

# Solid State Logic

O X F O R D • E N G L A N D

## X-Comp User Guide

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### Introduction

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### About SSL X-Comp

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X-Comp can deliver the transparent audio finesse of a mastering-grade stereo compressor or be driven to inject character and raw power to rival the SSL Listen Mic Compressor. In X-Comp we haven't just modelled a particular compressor, but have provided a set of features and controls that allow the emulation of many vintage and modern compression designs based on a well-loved SSL feed forward compressor algorithm.



### Key Features

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- Dual-symmetrical knee design allows detailed shaping of the compression characteristic.
- Advanced side-chain architecture using 1st order filters delivers user-friendly frequency dependant parallel compression.
- Amplitude Histogram and Gain Reduction history displays provide advanced real-time pre/post signal analysis.
- Max Gain Reduction control provides genuine vintage compressor characteristics.

- Intuitive user interface with drag and move graphic, mouse wheel and numeric editing.
- A/B facility for instant comparison of two different compression settings.
- Proprietary preset management functions providing compatibility between all DAW platforms.
- Global latency-free bypass.
- Superb mastering-grade audio quality delivered by SSL's 64-bit floating point engine.
- Preset library based on settings used by industry-leading mix engineers.

## Installation

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You can download installers for a plug-in from the [website's Download page](#), or by visiting a plug-in product page via the [Web Store](#).

All SSL plug-ins are supplied in VST, VST3, AU (macOS only) and AAX (Pro Tools) formats.

The installers provided (macOS Intel .dmg and Windows .exe) copy the plug-in binaries to the common VST, VST3, AU and AAX directories. After this, the host DAW should recognise the plug-in automatically in most cases.

Simply run the installer and you should be good to go. You can find more information about how to authorise your plug-ins below.

## Licensing

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Visit the [online plug-ins FAQ](#) for guidance in authorising your SSL plug-in.

