Lindell TE-100

User Manual

LINDELL PLUGINS

ANALOG FEEL IN A DIGITAL WORLD

MEMBER OF THE PLUGIN ALLIANCE

Introduction

Congratulation on choosing the Lindell TE-100 tube equalizer.
This plugin faithfully reproduces the behavior and character of the K&H® UE-100 tube equalizer, a 60s all tube active equalizer that weighs 25kg and contains no less than 14 tubes !

Processing

Levels

By default, the conversion between the digital levels and the levels in the TE-100 virtual circuits is: -14 dBFS = +4 dBu.
This level can be adjusted from -12 to -20 dBFS (1 dBFS steps) in the top toolbar menu. **If you get too much distortion on your audio material, lower the calibration level**.

Oversampling

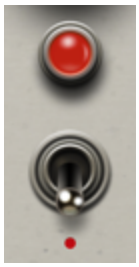
To avoid aliasing artifacts, the processing stages that can generate harmonics above the Nyquist frequency can be processed at a higher sample rate (2, 4, 8 or 16 times the base sample rate).
The resampling uses linear phase filters which adds a little latency (52 samples). There is no latency when the 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

All the gain knobs use 0.5 dB steps. The original hardware didn't provide such precision, with 2 or 3 dB steps.
All the "Lin" (linear) switches enable to bypass the corresponding filter.

Bypass



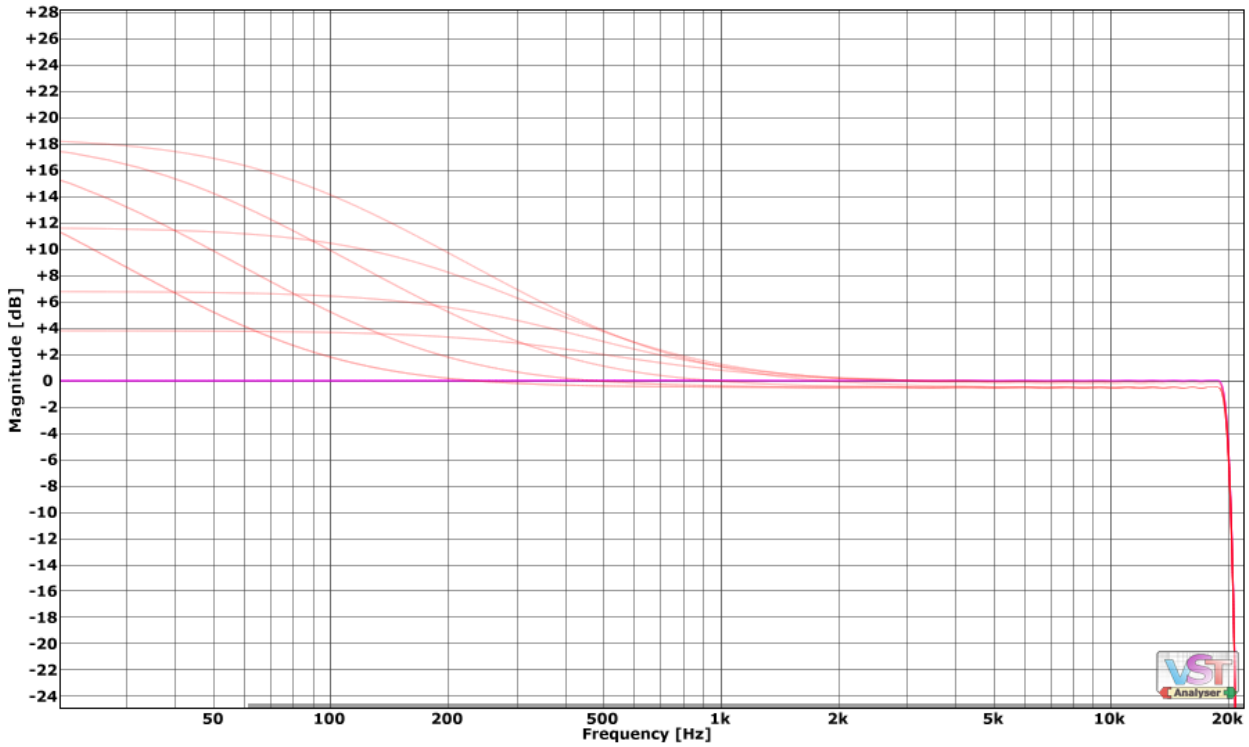
Bypasses all the plugin processing.
In : bottom position (light on).

