

GENERATIONS

OVER 600 PATCHES AND 9 SYSTEMS FOR REASON 4 AND UP
USER GUIDE

WWW.REASON101.NET



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Introduction

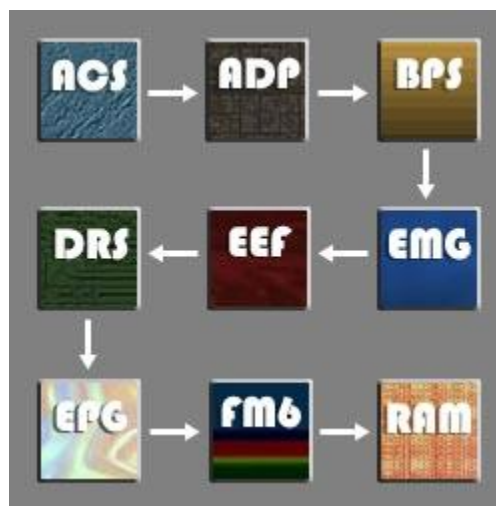
This isn't your older brother's typical refill! The Reason 101 "Generations" refill is a collection of some very deep **Modular Audio Processing Systems** capable of redefining and regenerating your sound. There are also some very powerful **Layered Synths**, **Drum Kits**, **Arps**, **Samplers**, and all manner of synth device patches to wet your sonic appetite. Over 600 patches, loops and samples. The refill is approximately 30 MB in size, and will work with Reason 4 and above, as well as Reason+Record 1.0 and above.

The refill is available for purchase. The cost is \$49.00 USD. No hidden fees. No taxes. No shipping. It is available via Paypal as a direct download. Once you purchase, you'll get an email with a link where you can download the file. And yes, Paypal accepts Visa, Mastercard, and all the typical credit cards.

I'm still debating whether or not the refill will be made available on CD. It depends on how many people show interest in this distribution method. So if you prefer to obtain the refill on CD, contact me at my [Email](#) and I'll arrange it for you.

If you would like to try before you buy, or if you would like to help promote this refill project, you can download the [Generations Press Kit](#), which contains a free refill with some patches, a flyer, and some images.

What files are included in this ReFill?



- 9 Modular Audio Processing Systems (14 .rns template files):
 - ADP (Audio Drum Processing) System
 - ACS (Audioplay Control System)
 - EMG (Evolving Mood Generator)
 - FM6 (Mono FM 6-Op Playground)
 - EPG (Evolving Pad Generator)
 - RAM (Random Audio Madness)
 - EEF (EQ-Echo-Filter) System
 - DRS (Deep ReGlitch System)
 - BPS (Bass Processing System)

- 94 Combinators (Arps, Drum Kits, FX, Layered, Pads, Samplers, Synths)
 - Massive Drum Kits & More
 - Layered Olympic Patches (Layered Synths)
 - 280 Thor patches (Bass, Bells, Drums, Leads, Pads, Synths, Textures)
 - 87 Malstrom patches (Bass, Drums, Pads, Synths, Textures)
 - 103 Subtractor patches (Bass, Bells, Drums, Pads, Synths)
 - 21 DrRex loops (from 80 bpm – 160 bpm; mainly used for showcasing some of the combinator examples)
 - 11 Samples (.wav files; mainly used for showcasing some of the grain sampler combinators)
 - 10 Demo Songs courtesy of Hydlide (.rns files)

Note: There is currently no PDF documentation for the refill. Instead, I am opting to provide documentation right here on my blog under the "Refill" category (see right sidebar). I think this is the easiest and most open way to provide you direct support and info about the files.

"Generations" Refill License Agreement:

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Layered Olympic Patches

These are a series of Patches I put together to commemorate the 2010 Vancouver Winter Olympic Games that were being sponsored in my home country of Canada. I put together 5 free patches on my site and went through some of the parameters. Essentially, they are a series of layered Synths inside Combinators. As with most all of my Combinators and Thors, the rotaries, buttons and Pitch/Mod Wheels are mapped out to different parameters so you get the most out of playing these instrument devices.