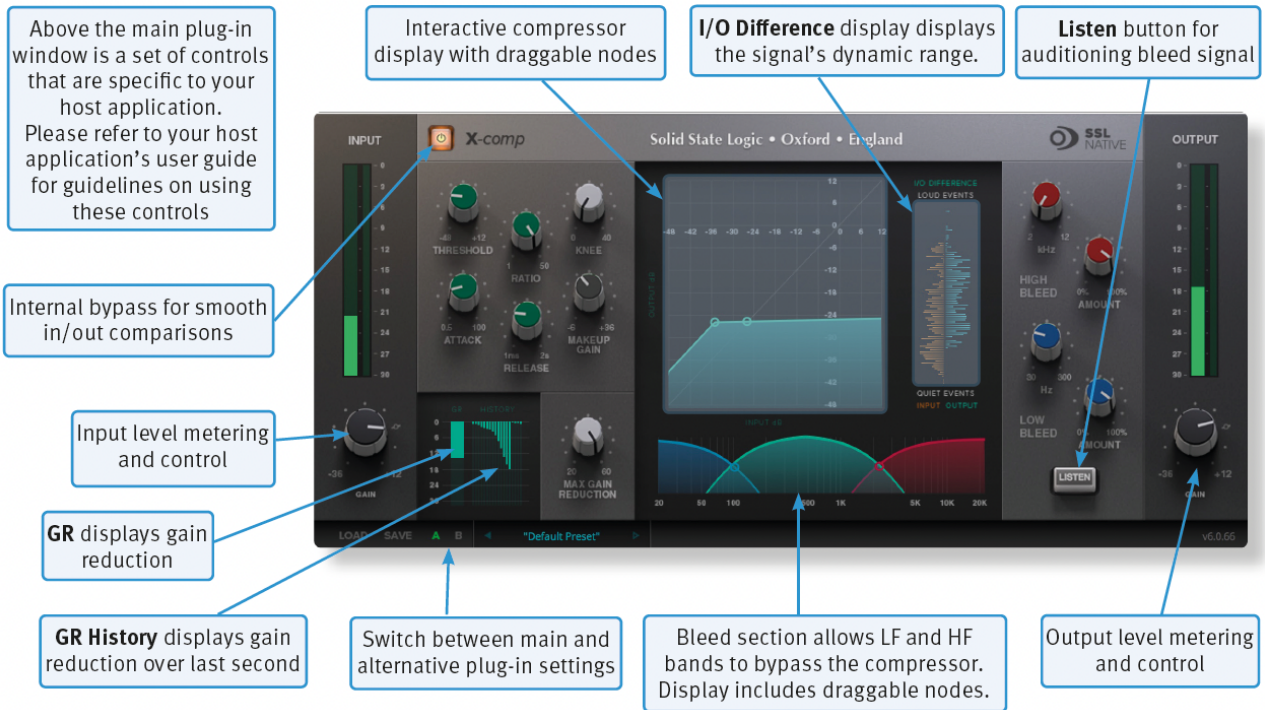
## Using SSL Native X-Comp

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### Overview

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The illustration below gives an overview of some of the X-Comp features which are described in full over the following sections.



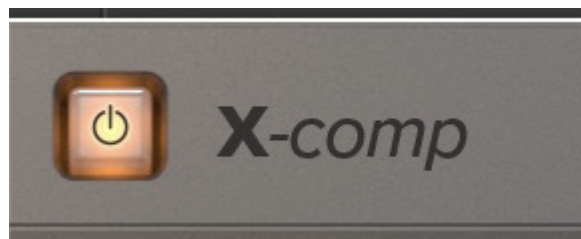
## Interface Overview

The basic interface techniques for the X-Comp are largely identical to those for the Channel Strip. In addition to these basic techniques, the following are also available:

**Threshold** and **Ratio** values can also be controlled directly within the compressor display with draggable nodes. Move the nodes to control the Threshold and the Ratio.

The bleed bands can be adjusted in a similar way.

## Plug-in Bypass



The **power** switch located above the **Input** section provides an internal plug-in bypass. This allows for smoother In/Out comparisons by avoiding the latency issues associated with the host application's Bypass function. The button must be 'lit' for the plug-in to be in circuit.

## Automation

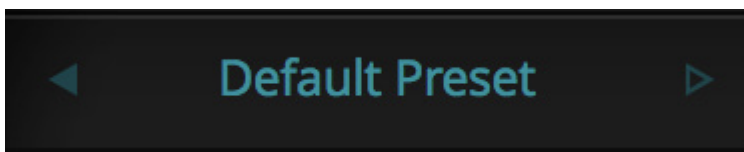
Automation support for X-Comp is the same as for the Channel Strip.

## Presets

Factory presets are included in the plug-in installation, installed in the following locations:

**Mac:** Library/Application Support/Solid State Logic/SSLNative/Presets/XComp

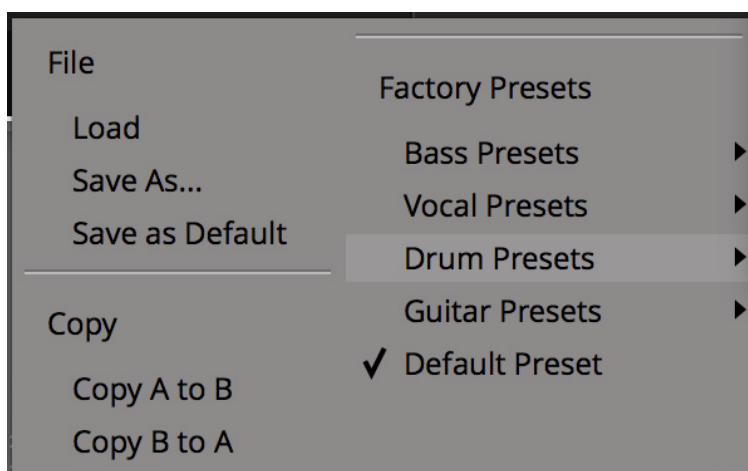
**Windows 64-bit:** C:\ProgramData\Solid State Logic\SSL Native\Presets\XComp



Switching between presets can be achieved by clicking the left/right arrows in the preset management section of the plug-in GUI, and by clicking on the preset name which will open the preset management display.