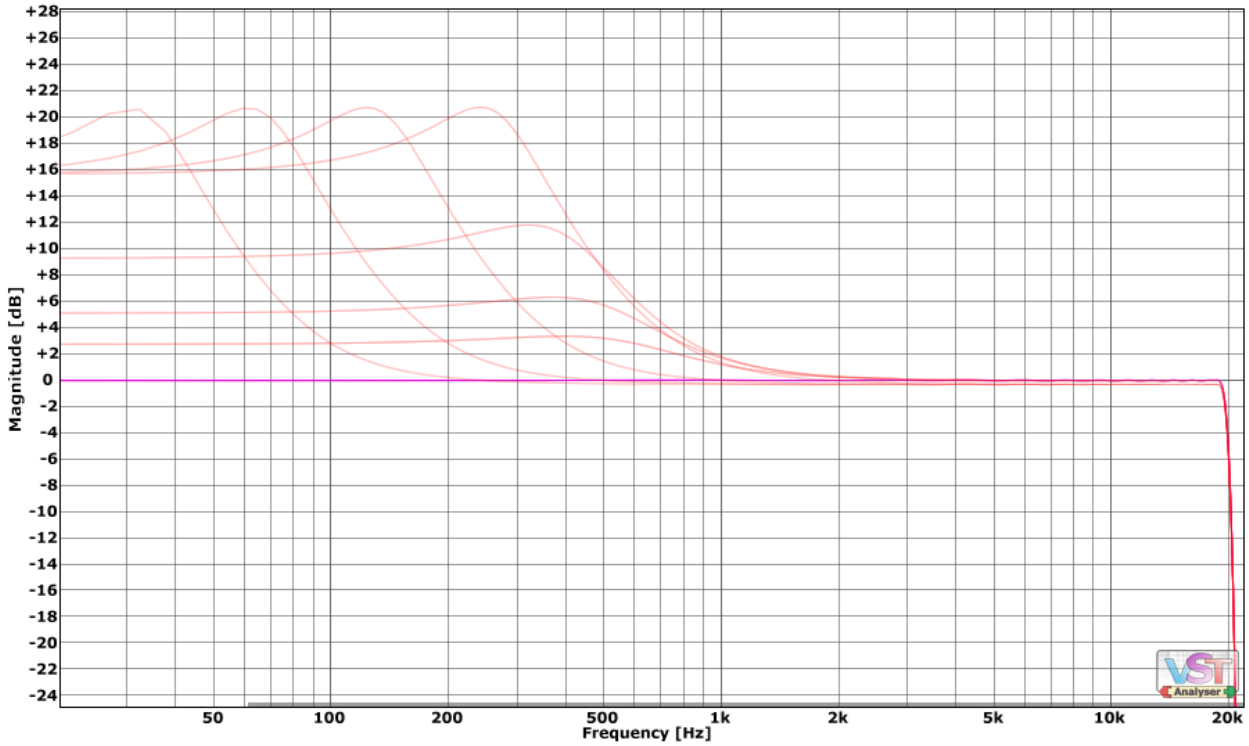
In - Out

Disables all the filters but keeps the tube amps and the transformers in the signal path.

Low boost

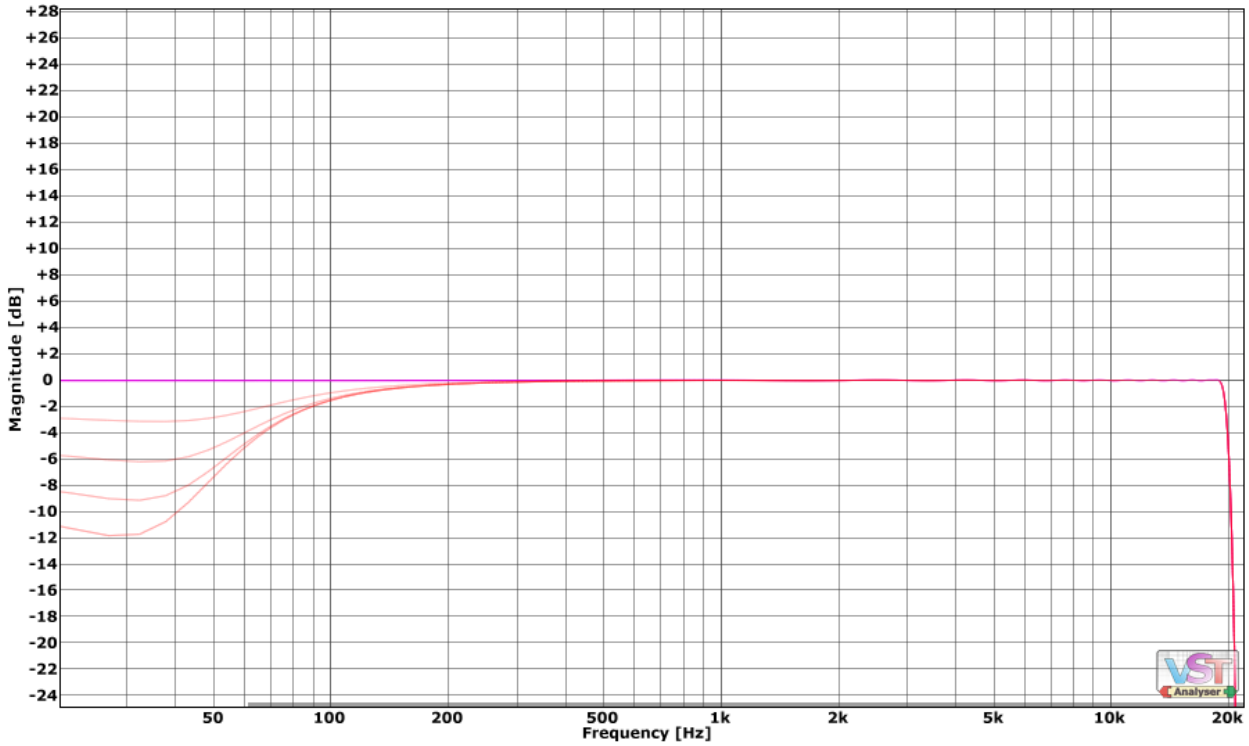
Boosts frequencies below the selected frequency with a shelving filter.
The filter slope can be 6 dB/octave or 12 dB/octave.





