G-BUS COMPRESSOR

Studio9 Plugins

Version 2.0.0

G-Bus Compressor is a fictional emulation of the legendary SSL 4000 G-Bus stereo bus compressor — the defining sound of countless hit records since the 1980s. Like the original hardware, it uses a feedback topology where the detector reads the VCA output rather than the input, producing the natural self-regulating "glue" that the SSL console is famous for. It features true stereo-linked RMS detection, discrete attack and release time selections, a variable sidechain high-pass filter (20–160 Hz, 18 dB/oct), and a soft-knee gain computer that somewhat mirrors the behaviour of the original circuit.

The Drive control adds subtle output transformer saturation modelled on the SSL 4000 series output stage — a gentle second-harmonic warmth that adds density and presence without heavy colouration. The plugin runs with 2x oversampling and a linear-phase filter around the saturation stage, keeping aliasing artefacts inaudible and preserving phase coherence for master bus use.

New in version 2.0: the SC HPF is now a variable control (OFF, or 20 Hz to 160 Hz at 18 dB/octave) instead of an on/off switch. Version 2.0 is a new plugin and installs alongside version 1.x; sessions saved with 1.x will not load the new version's settings, so insert G-Bus Compressor 2.0 afresh and re-set the SC HPF.

Fig. 1



CONTROLS

Threshold: Sets the level (dBFS) at which compression begins. Lower values engage the compressor earlier and produce more gain reduction.

Ratio: Selects the compression ratio: 2:1 for gentle glue, 4:1 for the classic SSL sound, or 10:1 for heavy limiting.

Attack: Selects the attack time from 0.1ms to 30ms, or AUTO for program-dependent attack that follows the musical material.

Release: Selects the release time from 0.1s to 1.2s, or AUTO for the dual time-constant program-dependent release that gives the SSL its glue.

Makeup: Applies output gain (0 to +12 dB) to compensate for gain reduction.

SC HPF: Sets the sidechain high-pass filter frequency from 20 Hz to 160 Hz (18 dB/octave), or OFF at the fully counter-clockwise position. Higher settings stop low-end content such as kick and bass from triggering excessive gain reduction on every beat. The filter acts only on the detector; the audio itself passes through unfiltered.

Stereo Link: Links the left and right sidechain detectors so both channels compress together, driven by the louder side.

Drive: Adds transformer saturation from subtle warmth to noticeable colour. Best kept low (under 30%) on the master bus.

Meter Mode: Switches the VU meter between Input level, Gain Reduction, and Output level display.

PRESETS

Drums Bus
Threshold -15 dB | Ratio 4:1 | Attack 3ms | Release 0.1s
Makeup +4 dB | SC HPF 80 Hz | Stereo Link ON | Drive 20%

Guitar Bus
Threshold -12 dB | Ratio 2:1 | Attack 10ms | Release 0.3s
Makeup +3 dB | SC HPF OFF | Stereo Link ON | Drive 35%

Mix Bus
Threshold -10 dB | Ratio 4:1 | Attack 30ms | Release AUTO
Makeup +2 dB | SC HPF 60 Hz | Stereo Link ON | Drive 10%

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