### Preset Management Display

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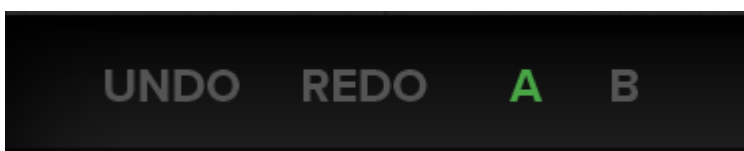


There are a number of options in the Preset Management Display:

- **Load** allows loading of presets not stored in the locations described above.
- **Save As...** allows for storage of user presets.
- **Save as Default** assigns the current plug-in settings to the Default Preset.
- **Copy A to B** and **Copy B to A** assigns the plug-in settings of one comparison setting to the other.

### A-B Comparisons

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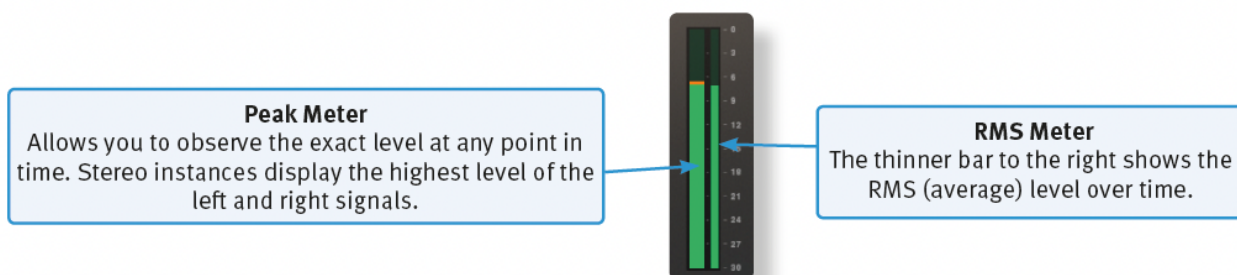
The **A B** buttons at the base of the screen allows you to load two independent settings and compare them quickly. When the plug-in is opened, setting **A** is selected by default. Clicking the **A** or **B** button will switch between setting **A** and setting **B**.

**UNDO** and **REDO** functions allow undo and redo of changes made to the plug-in parameters.

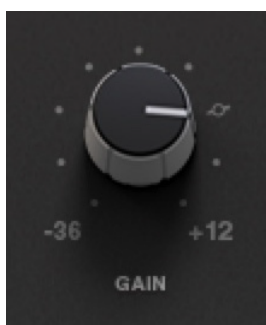
## Input and Output Sections

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The input and output sections at either side of the plug-in window provide input and output gain control, along with displays of the following information:



When clipping occurs, the meter will turn red. It will remain red until the meter is reset by clicking on the meter.



Turn the **GAIN** knob in the input section to control the level of the incoming audio signal. The post-gain signal level is shown above.

Turn the **GAIN** knob in the output section to ensure that the signal retains a good signal level post-processing. The output signal level is shown above the knob.

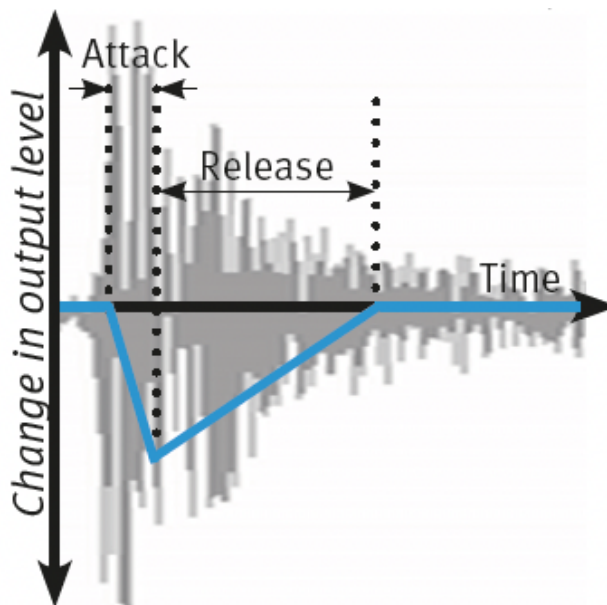
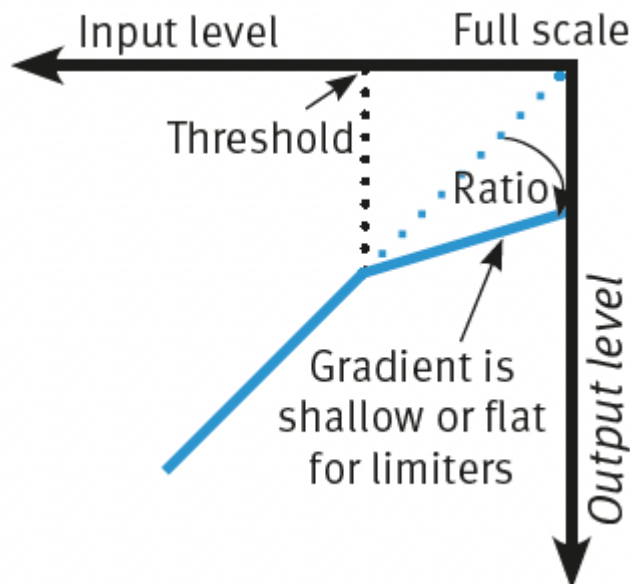
## Control Parameters

