

# Lindell 254E

## User Manual



# LINDELL PLUGINS

ANALOG FEEL IN A DIGITAL WORLD



## Introduction

Congratulation on choosing the Lindell 254E compressor and limiter.

This plugin faithfully reproduces the behavior and character of the most famous vintage diode bridge compressor and limiter.

## 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.

### Side-chain

The compression usually depends on the input signal level. But it can also depend on the level of an external channel or instrument using the external side-chain feature (see the External Side-Chain menu option).

### Levels

By default, the conversion between the digital levels and the levels in the 254E virtual circuits is: -18 dBFS = +4 dBu (0 VU, +4 on the 254E meter in IN or OUT position).

For instance the limiter configured with a LIMIT LEVEL of +4 will block everything above -18 dBFS.

This level can be adjusted from -12 to -20 dBFS (1 dBFS steps) in the top toolbar menu. If you find that Lindell 254E compresses or limits too fast on your audio material, it is a good idea to lower the calibration level.

### Oversampling

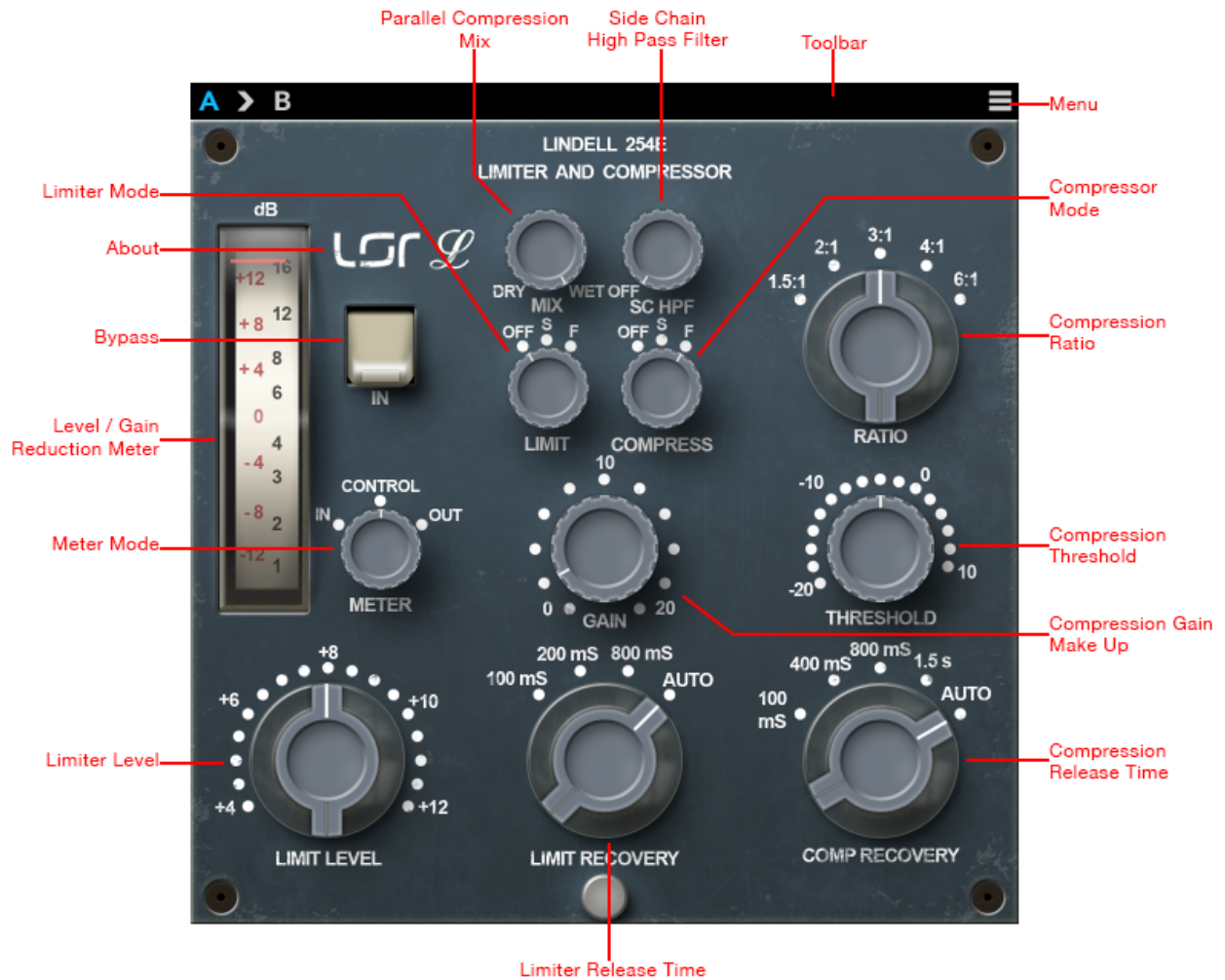
To avoid aliasing artifacts, the processing stages that can generate harmonics above the Nyquist frequency can be processed at a higher sample rate (2, 4, 8 or 16 times the base sample rate).

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.

# User Interface

## Overview



## About

Click on the Lindell Audio and LSR audio logos to display the About panel (version number, credits information).

## 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 and limiting) 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.

## BYPASS



Activates the plugin processing in the lower “IN” position.

## MIX



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

## SC HPF



Controls the frequency of the compressor and limiter side chains 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.

## COMPRESS



Controls the compression mode :

- OFF : the compressor is not active
- S : the compressor is active with a slow attack
- F : the compressor is active with a fast attack. This setting is equivalent to the original units single attack setting.

## 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. It has no effect when the compression is “OFF”.  
2 dB steps.

## COMP RECOVERY



Compressor release timing.  
An additional fast 100 mS release time was added to the original design.

## LIMIT



Controls the limiting mode :

- OFF : limiting is not active
- S : limiting with a slower attack
- F : limiting with a very fast attack

## LIMIT LEVEL



Maximum level allowed by the limiter on the plugin output.  
0.5 dB steps.

## LIMIT RECOVERY



Limiter 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.

### 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 254E simulated circuits).

The calibration level is often expressed as XX dBFS = 0 VU (or +4 dBu). Even if the 254E 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.

### **External Side-Chain**

When this menu option is checked and an additional input channel (sometimes named “side chain”, “auxiliary input” or “key”) is connected to the plugin, the compression uses this channel rather than the main input to compute the gain reduction.

Uncheck this option to override the DAW side-chain configuration and force the plugin to compress only using the main input.



## Credits

### **Emmanuel Dubecq - LSR audio :**

- Programming
- Graphics
- Circuit Modelling

### **Tobias Lindell - Lindell Audio :**

- Concept
- Test, Tuning

### **Plugin Alliance :**

- Tests