Layered Olympic Patches

I was originally going to add more layered synths into this folder (not only the Olympic patches), but I got side-tracked with all the other goodies, such as the systems I've created and the drum kits, arps, Thor patches, etc. So that will have to wait until a product update, where I'm hoping to provide more layered synths such as this.

When I started working on this series, the idea was to create layered sounds that reminded me of the Olympic games. So each sound was named after an Olympic event. The first 5 I did were offered for free [here on my blog](#). For the refill, I decided to finish up the series with 10 other Combinators that relate to the other 10 Games from the Olympics. So the entire set has 15 layered synth Combinators. Here are all 15 Combinators, named after the Olympic Games:

- (Layr) 2010 Alpine Ski
- (Layr) 2010 Biathlon
- (Layr) 2010 Bobsleigh
- (Layr) 2010 Cross-Country Ski
- (Layr) 2010 Curling
- (Layr) 2010 Figure Skaters
- (Layr) 2010 Freestyle Ski
- (Layr) 2010 Hockey
- (Layr) 2010 Luge
- (Layr) 2010 Nordic Combined
- (Layr) 2010 Short Track
- (Layr) 2010 Skaters
- (Layr) 2010 Skeleton
- (Layr) 2010 Ski Jump
- (Layr) 2010 Snowboarding

The main premise was to create Combinator patches that encourage you to explore the rotaries and buttons without any preconceived notion of how they are planned out or mapped to the devices inside. So for that reason, I'm not going to go into detail on how things are routed. Rather, I'd prefer if you gave them all a listen and use your ears to explore the types of sounds these patches can generate. So try them out, and give them a whirl. Let your ears be your guide as you make adjustments. And once you've done that, then feel free to take a look and see how they are programmed.

Massive Drum Kits & More

I already showcased one of the massive drum kits I created in my [Massive Combi Drum Kit](#) tutorial. However, after creating that one and distributing it, I thought I'd put together a few other ones. So far, I have two other Massive Drum Kits for you in this refill. So you get all 3:

- Minimal Super Kit
- Another IDM Super Kit
- Off the Grid Super Kit



Massive Super Deluxe Drum Kits

Each of these kits contain 61 drum hits from the various 3 synthesizers (Subtractor, Malstrom, Thor) inside Reason. Since the drums span the range of the Matrix device, you can use the Matrix to trigger any of the drums. The Matrix is essentially turned into a massive Redrum kit capable of triggering all 61 drums.

*Note #1: All the individual drum hits on all the Combinator drum patches are included within their respective Synth device folder. For example, if you are looking for the **(Drum) IDM 002** drum hit that is supplied by the Subtractor device inside the above IDM Super Kit, look inside the **Subtractor > Drums** folder and you will find it there. This way, you not only get the complete Kit, you also get the one-shots for each drum within the Refill.*

Note #2: It may take a few seconds for these massive drum kits to load into your document in Reason or Record, since it does contain a lot of instruments, but I tried to make them as light weight as possible so that it wouldn't bring your computer to a screaming halt. So Load them up and start banging away!

How they operate

Rotary 1 on each of the kits selects between all 32 randomly set up patterns in the Matrix device. Of course, you can go in and change the patterns to whatever you desire. To use the Patterns to sequence the drums, click on Button 1 so that it is lit. This way, your drums are auto-sequenced. Then you can use rotary 1 to select any of the 32 patterns.

The second rotary sets up the tone of the drums. And button 2 turns on some Tape Compression.

The third and fourth rotaries allow you to add some global Reverb settings. Use rotary 4 to adjust how much Reverb is applied, and Rotary 3 to adjust between a short decay (all the way left) and a long decay (all the way right). Button 4 selects between a Room (default button off) or Hall (when the button is lit) Reverb algorithm.

Finally, you can apply a Unison device to detune the drums globally via button 3.