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### Common Compressor Parameters

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The diagrams below give a simplified overview of what each control represents, as shown in the compressor display in the centre of the plug-in window.



## Knee

The **Knee** controls how focussed the threshold level is:

- With a hard knee (knob at minimum) the compressor's parameters all come into force at precisely the point at which the threshold is crossed. In the **Compression Law** diagram, this is shown by a sharp change in gradient at the threshold.
- With a soft knee, the ratio is introduced gradually, starting below the threshold and reaching its full value above the threshold. In the **Compression Law** graph, this is shown by a curve in the gradient around the threshold.

The **Knee** control affects both the main threshold point and the **Max GR** point (see below) in equal measure.

**Operational tip.** A hard knee allows for greater precision, but can sound more obvious. A soft knee generally provides a more transparent result.

## Max GR

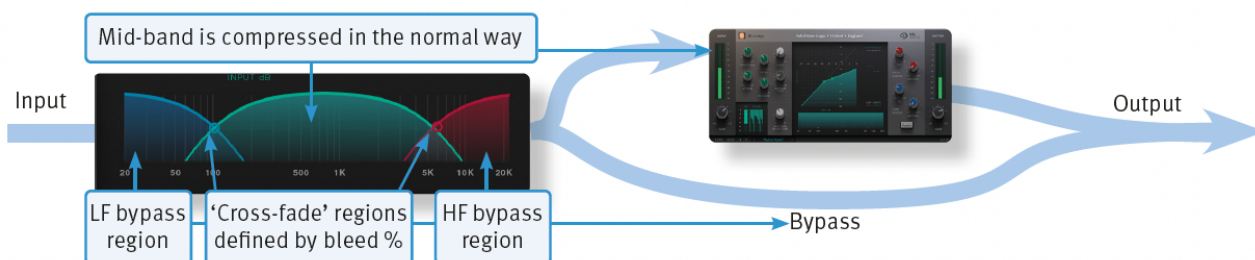
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The **Max GR** (Maximum Gain Reduction) allows you to set a limit on how much gain reduction can be introduced, replicating the performance of older optical compressors (as shown in the upper diagram above). With a Max GR of 20dB, for example, any signals that would normally be reduced by more than 20dB will only be attenuated by 20dB. By only compressing the middle of the dynamic range you can exert some general dynamic control whilst still preserving the transients for impact.

## Bleed

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The Bleed controls, located at the bottom of the X-Comp plug-in window, allow you to remove the compressor's effect from high and low frequencies. Frequencies outside the mid-band bypass the compressor and are recombined with the compressed signal at the output. Note that the bypassed signal is not affected by the **Make up** gain.



The frequencies and slope of the bleed-band filters are indicated either side of the graph; LF to the left and HF to the right. The slope is measured as a percentage.

The bleed bands can be adjusted by clicking on the values in the displays and dragging up and right in the usual way. Alternatively, they can be adjusted directly using the nodes in the display – brown for low frequencies and blue for high frequencies. Move the nodes horizontally to control frequency and vertically to control percentage

## Auditioning Bleed Bands

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To listen to the bleed bands on their own, press the **Listen** button, located below the **Make up** gain. This mutes the compressed signal, so only the bypass portion of the signal is heard.