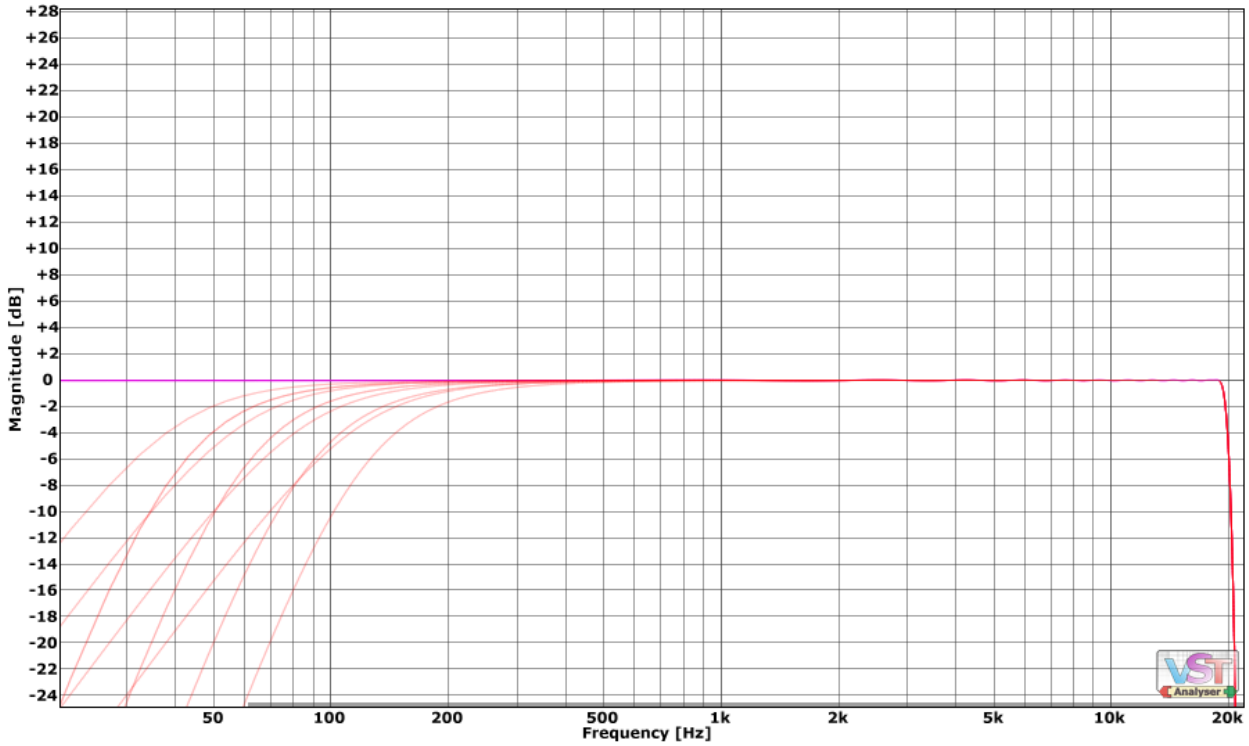
Low attenuation

Attenuates the low frequencies below 60Hz with a 12 dB/oct shelving filter.

