

Thank you for using our Synesthesia multi-modulation pedal. As promised, we have worked on a major update to bring new algorithms and features designed to give you a more satisfying Synesthesia experience. Please make a little time to go through this release note for detailed information on the updates.

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## NEW ALGORITHMS

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We have added 15 new algorithms, expanding the library to 37 high quality modulation algorithms, all of which are directly accessible on the pedal. These are :


- |                   |                  |
|-------------------|------------------|
| 1. Ring Modulator | 9. Arp Tremolo   |
| 2. Parametric EQ  | 10. Arp Filter   |
| 3. Bit Crusher    | 11. Arp Formant  |
| 4. Pressed Junk   | 12. Arp Flanger  |
| 5. Record Antics  | 13. Arp RingMod  |
| 6. Phono Filters  | 14. Arp Phaser   |
| 7. Rotary Horn    | 15. Arpeggiator. |
| 8. Rotary Drum    |                  |

### Algorithm Description

#### **Rotary Speaker** [ HORN ] + [ DRUM ]

We will start with the most awaited of the bunch, the Rotary Speaker algorithm. During development phase we found that the complexity involved in modelling the physical rotary speaker system proved too much for a single DSP core in Synesthesia. Fortunately, the hardware architecture of Synesthesia allows considerable flexibility for configuring the two DSP engines, this enabled us to realise the Rotary Speaker algorithm by breaking the complexity into two independent systems: the Horn rotor and the Drum rotor. To say it simply, the new Rotary Speaker algorithm is invoked by loading the HORN and the DRUM algorithms into the X and Y dsp engines, then select the Mixture dsp routing.

```
>>Rotary Algo  \1  
·HORN·  ++  ·DRUM·
```

 To help you set things up faster, the dsp routing is automatically set to *Mixture* when ever the X and Y DSPs are loaded with Horn and Drum algorithms. The new SymmLab editor also has a ‘Template’ system, which accomplishes the Rotary Speaker setup with a single click.

👉 In the Horn and Drum algos, the *ramping* functionality has been replaced with 'Rotor speed toggle' function, this allows you to switch the rotor speed from slow to fast and vice versa by holding either the A or B footswitch for half a second. Switching the rotor speed can also be done instantly via Midi or external aux switch.

### Ring Modulator [RNGMOD]

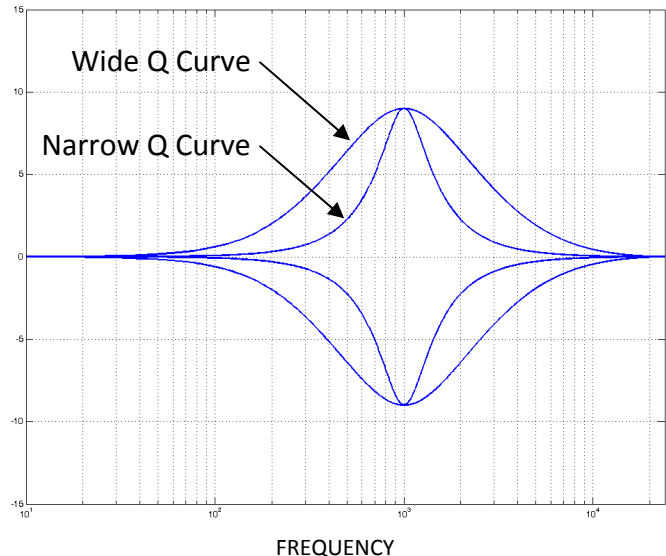
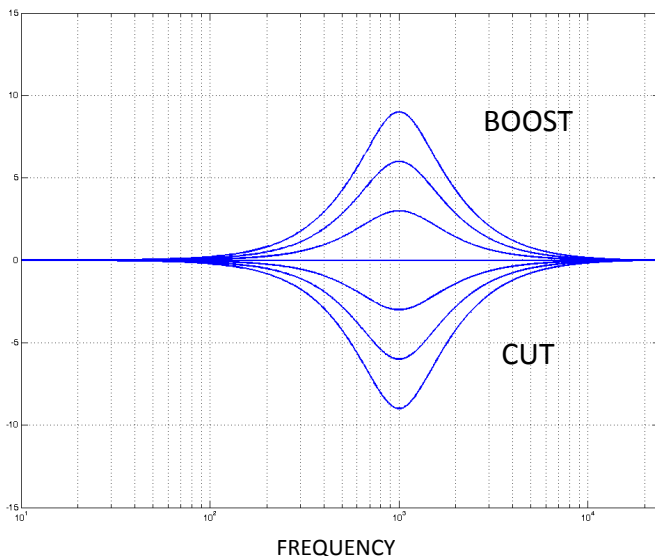
The majority of the newly added algorithms revolve around signal-corrupting effects. Ring Modulator falls squarely into this category. At its core this algorithm is a tremolo, with a super-extended range of modulation speed. At the lower end of the speed you get pleasing tremolo effects, and at the higher end of speed you get a plethora of weird and bizarre textures of dissonant tones.

