

Lindell 354E

User Manual



LINDELL PLUGINS
ANALOG FEEL IN A DIGITAL WORLD

Introduction

Congratulation on choosing the Lindell 354E multi-band compressor.

This plugin faithfully reproduces the behavior and character of the most famous vintage diode bridge compressor in each of its 3 bands.

Processing

Diode bridge

Compressors can use different voltage control devices to achieve the gain reduction. Some use a VCA circuit, a FET transistor, a photoresistor, a tube, ... This compressor uses a diode bridge. The control voltage is used as a DC bias in diodes to modify their resistance and control how they attenuate the signal.

Levels

By default, the conversion between the digital levels and the levels in the 354E virtual circuits is: -18 dBFS = +4 dBu (0 VU, +4 on the 354E meter in IN or OUT position).

This level can be adjusted from -12 to -20 dBFS (1 dBFS steps) in the top toolbar menu. If you find that Lindell 354E compresses too fast on your audio material, it is a good idea to lower the calibration level.

Oversampling

To avoid aliasing artifacts, the processing stages that can generate harmonics above the Nyquist frequency can be processed at a higher sample rate (2, 4, 8 or 16 times the base sample rate).

The resampling uses linear phase filters which adds a little latency (52 samples). There is no latency when the oversampling is set to "Off".

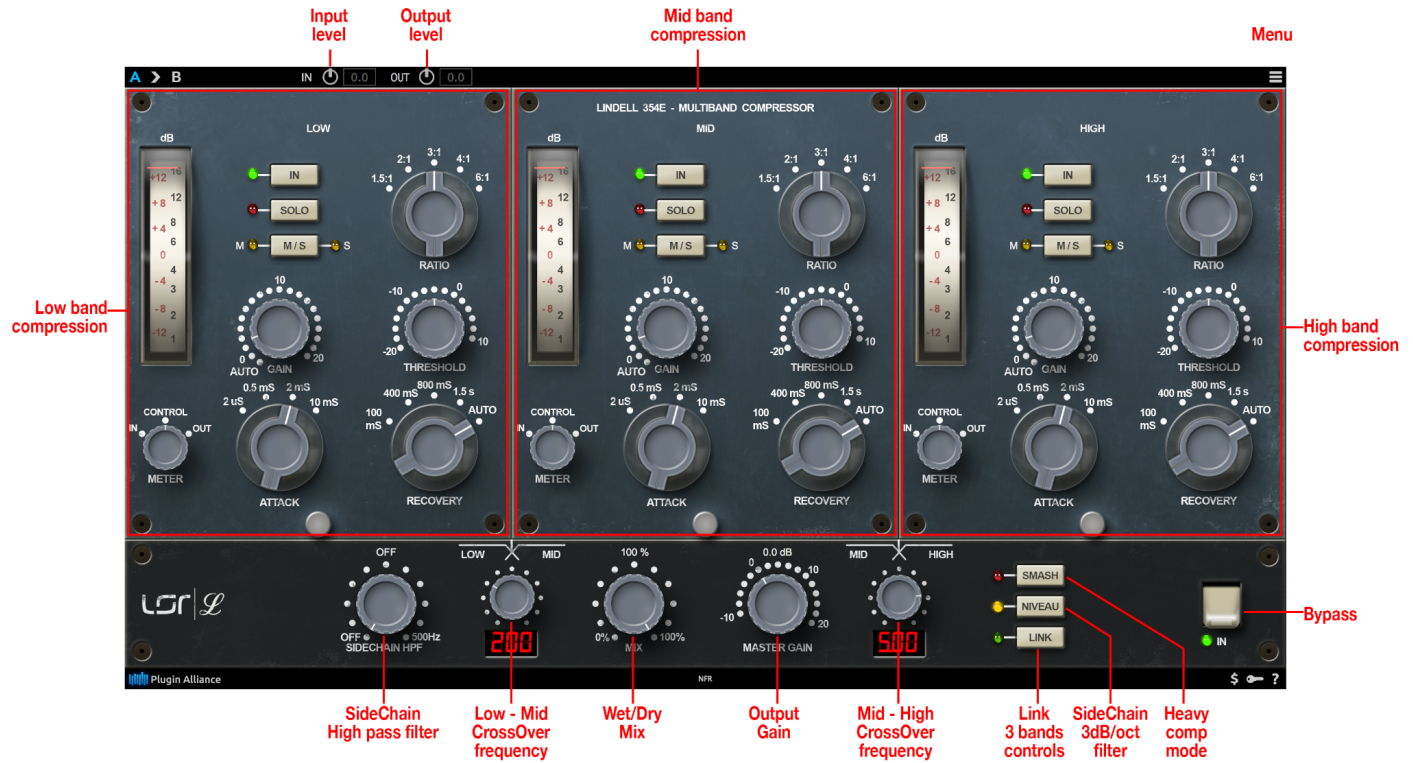
Oversampling is less necessary at high sample rates (96k, 192k), because there is already enough margin between the highest frequencies in the audio material and the Nyquist frequency.