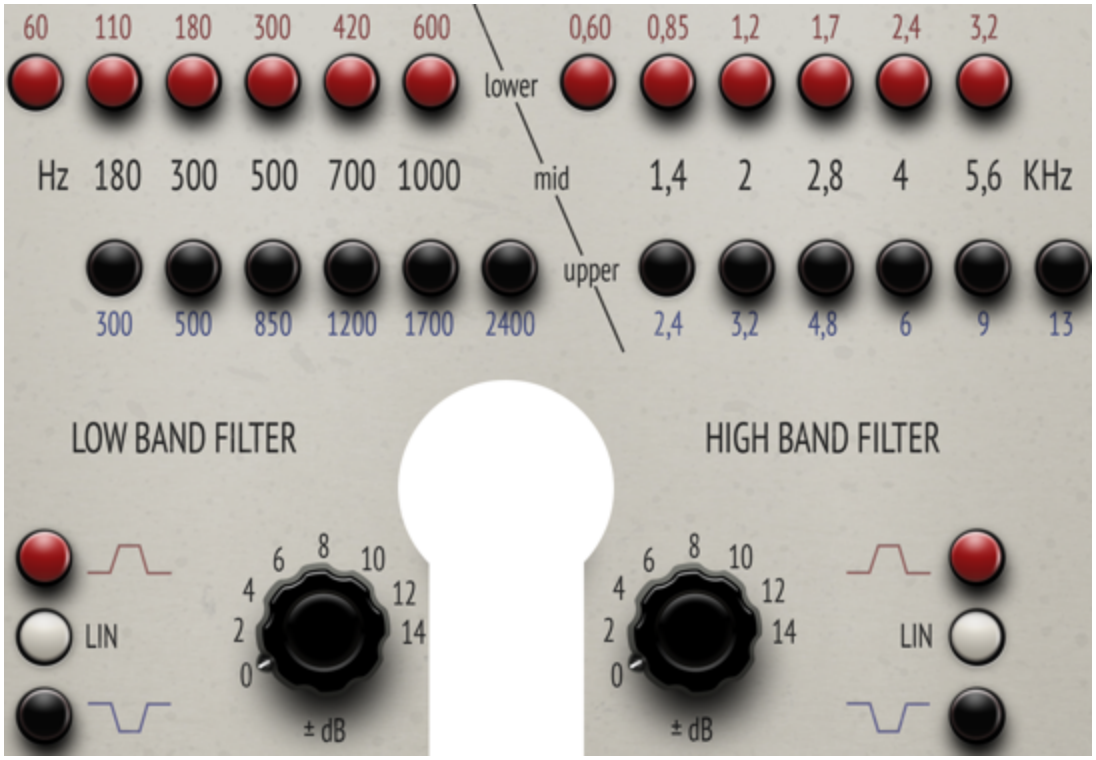


Low cut

Cuts frequencies below the selected frequency with a 12dB/oct slope. In 24 dB/oct mode, a second identical filter is added in series. The filter is bypassed when “Lin” is selected.



Mid band filters

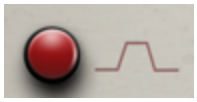


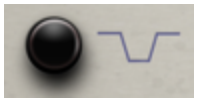
Each band filter can boost or attenuate a frequency range between a lower and an upper frequency. These two frequencies control at the same time the mid frequency and the bandwidth of the filter.

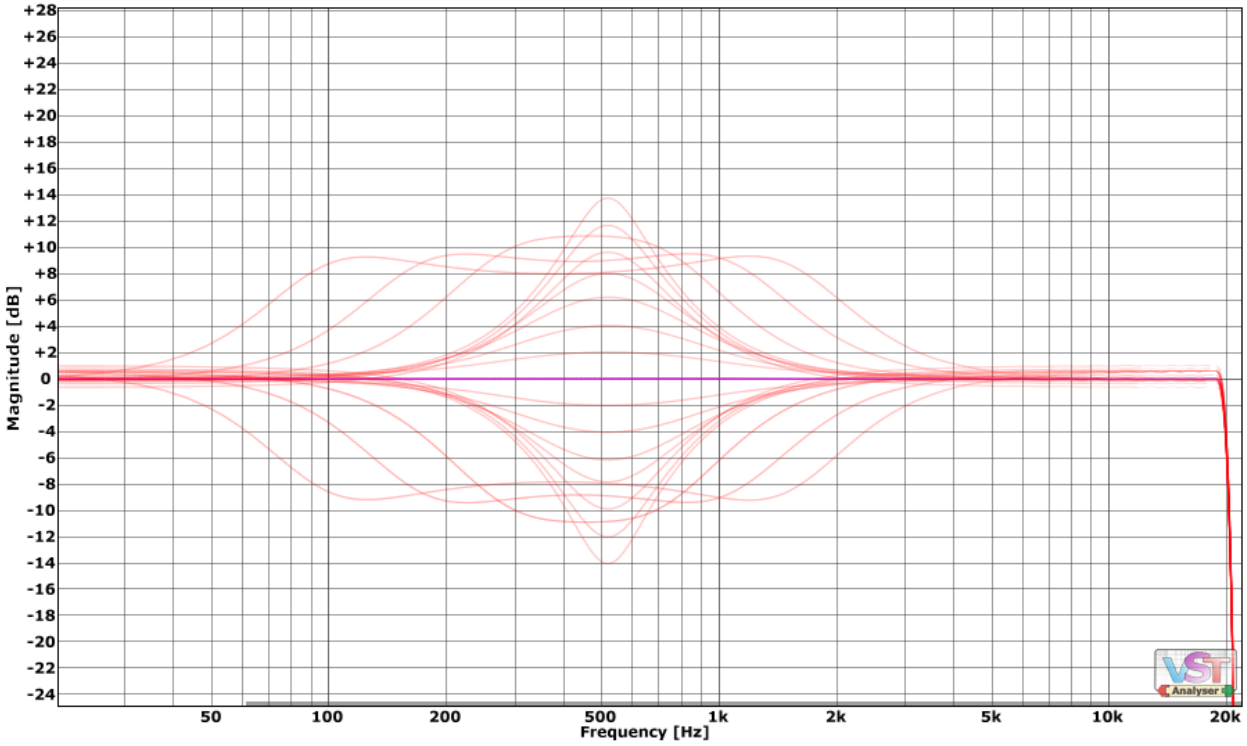
For example, to filter at 500 Hz :