### Parametric EQ [PARAEQ]

It may be unusual to find an EQ algorithm in a multi-modulation pedal, however in a dual-engine pedal like Synesthesia it makes a lot of sense to have a tone shaping tool that you can conveniently pair with the other algorithms. Parametric EQ gives you a full featured single-band parametric EQ plus a Low-shelving and High-shelving filters for shaping the bass and treble frequencies respectively. The parametric EQ has 3 parameters:

- Gain : adjust the cuts or boost (range is -9dB to +9 dB).
- Frequency : adjust the frequency where the cuts or boosts happens (range is 100 Hz to 3 KHz).
- Q Curve : adjust the extent of frequency bands affected by the cuts or boost.

Finally a master volume knob is provided to compensate the decrease or increase in perceived loudness when cutting or boosting respectively.



**Bit Crusher** [BITCRS]

This algorithm applies fractional bit-resolution & sample-rate reduction to the input signal.

**Pressed Junk** [JUNKIE]

Compression, vibrato, and dirt makes this gem the go to algorithm to get that lo-fi sounds.

**Record Antics** [RECORD]

This algorithm emulates the sound as it's played through vintage vinyl record player, along with the artefacts and sound quality degradation accompanying it.

**Phono Filters** [PHONOS]

This algorithm is a collection of tone shaping filters simulating various audio appliances. Pair this algorithm with the Record Antics for an authentic vintage record player experience.

**Arp algorithms**

The Arp algorithms work just like the regular non-arp counterpart, with one distinction : the modulation LFO is a sequence of steps which gives these algos appreciated and rhythmic feel. The sequences are user-editable (via SymmLab) and 4 unique sequences + 1 random sequence are allotted to each arp algo.

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**CHANGES TO EXISTING ALGORITHMS**

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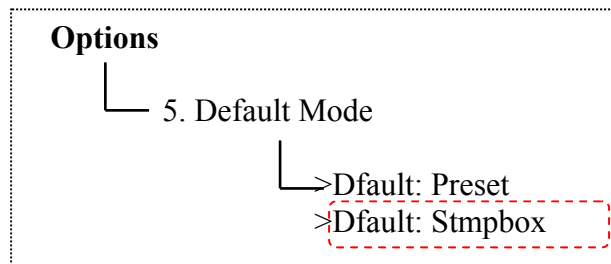
- **Envelope Filter.**            ] Added '*Direction (up / down)*' parameter.
  
- **Sample & Hold Filter**        ]
- **Sample & Hold Flanger**      ] now accept tap-tempo and midi-clock.
- **Sample & Hold Phaser**        ]
  
- **Tremolo**                         ]
- **Harmonic Tremolo**            ]
- **Chopper**                        ]
- **Dynamic Tremolo**             ] Tempo control accuracy improved.

## FEATURE ADDITION / CHANGES

### 1. Auto Stompbox Mode

The Stompbox Mode proves to be very popular and is often the operating mode of choice by many users, as is evident with the number of requests we've received asking to make it easier to access and use the Stompbox mode. This update brings you the options to configure the presets such that the pedal automatically switches to Stompbox Mode after calling the preset. This option is available on per-preset basis.

On the pedal :



In SymmLab editor :

Device Info :		
Serial No. SYMM-000000		
BANK-PATCH	PRESET TITLES (12 char max)	AUTO STOMPBOX MODE
PAGE - 1		
1 - A	Far Horizons	<input checked="" type="checkbox"/> S
B	Octolean	<input type="checkbox"/> S
2 - A	Perfect Peak	<input type="checkbox"/> S
B	Perfect Peak	<input type="checkbox"/> S
3 - A	Shiverhowls	<input type="checkbox"/> S
B	Reflections	<input type="checkbox"/> S
4 - A	Unisonic	<input type="checkbox"/> S
B	Clitch 404	<input type="checkbox"/> S

Check the box to make Stompbox Mode the default mode for that particular preset.

Do this for every preset you wish to automatically load in Stompbox Mode.

### 2. Algorithm Name Display.

Previously, when using the Stompbox Mode, the algorithm's name in use is displayed only when that algorithm is engaged. Now the algorithm's name is always displayed whether the algo is engaged or bypassed, this way users may always be aware which algorithm is currently loaded.

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## ADDITION / CHANGES TO MIDI

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1. 'Load Patch A' and 'Load Patch B' are combined into one function and share the same CC number (CC value '0' = Load Patch A, CC value '127' = Load Patch B).
2. 'Bank Down' and 'Bank Up' are combined into one function and share the same CC number (CC value '0' = Bank Down, CC value '127' = Bank Up).
3. Added '**Reset Sequence**' CC command.  
Use this command to reset the Arp rhythm to the beginning of the sequence when using the Arp algorithms.  
Default CC number : 27.      CC value range : any.
4. Added '**Toggle Rotor Speed**' CC command.  
Use this command to toggle the rotor speed (fast / slow) when using the Rotary-Speaker algorithm.  
Default CC number : 28.      CC value range : any.
5. Added '**Expression Pedal**' function.  
Use this command to enable expression pedal control via midi.  
Default CC number : 42.      CC value range : 0 to 127.

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## ADDITION / CHANGES TO AUX

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1. Added '**Reset Sequence**' function.  
Use this function to reset the Arp rhythm to the beginning of the sequence when using the Arp algorithms.

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## BUGS FIXES

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1. Fixed a bug with activation of input pad (in Global settings).
2. Fixed a bug in processing of Midi CC#14 and #15 : in Preset Mode, sending CC value '0' does not bypass the DSP.