CrossOver Filters

The CrossOver filters used to split the signal into 3 frequency bands are phase coherent 6dB/oct filters.

User Interface

Global overview



SC HPF



Controls the frequency of the compressor side chain high pass filters.

In the full anti-clockwise position, these filters are deactivated. When this filter is active, a label displays the filter frequency above the knob.

Low - Mid CrossOver Frequency



Controls the crossover frequency between the low band and the mid band.

MIX



Controls the amount of unprocessed (“DRY”) and processed (“WET”) signals mixed together at the plugin output.

MASTER GAIN



Global precise gain makeup after the compressors.

Mid - High CrossOver Frequency



Controls the crossover frequency between the mid band and the high band.
When the frequency is displayed in decimal notation, it is in kHz, else it is in Hz.

SMASH



SMASH is a creative overload function. Use this switch to create effect compression on drum room mic's, heavy rock vocals and other sources that you want to really squash.

NIVEAU



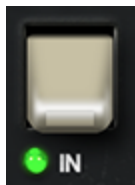
Activates a filter on the compressors side chains to compensate for the natural 3 dB/oct slope of music. It helps to get a natural and transparent kind of mastering compression.

LINK



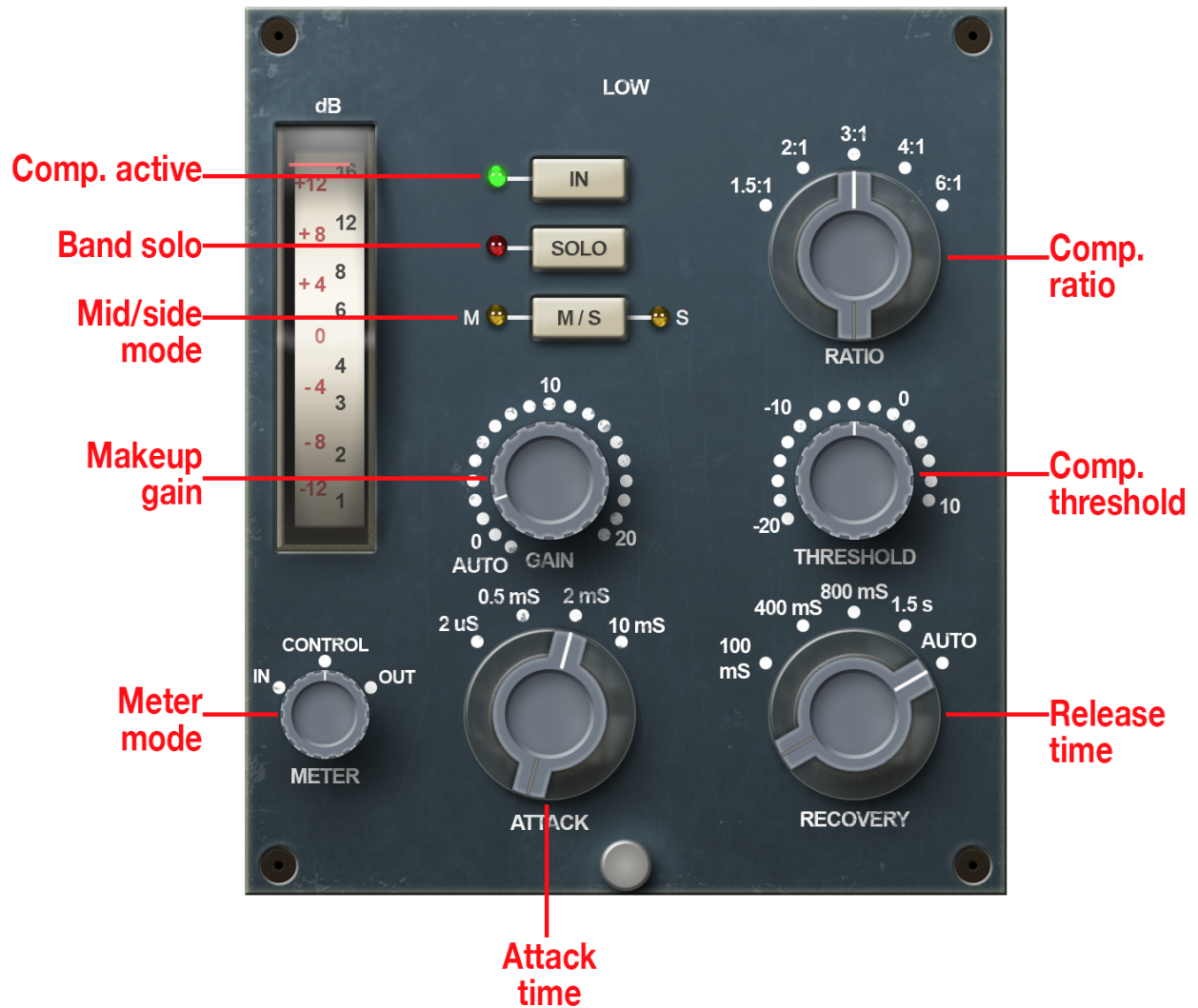
Links the parameters of the 3 band compressors together.

