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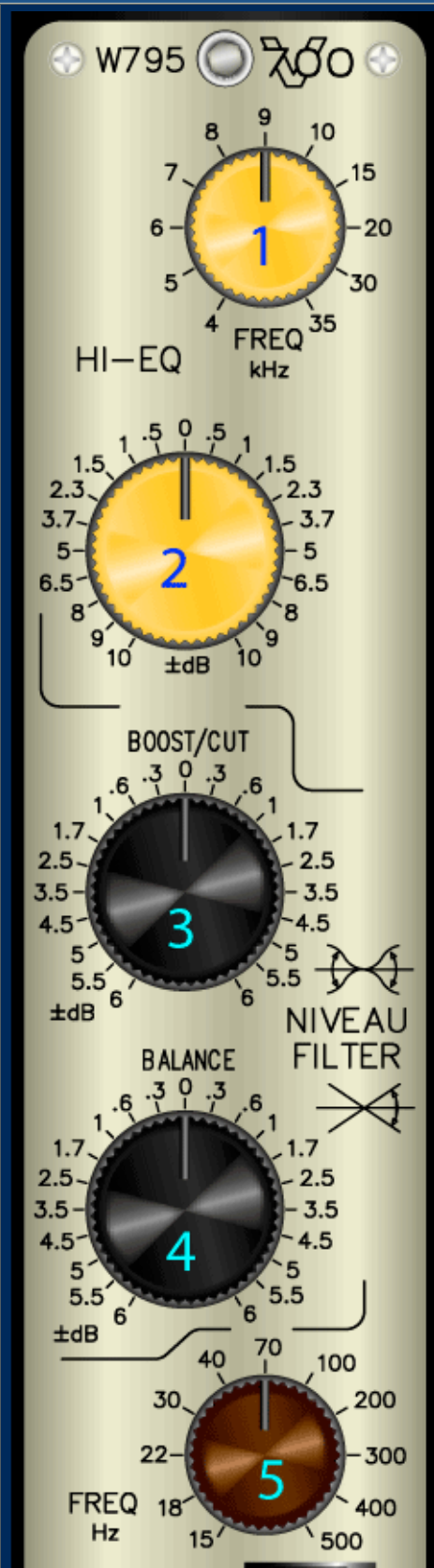
User Manual
Niveau Filter with High-Low Shelving EQ W795
V700 Mastering Modules

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The Niveau Filter with High-Low shelving EQ's W795 is available in different versions. Custom control ranges for several controls are possible as well as different versions of the faceplate and the control knobs. The modules are available with electronically balanced and transformer balanced inputs and outputs.

For a general desciption of the module, please change over to the Niveau Filter Homepage

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	Control Elements	Notes and Pecularities
1	**Frequency Control of the shelving High EQ** The frequency control determines the edge frequency between 4 and 35 kHz.	The frequency range up to 35 kHz makes little changes at the upper end of the audio band possible.
2	**Boost/Cut Control High EQ** The usual boost/cut range is +/- 10 dB or +/- 6 dB. The maximum possible control range is +/- 16 dB. Any control range below this value is possible	
3	**Boost/Cut Niveau Filter** The Boost/Cut Niveau Filter alters the relation between the mid range and the high/low frequencies. The control leaves the neutral frequency of 800 Hz unchanges. It adds high and low frequencies at a time when turned to the right and cuts high and low simultaneously when turned to the left.	
4	**Balance Niveau Filter** The balance filter adds high frequencies and cuts low frequencies at a time in one direction and cuts high frequencies while adding low frequencies in the ohter direction. The neutral frequency is 800 Hz. It is used to alter the relation between high and low. The curve is adapted to this purpose.	
5	**Frequency Control of the shelving Low EQ** The frequency control determines the edge frequency between 15 and 500 Hz.	The frequency range udown to 15 Hz makes little changes at the lowest end of the audio band possible.
6	**Boost/Cut Control Low EQ** The usual boost/cut ranges are +/- 10 dB or +/- 6 dB. The maximum possible control range is +/- 16 dB. Any control range below is possible	
7	**Bypass Switch** The ON switch inserts the entire module. If ON is not pressed, the unit is hard-bypassed.	

Initial Settings

The following setting results in a neutral setting of all stages:

1. Insert the unit with the ON switch (7)

2. Set all other controls to the center positions

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Quickstart

The Niveau Filter is a versatile tool for global corrections of the frequency response for stereo mastering. Adapting the high-low balance and the high/low to mid

balance is very easy and can be done on the fly as well as correcting the upper and lower end of the audio band with the shelving, high steepness equalizers.