Other Combinator-based Drum Kits

Along with those 3 Super Kits, there are also 10 other Combinator Drum Kits included:

- (Kit) Boom Shakalaka
- (Kit) CrackerJacker
- (Kit) Electric Funk Drums
- (Kit) Electro Drums
- (Kit) Glitch Box
- (Kit) Glitch Box 2
- (Kit) Glitch Box 3
- (Kit) Jungle Glitch
- (Kit) Mamba Jamba
- (Kit) Minimal Tight Kit

Each of these kits contain 10 drums that are tied to a Redrum device. Since the drum sounds originate from a Thor, Malstrom, or Subtractor, they are all mapped between C1-A1 on your Keyboard so you can load them up and start using your pad-based controllers to bash away on 'em! Alternately, you can use the Redrum as a sequencer to control and trigger them.

If you have any comments or suggestions, please let me know. Also, if you can think of suggestions for what you would like included in a future Refill update, I'm listening, and always looking to improve upon the devices I build.

Demo Songs by Hydlide

Hydlide put together the following demo songs to showcase some of the sonic potential in the "[Generations](#)" refill. Let me tell you, I was honored and amazed by what he did for me. I can't stress that enough.

It's such a treat to be able to showcase some songs by Hydlide, especially when you know you've made the sounds that went into the songs, and had a top-notch composer like Hydlide working the controls. Like some great cosmic convergence of forces or something. When I came to Hydlide and asked him to help me out with this, little did I know what he had in store for me. 10 demos in total! I mean, here I am expecting one, maybe two songs. And he provided me with 10! Have a listen below.

[Reason 101 Refill Demo Songs from Hydlide](#) by [Phi Sequence](#)

Note that if you purchase the Refill, you get access to the .rns files so you can see how they are put together. That alone is worth the price of admission.

If you ever release a Refill, you could do no better than to have Hyd put together a set of songs to show it off. It just amazed and shocked me. He's one of the most talented Reason users I know. And I'm totally psyched to be able to present his work here. The fact that he was willing to provide all these great songs to help along this little project of mine, well it just fills me with warm fuzzies.

I can't express enough gratitude for what he did. So thanks Hydlide! Hopefully I can return the favor for you someday.

If you end up creating a song which mostly uses my refill and want to share it, please let me know about it or send me a link to it. I'd be happy to feature it here at Reason 101. Also, if you like what you're hearing, you should go check out Hyd's [Sound of Reason](#) site. He's got an amazing array of resources for those of us using Reason. Be warned, you'll get lost in his site for hours. But it's time well spent.

Demo Song Copyright notice

These demo songs are provided as is and are owned by Hydlide (hereto referred to as the "author"), who retains sole legal rights over the work. The demo songs, or any derivative thereof, cannot be used in any commercial or non-commercial work without the express written consent of the author. These works are provided for listening purposes only, in order to showcase the "Reason 101 Generations" refill.

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ACS(Audioplay Control System)



The **ACS (Audioplay Control System)** is a modular audio processing system used within Reason 4 or Reason+Record 1.0 and above; whereby you can load your own sounds within the source Combinator and then filter that sound through a series of effects Combinators. Enable or disable each effect along the way by following the arrows and implementing each device. Once a device is enabled, you can shape the parameters of said device using the other Combinator Rotaries and buttons. In some cases, an effect is housed inside a single Combinator. In other cases, the effect spans several Combinators.

The system is fully flexible. You can use it to develop your sound over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

The ACS Combinator Effects Chain

The ACS includes 14 Combinators that are chained together. Here is an outline of each:

Sound Source:



This is a holding pen for any sounds you want to process through the entire system. For starters, I added a Thor device inside. Note that the first two rotaries and first two buttons on the Combinator affect some parameters on this Thor device, but you can add any device inside the Combinator, be it a Subtractor, Malstrom, NN-XT, Dr.Rex, etc. The only thing you should note is that there are some CV connections on the back that you're going to want to preserve. These connections control the Arpinator effect, so if removed, your Arpinator won't work.