## Compressor Values

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The table below lists the ranges of all of X-Comp's parameters:

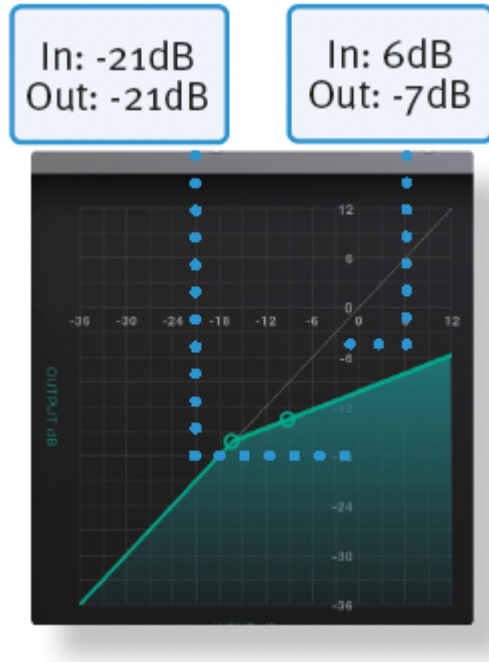
Parameter	Min	Max
Input gain	-36db	+12dB
Threshold	-48dB	+12dB
Ratio	1:1	50:1
Knee	0dB	40dB
Max GR	20dB	60dB
Attack time	0.5ms	100ms
Release time	1ms	2000ms
Make up gain	-6dB	+36dB
LF Bleed	30Hz	300Hz
HF Bleed	2kHz	12kHz
Bleed slopes	0%	100%
Output gain	-36db	+12dB

### Compression Law Graph

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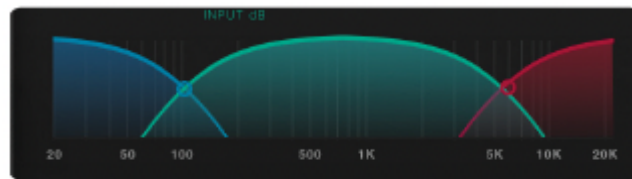
The display in the centre of the plug-in window compares the input and output signals given the current compressor settings. The thicker line indicates the relationship between input and output across the range of levels, while the faint line indicates a 1:1 relationship. In the example to the right, an input level of -21dB results in an output level of -21dB (as this is below the threshold, this indicates a Make-up gain of 0dB), while an input level of +6dB results in an output level of -7dB.





Threshold and Ratio can be defined by moving the nodes within the display.

### Bleed Graph



The bleed graph indicates the frequencies that are bypassing the compressor, as described on the previous page.

### I/O Difference Graph

The **I/O Difference** meter to the right of the **Compression Law** graph shows how often each level occurs within the input and output signals. The input is shown on the left and the output on the right.

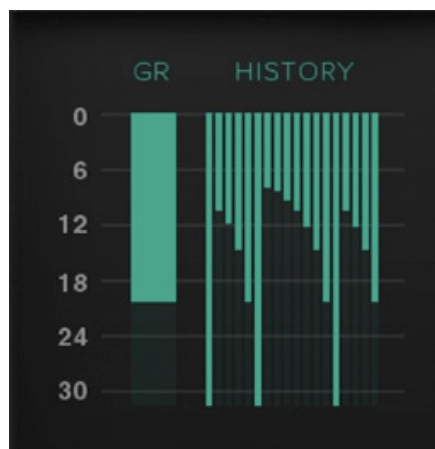


The vertical scale is amplitude, with 0dB at the top and  $-\infty$  at the bottom. The length of each line protruding from the centre represents the number of incidents of that amplitude over a period of seconds.

In the graphic to the right, the input signal displays a mixture of very loud and very quiet, indicating that the signal has a large dynamic range that is changing very quickly. The output signal indicates that this dynamic range has been made smaller, with the loud bars being reduced in level and the quiet bars being increased.

## GR History

The **GR History** (Gain Reduction History) meter shows the current gain reduction and how it has fluctuating.



The thicker line towards the left of the display shows how much gain reduction is currently being used, while the thinner lines to its right show how this has been changing over the past second.