There are no special tricks or settings and nothing that restricts the use of the different filters by side effects that might come up.

Since you know for sure how to adjust equalizers, we can spare any further description; however, there are some specials that should be considered.

a) High and Low EQ

The difference between these eq bands and standard shelving eq's is that the filter curve that has a steepness of 9 dB/oct., is precisely added to or subtracted from the signal. Usual shelving eq's change the steepness with the boost/cut setting and also alter the high limit frequency of a high equalizer and the low limit frequency of a low eq. Adding only 2 dB at the upper end of the audio band using such an eq is not really possible. As soon as you set a small boost, the curve changes its upper limit frequency. You end up with a mid range boost that is limited to 2 dB but not with the intended setting. The same problems comes up with low eq's towards low frequencies.

The design of the W795 eq's does not have these effects. Adding 2 dB at 20 kHz result in + 2 dB at 20 kHz when you set the frequency control accordingly. The curve falls down to 0 dB with 9 dB/oct steepness below 20 kHz and will not alter frequencies below.

This behavior is the precondition for precise, global correction at the upper and lower end of the audio band.

The frequency ranges of the high and low eq's allow settings beyond the limits of the audible range. Considering the boost/cut range and the steepness, these ranges make possible to affect only frequencies at the limits of the audio band.

When you set the frequency control of the high equalizer all the right and apply a boost of 6 dB, the resulting frequency response is not different from a frequency setting of 20 kHz with a boost of 3 dB; however, the phase response of both settings is entirely different. Both settings result in differently sounding mixes that can be of advantage or not, depending on the signal and your intention.

b) Boost/Cut Niveau Filter

The boost/cut filter controls the relation between the high/low frequencies and the mid range. The neutral frequency is 800 Hz. Turning the control to the right causes a boost of both high and low frequency while settings to the left reduce high and low frequencies. The curve has been optimized for this special kind of regulation. Even though it has also the shape of an S, the frequencies are shifted towards the high and low range in relation to the curve of the balance filter (see c).

c) Balance Niveau Filter

This filter affects the balance of the low and high frequencies. The neutral frequency is 800 Hz. When using this filter you add mid/high frequencies above 800 Hz while reducing mid/low frequencies below 800 Hz and vice versa, depending on the direction you turn the control. The frequency response is rotated around the center frequency of 800 Hz; however, the curve is not linear but has the shape of an S. This curve has been optimized and adapted for that particular purpose.

Both, the balance filter and the boost/cut filter are best suited to adapt or correct the global sound impression of a mix.

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Options:

Q-Factor Switching of the High- and Low EQ's
The W795b adds 3 position lever switches to the high and low eq's that allow to change the default steepness of 9 dB/oct. to 6 dB/oct. and 3 dB/oct.. The q-factor switching requires a different electric circuitry, so its not really an option. Apart from the q-switching, the W795b is not different.
Please, check for details here.

Control Ranges
We can adapt the control ranges to your needs. Please let us know what you are looking for **here**.

Inputs and Outputs
The module is available with electronically balanced and transformer balanced inputs and outputs.

Appearance
The colors of the faceplate, the control knobs, and switch caps can be determined by the customer.
Please, check for details here.

If you have any questions or comments, **please let us know.**

LOW—EQ   ON

7

6

±dB

ddt-audio

W795

8 9 10
7   15
6   20
1
5   30
4 35
FREQ
HI—EQ   kHz

.5 0 .5
1.5   1.5
2.3   2.3
3.7   3.7
5   5
6.5   6.5
8   8
9   9
10 ±dB 10
2

BOOST/CUT
.3 0 .3
.6   .6
1   1
1.7   1.7
2.5   2.5
3.5   3.5
4.5   4.5
5   5
5.5   5.5
6   6
±dB
3
NIVEAU FILTER

BALANCE
.3 0 .3
.6   .6
1   1
1.7   1.7
2.5   2.5
3.5   3.5
4.5   4.5
5   5
5.5   5.5
6   6
±dB
4

70
40   100
30   200
22   300
5
FREQ 18   400
Hz   15   500

LOW—EQ   ON

LOW—EQ   ON

.5 0 .5
1   1
1.5   1.5
2.3   2.3
3.7   3.7
5   5
6.5   6.5
8   8
9   9
10   10
±dB

7

6

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