In addition, there are two Matrix devices inside the Sound Source Combinator. The first one is the main sequencer (routed to the Combinator Gate/CV inputs). Depending on how you want to play your system, you may want to keep a Matrix there to control the whole thing, or you may want to disable it and use your Keyboard Controller instead. It's up to you.

The second Matrix is the Arp controller and it is connected to your Arpinator. Again, in order to have the Arp hooked up properly, you need to have this Matrix present. You can, of course, change any of the patterns inside both Matrixes to your hearts' content. So fiddle away.

Panorama:



The Panorama device is used to add Panning to the audio signal. The Mod Wheel selects from 32 different waveforms that can be used to designate how the signal is panned. The first three rotaries set the amount of panning that is applied to the audio at different points within the signal chain. For example, the first rotary is a master pan, meaning that panning is applied at the end of the audio signal chain before it reaches the main mixer. The second rotary applies panning to the audio when the audio is filtered through the Dr. Destructo Effect, and the third rotary will apply panning after the Delay effect (in the Multi-Phelays Combinators). Note that if you do not enable these two effects, the panning will not be applied. Only the master panning amount is applied no matter what effect is enabled.

The final rotary sets the Panning Rate for all three Panners described above. 0 = slower; 127 = faster.

The first two buttons actually pan the decay of the Reverb devices for the Low and High Reverbs in the Verbatorium effect. Again, if the Verbatorium is not engaged, this button will do nothing.

Filter 1:

This is a basic Thor filter system where you can process the sound signal through any of Thor's four filters as soon as it passes from the sound source down the chain. Use the mod wheel to enable any of the four filters. By default, the filter is bypassed.

Note that if you want to keep the filter engaged, you can automate this mod wheel to keep it in a specific position. This way, even if you stop the song from the transport bar (which brings the mod wheel back to zero), the automation will kick in and keep it in the position you select.

The first rotary enables the envelope, while the first button inverts this envelope. The second and third rotaries control the Filter Frequency and Resonance. The last rotary controls the filter's drive parameter. The third and fourth buttons turn on the Delay and Chorus, respectively, while the third button controls whether or not the delay is synced to the song tempo.

Arpinator:



This device allows you to apply a flexible Arp system to your sound source (based on the Arp Matrix within the sound source Combinator - described above). To enable the Arpinator, press button 1. At that point, all the other parameters become available. You can control the Gate Length via rotary 1, Rate, Mode and Octave Shift via the other rotaries, sync the rate via button 2, switch between 2 or 3 Octaves using button 3, and Hold the Arp using button 4. You can also select if there is any type of note insert via the Mod Wheel. Once again, note that it's probably best to automate your mod wheel to get the effect you want (see note in the Filter 1 explanation above).

VocLoader:



The VocLoader is a Vocoder effect unit that spans the range of two Combinators. It actually contains 4 Vocoder to create some interesting Vocoding effects. To enable it, press button 1 on the VocLoader 1 (top Combinator). The four rotaries on this Combi allow you to adjust the modulation of the Oscillator used as a Modulator on your source sound's signal (used as the carrier). Each Vocoder is then used to affect a different frequency range of the sound you're sending to it; rotary 1 affecting the low end up to rotary 4 affecting the high end.

The other 3 buttons allow you to affect other Mod Oscillator and Oscillator filter parameters, such as the Voc Type (Oscillator Wave form), Resonance (from higher to lower Resonance), and filter type (either a low pass filter by default or a Comb filter when pressed). Lastly, the Mod Wheel is used to affect the Filter Frequency from Open to Closed.

In the VocLoader 2 (bottom Combinator), you can adjust the four vocoder parameters. The rotaries control the shift parameter of each Vocoder, while the buttons control the Hold on each vocoder. Decay can be adjusted using the mod wheel. Again, rotary/button 1 controls the vocoder tied to the low end frequencies, and on upward to rotary/button 4 which controls the vocoder tied to the high end frequencies.