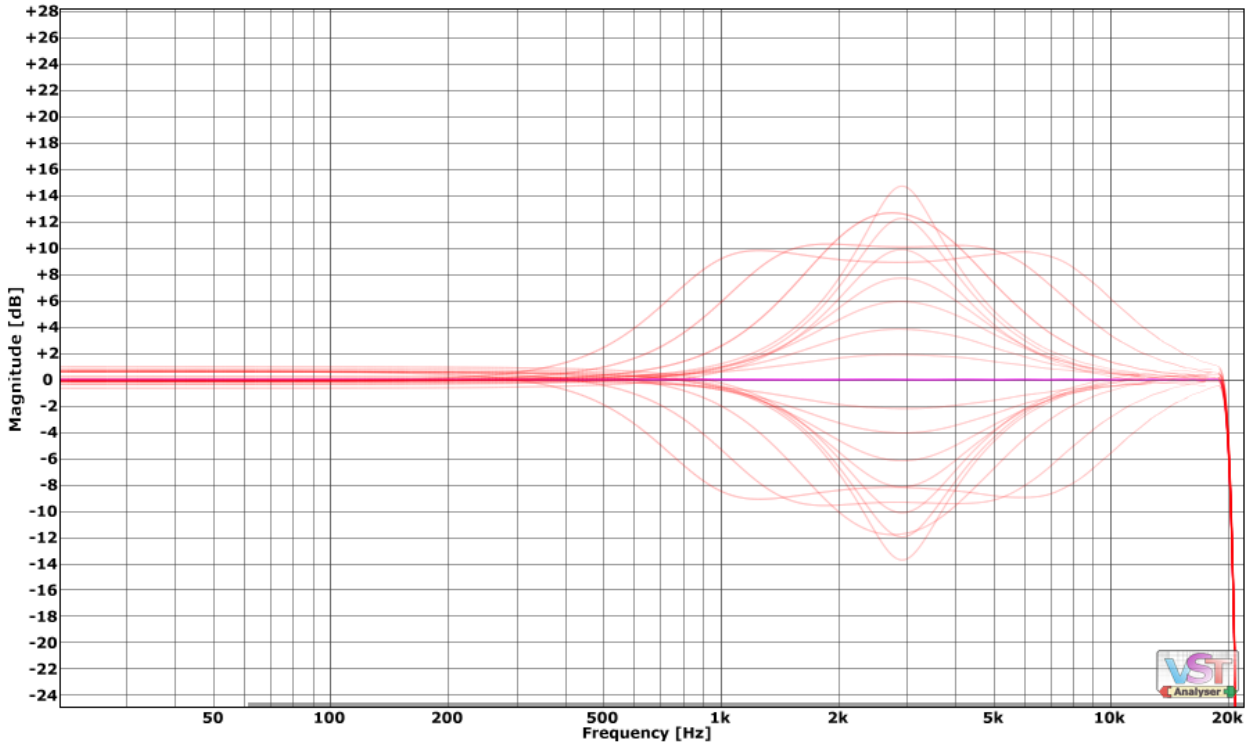
- Select 300 and 850 for a narrow bandwidth (buttons just above and below the “500” mid frequency label)
- Select 180 and 1200 for a wider bandwidth
- Select 110 and 1700 for even wider bandwidth
- …

It’s possible to quickly setup a filter by clicking directly on the corresponding black mid frequency label, and dragging up or down to quickly change the filter bandwidth.

