Bandswitch Reference Manual
http://www.amazingnoises.com/bandswitch

INDEX

Introduction

Bandswitch is an audio effect that splits the incoming signal into three bands and processes them independently.

You can modulate the amplitude (tremolo) or the panning position of each band. You can also modify the shape of the modulation and set the gain and an overdrive process independently. Moreover, you can also add a vibrato (pitch modulation) independent for each band.

The modulation rate can be modulated in turn by an LFO (there are, of course, three LFOs), and there are also two dedicated LFOs that can modulate the cross frequencies between the bands.

After the Modulation/Distortion/Pitchshifing stage, each band goes to a dedicated delay line with feedback for further processing. Also the delay time can be dynamically modulated.

Click here for a video walkthrough:
https://www.youtube.com/watch?v=iY8GCiFpPSw

Switcher Panels

1	Duty	TriPeak	2	Duty	TriPeak	3	Duty	TriPeak
Square	0.50	0.50	Square	0.50	0.00	Square	0.50	0.00
Trem/Pan	Gain	Overdr	Trem/Pan	Gain	Overdr	Trem/Pan	Gain	Overdr
0.00	0.0 dB	0.00 %	1.00	0.0 dB	0.00 %	1.00	0.0 dB	0.00 %

Rate	Smt	Vibrato	Prob	Rate	Smt	Vibrato	Prob	Rate	Smt	Vibrato	Prob
1/4	0.00	0.00 %	100 %	1/4D	0.00	0.00 %	100 %	1/4	0.00	0.00 %	100 %

The main processor for each band is a Tremolo/Pan/Vibrato effect. Here are the parameters:

Shape: the tremolo and panning effects can follow a square or triangular shape
Duty: the width of the shape for each cycle
TriPeak: sets the vertex of the triangular shape
Trem/Pan: Tremolo Panning amount. Positive values (0/1) for panning, negative values (-1/0) for tremolo.
Gain: band volume
Overdr: band distortion
Rate: Tremolo/Panning/Vibrato rate in note values
Smt: Tremolo/Panning/Vibrato smoothing factor
Vibrato: Vibrato (pitch modulation) amount
Prob: Tremolo/Panning/Vibrato probability

Cross Frequencies and Modulators

Mod1	Depth	Reset		Mod2	Depth	Reset		Mod3	Depth	Reset
1/1	0.00 %	0 ⬤		1/1	0.00 %	0 ⬤		1/1	0.00 %	0 ⬤

CrossFr1	ModCr1	Depth	Reset		ModCr2	Depth	Reset	CrossFr2
1.65 kHz	8/1	78.0 %	0 ⬤		8/1	81.1 %	0 ⬤	3.52 kHz

CrossFr1 and **CrossFr2**: The two parameters in the purple panels set the cross frequencies between the bands

There are three LFO modulators for the Tremolo/Pan/Vibrato rate of each band, and two for the cross frequencies; here are the parameters:

Mod: Modulator rate un note values
Depth: Depth of the modulation in percentage
Reset: Period in measures for the LFO phase reset, a value of 0 means no periodic reset
Reset Button: you can also reset the LFO phase by clicking on the Reset Button, or you can automate it

Delay Parameters

Delay1	Scale		Delay2	Scale		Delay3	Scale
1/4	100 %		1/4T	100 %		1/8T	100 %
Gain	**Fbk**		**Gain**	**Fbk**		**Gain**	**Fbk**
0.0 dB	0.87		0.0 dB	0.90		0.0 dB	0.90
Variation			**Variation**			**Variation**	
25.0 %	Square		25.0 %	Square		25.0 %	Square

There is a modulated feedback delay line for each band, here are the parameters:

Delay: Delay time in note values
Scale: rescales the delay time by a percentage. Very useful to create irregular delays and change the rhythmic groove of the sound
Gain: delay gain
Fbk: Feedback factor. Positive values produce a regular feedback, negative values send the feedback signal to the next delay line: i.e. delay1 -> delay2, delay2 -> delay3, delay3 ->delay1.
Variation: a cyclic variation, in percentage, of the delay length. F.i. if the delay time is 1/4 and the variation id 50%, the actual delay length goes from 1/8 to 3/8 (i.e 1/4-1/8 and 1/4+1/8). This generates unique polyrhythmic patterns, impossible to obtain with regular delays. The variation shape can be a square (which switches between two values) or a sinusoid (which continuously warps the delay time, yielding a sort of granulation effect).

Global Parameters

Bands

1 2 3

Balance

-0.41

WetGain

4.2 dB

DryGain

-inf dB
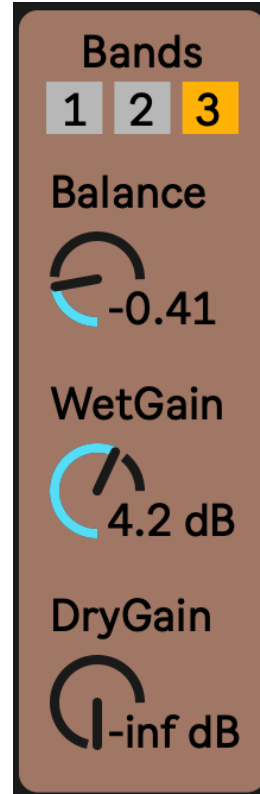
Bands: you can switch between 1, 2 or 3 bands
Balance: spreads the bands in the stereo field: positive values move the highest band to the right and the lowest to the left, while the middle band remains centred. Negative values do the opposite.
WetGain: gain of the processed sound
DryGain: gain of the un-processed sound