BYPASS



Activates the plugin processing in the lower position (light on).

Compressor band overview

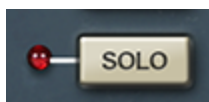


IN



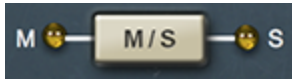
Activates the compressor processing.

SOLO



Mutes all the other compression bands.

Mid / Side Mode



This is only visible on a stereo track.

- Both lights off : compresses everything (normal mode).
- “M” light on : compresses only the sounds in the middle of the stereo field
- “S” light on : compresses only the sounds on the sides of the stereo field

Note that only the compressed portion of the signal (mid, side or both) is affected by the makeup gain.

METER



The meter switch controls what the meter displays.



In the “IN” position, it displays the input level using the **red** decibels scale.

In the “CONTROL” position, it displays the gain reduction decibels in the **black** scale.

In the “OUT” position, it displays the output level (after compression) using the **red** decibels scale.

Note that IN and OUT display the virtual circuit levels, in dBu. To convert these levels to digital dBFS levels, subtract 22 dB.

RATIO



Compression ratio of the signal above the compression threshold.

THRESHOLD



Compressor side chain level over which the plugin will start compressing the signal.
2 dB steps.

GAIN



Compressor make-up gain.

1 dB steps.

When it's on "AUTO", the compressor automatically compensates the gain loss from the compression.

ATTACK



Compressor attack timing.

RECOVERY



Compressor release timing.

Top Toolbar

A / B



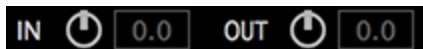
Gives access to two different settings, for quick comparison. The selected memory appears in blue. All the parameters changes or preset loads affect the selected memory.

Copy button



When clicked, the current memory is copied to the other memory.

In and Out Levels



These parameters give a precise control on the gain staging of the plugin.

Menu



About

Shows the version and credits information for the plugin.

Calibration

You can chose the calibration level here (the correspondence between the real digital dBFS level and the virtual dBu level in the 354E simulated circuits).

The calibration level is often expressed as XX dBFS = 0 VU (or +4 dBu). Even if the 354E doesn't have a VU meter (but a meter showing dBu values), we chose to keep this notation.

The "Save as default" option saves the currently selected calibration level as the default value.

Oversampling

You can select the oversampling mode here.

The "Save as default" option saves the currently selected oversampling mode as the default value.

UI Zoom

The Lindell 354E UI size can be reduced using this menu options from 70% to 100% of its normal size.

Note that the plugins size will never get larger than 80% of the screen width/height, regardless of the UI Zoom setting. This means that the higher values (80%, 90%, 100%) will result in the same plugin size on a small notebook screen for instance.

Credits

Emmanuel Dubecq - LSR audio :

- Programming
- Graphics
- Circuit Modelling

Tobias Lindell - Lindell Audio :

- Concept
- Test, Tuning

Plugin Alliance :

- Tests