To boost (positive gain) the selected frequency range, select 

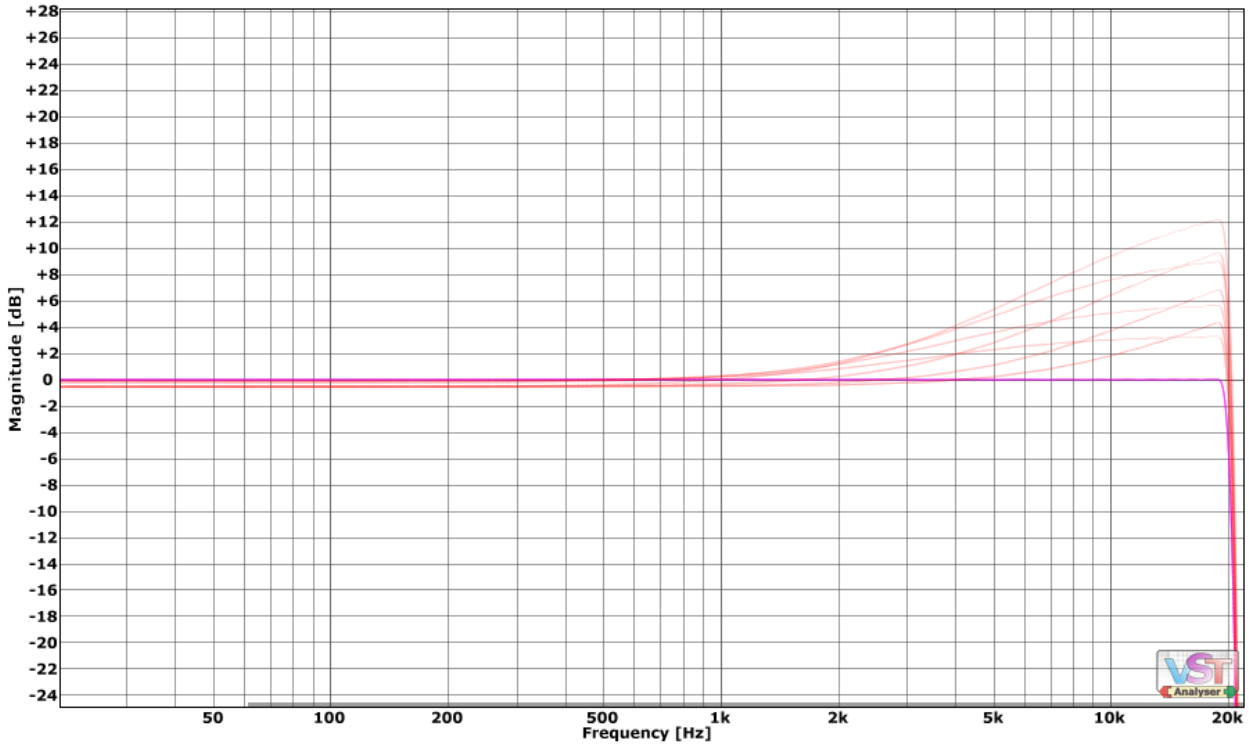
To attenuate (negative gain) the selected frequency range, select 