Dr. Destructo:



This is a Glitch Scream destruction effect unit that is best tried out in order to understand it. Basically, it can be used to completely distort and mangle your sounds. Enable it by pressing button 4. Then use the Mod Wheel and/or Rotary 1 and 4 to adjust how crazy you make your sounds. Rotary 1 actually selects the Damage Type from the scream unit, but even this is randomized using the Mod Wheel. Am I joking when I say not to touch Rotary 2? You be the judge. Also, the P1 and P2 parameters are randomized and well, pretty much everything here is randomized for a little mayhem. See if it can make your sound a little edgy or completely insane.

Also, the button 1 turns on the EQ Cut of the scream, and the Pitch Bend Wheel allows you to play around with the EQ cutting from Lo to Hi... button 2 is simple: it turns the Body section of the Scream unit on. And button 3 syncs things up o your song tempo. There's a lot packed into this Combinator so try it out and see what it can do.

Filter 2:

This is the same as Filter 1 above, except that this filter is applied after the Dr. Destructo effect in the signal chain. See Filter 1 for a complete explanation.

Multi-Phelays:



The Multi-Phelays are two effects in one: Delays and Flangers. They span 2 Combinators. Starting with the top Combinator, enable both by pressing button 4. You can bypass the flangers by pressing button 2. Note also that by default the delays are fully dry. To enable the delays you have to raise the mod wheel.

The rotaries are where the fun is at, however. Use them to affect the multi-delay system. You can control the delay time of each delay device in the chain. Further, you can use button 1 to switch from Steps to Millisecond. There's also a parameter to turn on full unison for a little more depth.

The bottom Combinator adjusts a few cross-over parameters for the delays. Basically, the delays are set up on different frequencies, so that you get some really deep delays going on. You can adjust the different cross-overs between all delays or between delays 1&2 and 3&4. You can also control whether the effect is spread Mono or Widened.

Auto ReBeat:



This is a Beat Repeater effect taken to a whole new level. The best way to explain it is to just have a go with it. Enable the effect by pressing button 4 and then increase the repeating effect via rotary 4. The best way to think of rotary 4 is like the Mod Wheel on the Dr. Destructo effect. It slowly increases the craziness of the repeater. The other three rotaries will affect your sound in various erratic ways and are hard to describe without actually trying it out. But in a nutshell, rotary 1 increases the steps, rotary 2 selects the type of curve used to affect rotary 1 (the steps), and rotary 3 affects the modulation via a Matrix affecting the Rotary 2 (Curve Selection) as well as the panning of the left delay. Oh yeah, did I tell you that the delays are also panning left and right in weird and wonderful ways? Finally, the Mod Wheel affects the rate of the Beat Repeater.

Filter 3:



This is the same as Filter 1 above, except that this filter is applied after the Auto ReBeat effect in the signal chain. See Filter 1 for a complete explanation.

Verbatorium:

Now we get into the touching up part of the system. The Verbatorium is an effect used to apply reverb to your audio signal. To enable it, raise the Mod Wheel or automate the Mod Wheel to keep the reverb at a specific level. Rotary 1 selects the reverb type for the low end, and rotary 2 selects reverb type for the high end. Selections that can be made are the same for both, and include all the various reverb algorithms from the RV7000 reverb device. Buttons 1 and 2 affect the size of the room, hall or arena, if those algorithms are selected using the corresponding rotaries above. Basically, if Rotary 1 or 2 is set between 0-64, these buttons will increase the reverb size. From 65-127, these buttons will have no effect.

Rotary three adjusts the decay for both reverbs, and rotary 4 adjusts the crossover between the hi/low frequencies of both reverbs. Button 3 and 4 adjusts the state of the Hi-Frequency Dampener for each reverb. And finally, the Pitch Bend Wheel adjusts the Hi EQ up or down.

