL4000 B Series consoles that were built in 1977. It was the success of the SL4000 E Series, which added the Total Recall system, that built the company's fortunes.

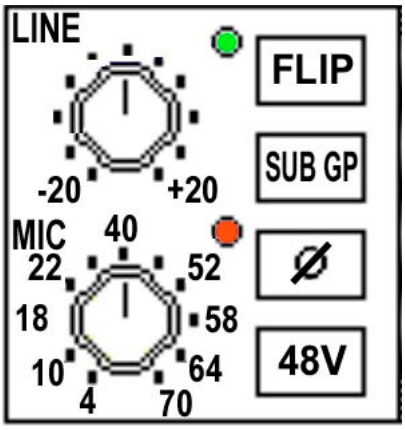

FIGURE-4: SSL Mic Preamp and Line Trim section

Like the MCI JH-416, the SSL channel strip has two primary signal paths – **Mic (**the Record / Channel path using the Small Fader) and the **Monitor** path (for Rough mixes - during tracking and OverDubs - and Final Mixes using the Large VCA Fader, which can be automated. As mentioned, there are 8 possible status configurations, all of which can be reversed (via local over ride on each channel strip) if that's your preference.

Other I/O signal paths are called Aux (Auxiliary), EFX (Effects), Cue (for headphones) and Side-Chain for the dynamics module.

The Master Section is home to the Master Status buttons (**Figure-1**) the Master Fader, Aux / Cue Submasters, the Oscillator, the Mix Buss Compressor, Main and Mini Control Room Levels, Talkback (with options), DIM and Mute. Although it had been designed for music production, the power and flexibility of the '4K' attracted Broadcast and Post-production customers including the BBC and Danmarks Radio. The introduction of stereo sound for TV led to the development of the SL6000 V Series Stereo Video System, with its three-stem stereo mix matrix, and later to the SL8000 G Series. Meanwhile the 4000 E was upgraded to the 4000 G with a number of sonic enhancements plus the Ultimation moving fader option.

The previous paragraph provided a clue about MMI's Studio B console, explaining that the 6000 series modules has the three-stem A-B-C stereo matrix while the 4000 series was designed for four-channel quad, the precursor to Surround.

The two pages that follow are as follows:

BLOCK-1:

- A Simplified SSL block diagram broken up into three horizontal sections…
    - **RECORD:** How the mic gets to 'tape / PT'
    - **PLAYBACK:** How 'tape / PT' gets to the Mix Buss and a stereo recorder and how the the cue and fx sedns can be pre and post fader.
    - **MONITOR:** How to select stereo sources like the Mix Buss, Playback and Cue System as well as choose between the main and near field monitors. While this diagram is simplified relative to Channel Strip's many routing options, it goes into more MASTER SECTION detail regarding the function of the EXT switch and monitor selection

BLOCK-2:

- A Simplified Signal Flow including patch points
    - Includes more details about switching between Mic, Line, Tape and Subgroup
    - Shows how the Filter Section can be separated from the main EQ so that one section can be in the CHANNEL path while the other can be in the MONITOR path.
    - Shows how EQ can be pre- or post-insert
    - Shows how the multitrack output has two destinations, Line or Tape Monitor
    - Details how the Direct / Group switch chooses between the Small Fader (Record Path) output and the Routing matrix output.
    - Details how the Ready Group / Ready Tape switches allow the monitor section to listen to the group outputs (to tape) or the multitrack return (from tape).
    - Details how the Source Selector Switches can choose between the Stereo Buss (vie EXT engaged) and Stereo Tape Playback (via EXT disengaged).
    - Shows how the Source Selector feeds the near / far monitors and the four monitor MUTE buttons.

For more info…

http://www.sae.edu/reference_material/audio/pages/Audio.htm

http://www.recordinginstitute.com/da154/ARP/chap1SSL/ssld.html