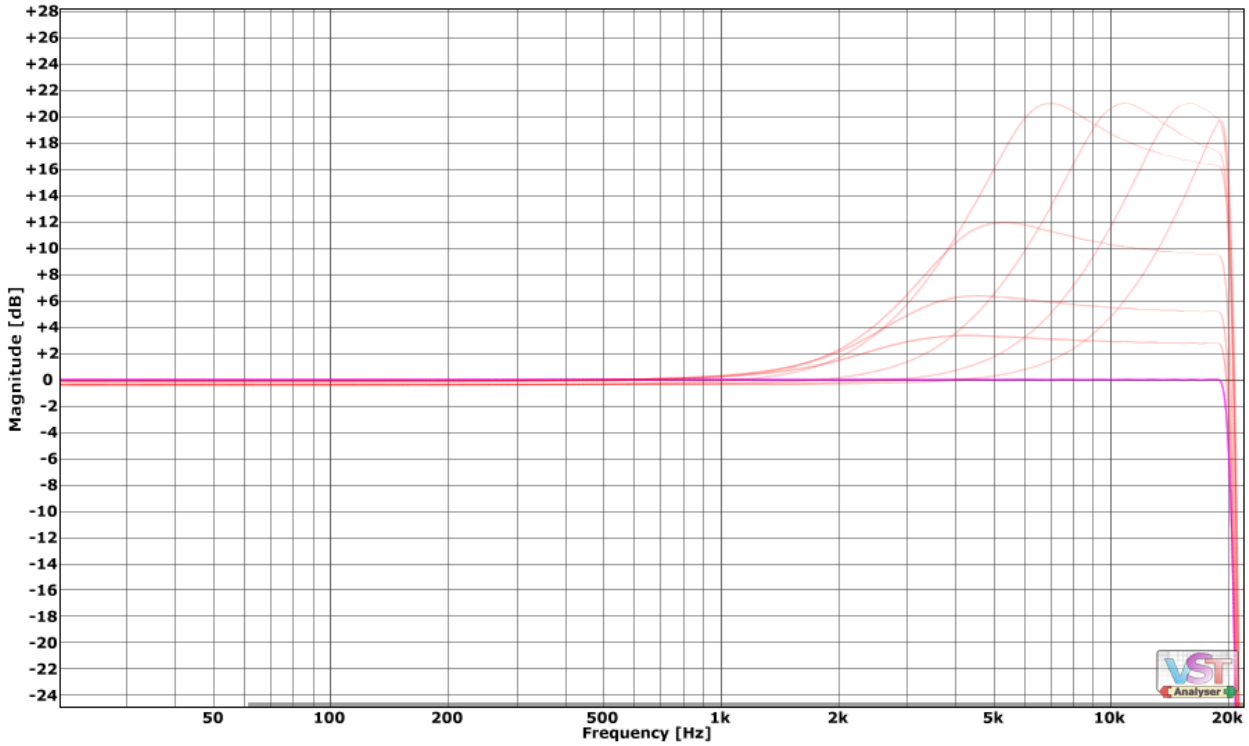




High boost

Boosts frequencies above the selected frequency with a shelving filter.
The filter slope can be 6 dB/octave or 12 dB/octave.


+28
+26
+24
+22
+20
+18
+16
+14
+12
+10
+8
+6
+4
+2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
Magnitude [dB]
50
100
200
500
1k
2k
5k
10k
20k
Frequency [Hz]
VST
Analyser


+28
+26
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+16
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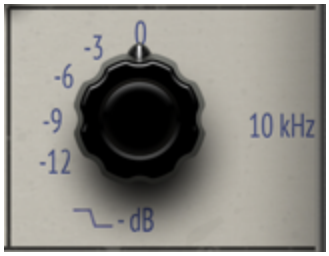
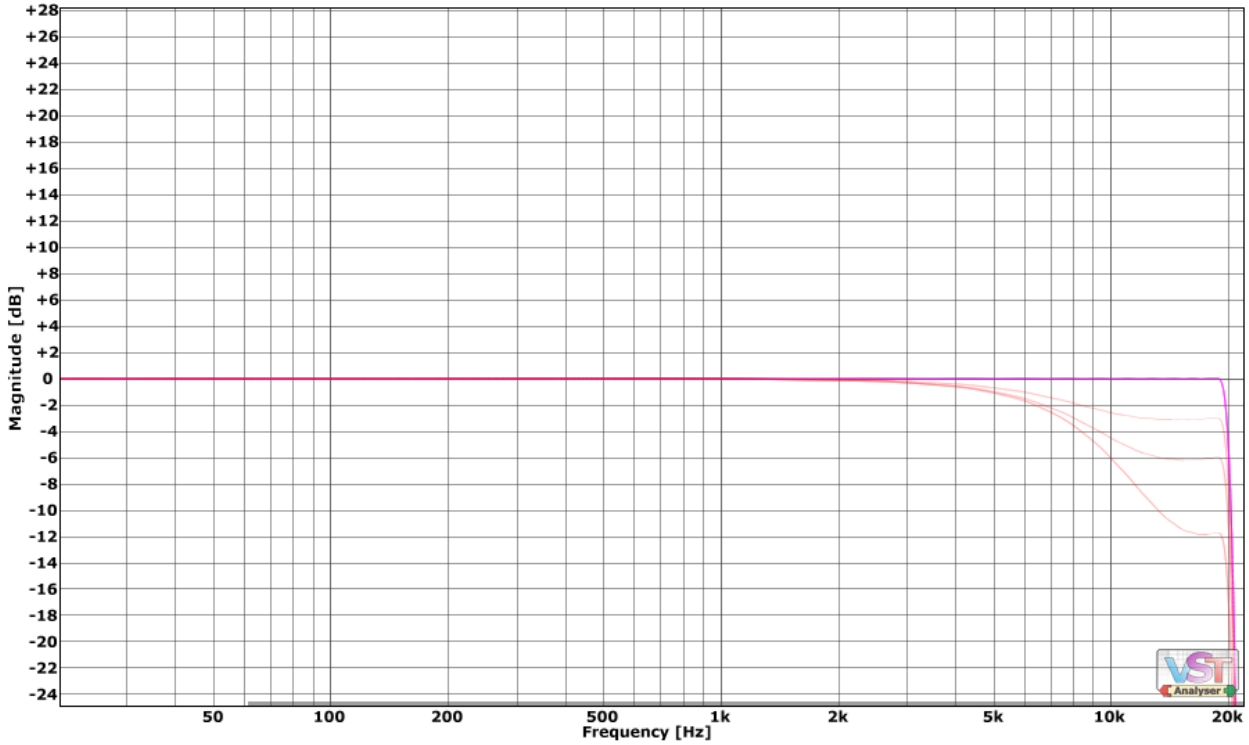
+10
+8
+6
+4
+2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
Magnitude [dB]
50
100
200
500
1k
2k
5k
10k
20k
Frequency [Hz]
VST
Analyser