CompEQ:

Last but not least we have a basic M Class Compressor and EQ system (with a Maximizer as well). This can be used to give the audio a final tweaking before it goes up to the main mixer. To enable the EQ or Comp, utilize button 1 and 2 respectively. To enable the maximizer, utilize the Mod Wheel.

The four rotaries adjust the parameters of the Compressor and should be fairly self-evident. The third button controls the Low Cut of the EQ; whether it is enabled or not. Finally, button 4 turns on the soft clip from the Maximizer. Note also that the Maximizer is enabled along with the Compression (via button 2). So if the Compressor is not on, the mod wheel and button 4 will have no effect on the Maximizer.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This is an audioPLAY system, and so it takes some time, experimentation. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the ACS template, apply your control surface template, load your sounds into the sound source, and away you go.
- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. If you want a little multi-tap delay, turn on the Multi-Phelays and raise the mod wheel. Done. So in the same way that you wouldn't turn on all parameters in Thor full blast, don't turn everything on here full blast and go bonkers. I mean you can, but you may not find anything usable that way. Start off slow and work your sound upward, like a good sculpture.

ADP (Audio Drum Processing) System



The **ADP (Audio Drum Processing) System** is a modular audio system used within Reason 4 or Reason+Record 1.0 and above; whereby you can load your own Redrum kit within the source Combinator and then process each drum sample through a series of effects Combinators and various global sends as well. Enable or disable each effect along the way by following the arrows and implementing each device. Once a device is enabled, you can shape the parameters of said device using the other Combinator Rotaries and buttons.

The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

Note that there are 2 flavors of the ADP: one is an empty template with an empty Redrum device in the sound source Combinator. To use it, simply add your own kit into this Redrum, apply your drum patterns, and start tweaking. The second version is with my Electro Drum Kit, which shows you how you can use the Redrum to trigger a synth-based drum kit. In this way, if you have your drum patches created with the Subtractor, Malstrom, or Thor, you can still tie these to the main Redrum mixer and use the Redrum to trigger the synths. The only difference here is that you have to work out sending the appropriate drum synth audio into the appropriate Combinator (for example, the Kick Drum audio from the synth would go into the Kick Drum Combinator to process the Kick Drum sound).

The ADP Combinator Effects Chain

The ADP includes 15 Combinators that are chained together. Here is an outline of each:

S.FX1-4inOne:



This is a 4-in-one all purpose effect that can be used as a send on any of the drum channels. Button 1 turns on the Chorus/Flanger and Unison at once. Button 2 turns on the Vocoder. The delays are turned on via rotary 1 and 2. All other parameters affect various aspects of these effects. Rotary 3 adjusts the delay feedback. Rotary 4 adjusts the Vocoder decay. Button 3 adjusts the chorus rate, and button 4 applies the Hold feature on the vocoder.

S.FX2-Filter:

This send effect is a fully adjustable Thor filter. Rotary 1 selects the filter used (Low Pass / State Variable / Comb / Formant). Rotary 2 and 3 adjust the Filter Frequency and Resonance respectively. And Filter 4 adjusts the filter envelope. Bear in mind that button 4 must be turned on in order to enable the filter. Otherwise rotary 4 does nothing. In addition, button 3 syncs the envelope to the song tempo. Button 2 switches the filter mode for either the State Variable filter or the Comb filter (depending which one is selected). For the State Variable filter, the default is a High Pass filter. When the button is pressed, this changes to a Notch filter. If the Comb filter is enabled, this switch changes from Comb + to Comb - mode.

S.FX3-Verbex:

This send effect is a fully functional dual mode Reverb (split into the high and low frequency spectrum via a Stereo Imager). Most of the controls are pretty straightforward. Rotary 1 determines the crossover between the Low and High Reverb frequencies. Rotary 2 and 3 determine which Reverb algorithms are used for each reverb. Both knobs control their respective reverbs in the same way. You can switch between Small Space, Room, Hall, Arena, and Plate algorithms. In this way, you can have different reverbs for the low end and the high end of your drum sounds. The fourth rotary adjusts whether the sound is sent mono or widened.