High attenuation

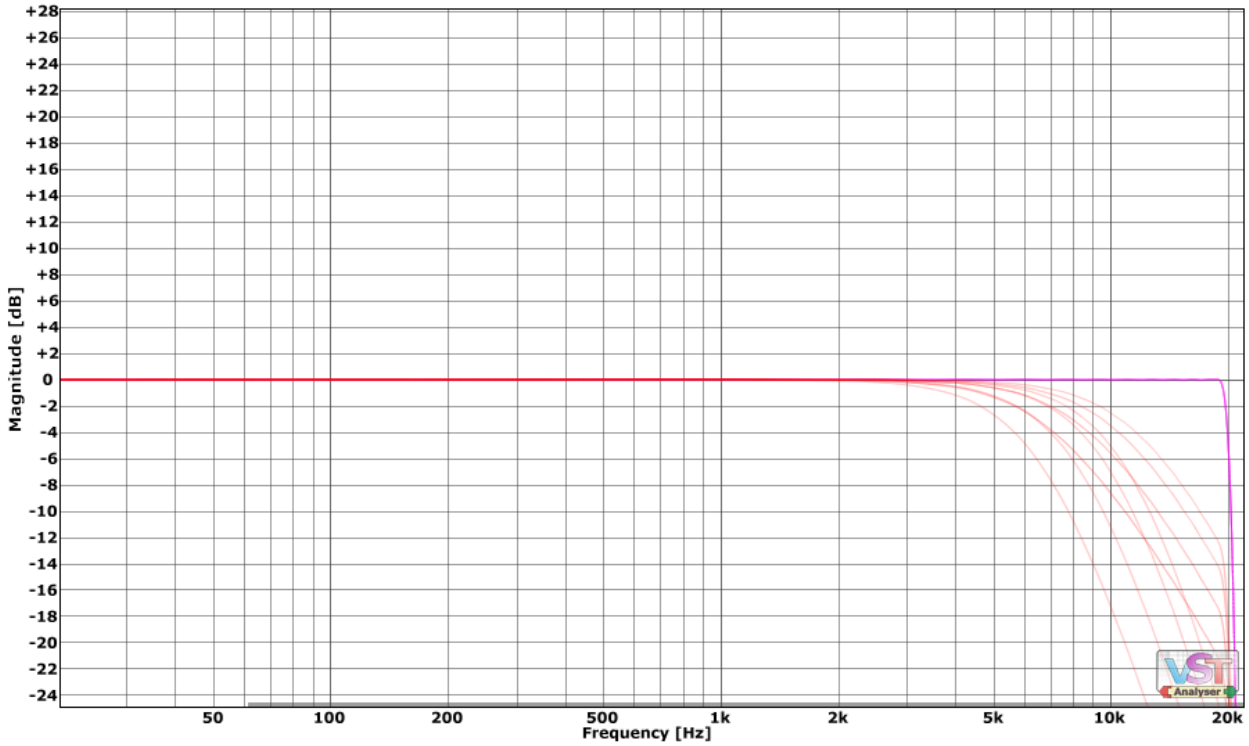


Attenuates the low frequencies above 10kHz with a 12 dB/oct shelving filter.



High cut

Cuts frequencies above the selected frequency with a 12dB/oct slope. In 24 dB/oct mode, a second identical filter is added in series.



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 TE-100 simulated circuits).
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.

Analog

The “Analog” menu option controls :

- Circuit harmonic distortions
- Noise floor and PSU noise
- Circuit tone and phase distortion

Turn it on to get a very faithful emulation of the analog hardware unit, with all its character.
Turn it off to get an idealized version of the unit, with a perfectly flat frequency response and no distortion or noise. But you still get the very powerful filters from this unit.

UI Zoom

The plugin UI size can be reduced down to 70% of its full size to take less space on the screen.
When Lindell TE-100 UI is open it is automatically resized to take no more than 80% of the screen height and width.

Credits

Emmanuel Dubecq - LSR audio :

- Programming
- Graphics
- Circuit Modelling

Tobias Lindell - Lindell Audio :

- Concept
- Test, Tuning

Plugin Alliance :

- Tests