As for the buttons, button 1 adjusts the decay between small and large, button 2 adjusts the High Frequency Dampening low and high, button 3 switches the small room shape (room 1 by default and room 4 when the button is pressed). Same thing goes for button 4, which affects the Hall Room shape if the Hall algorithm is selected.

Finally, the Pitch Bend Wheel adjusts the Hi EQ value and the Mod Wheel adjusts the algorithm size (0 = smaller size, while 127 = larger size). Note that the Mod Wheel affects all algorithm sizes except the Plate algorithm, which due to this type of reverb algorithm, has no size parameter.

Sound Source:



This is a holding pen for any sounds you want to process through the entire system. For starters, I added a Thor device inside. Note that the first two rotaries and first two buttons on the Combinator affect some parameters on this Thor device, but you can add any device inside the Combinator, be it a Subtractor, Malstrom, NN-XT, Dr.Rex, etc. The only thing you should note is that there are some CV connections on the back that you're going to want to preserve. These connections control the Arpinator effect, so if removed, your Arpinator won't work.

In addition, there are two Matrix devices inside the Sound Source Combinator. The first one is the main sequencer (routed to the Combinator Gate/CV inputs. Depending on how you want to play your system, you may want to keep a Matrix there to control the whole thing, or you may want to disable it and use your Keyboard Controller instead. It's up to you.

The second Matrix is the Arp controller and it is connected to your Arpinator. Again, in order to have the Arp hooked up properly, you need to have this Matrix present. You can, of course, change any of the patterns inside both Matrixes to your hearts' content. So fiddle away.

Global FX:



The Global effects provide a way to apply effects to the entire drum mix after the drum sounds have been individually processed by their respective Combinators. In version 2 I might add a new Combinator into the mix which provides the same functionality, but applies it to the drum sounds before they are individually processed. But that's a later stage of development.

The Global FX are very basic and they are always "enabled." Rotary 1 applies a global reverb to the entire mix. Rotary 2 will boost the levels of the kit using a Maximizer, and button 1 enables a Soft Clipping on this same Maximizer. Button 3 turns on the Tape Compression coming from a Scream device, which can be adjusted using Rotary 3. Button 4 turns on my favorite global feature: the Depth, which is an EQ curve controlled by Rotary 4. This sets up the Tone or Depth of the Drum Kit.

Bass Drum:



As its name suggests, the Bass Drum Combinator is used to process your Kick Drum. It should also be noted at this point that all the individual drum processors (from the Bass Drum down to the Rimshot) have a simple Delay effect attached to them. This means that the delay can be individually applied in varying amounts to each drum. For all drums except the Bass drum, the Delay Amount is tied to rotary 4. For the Bass Drum only, it is tied to Rotary 1. In addition, for all individual drums, the Mod Wheel controls the Delay Time.

Rotary 2 controls a Chorus effect for the drum by applying no chorus at 0 and a large amount of Chorus when set higher (at 127). Rotary 3 is in effect only when you turn on Compression (via button 3). This rotary will increase the Threshold and Ratio parameters on the M Class Compressor. And button 4 turns on the Compressor's Soft Knee parameter. There is also an EQ that can be turned on via button 2.

Finally, rotary 4 is used to adjust the Parallel Mix of the Kick Drum. In other words, this will increase the amount of dry Kick Drum audio signal in the mix. Set it at zero in order to have no Dry signal in the mix. Set it to 127 in to have a full dry signal come through in the mix.

Snare Drum 1, 2; Tamb/Clap; Tom 1, 2, 3; Hi Hat Closed, Hi Hat Open:



It should also be noted at this point that all the individual drum processors (from the Bass Drum down to the Rimshot) have a simple Delay effect attached to them. This means that the delay can be individually applied in varying amounts to each drum. For all drums except the Bass drum, the Delay Amount is tied to Rotary 4. For the Bass Drum only, it is tied to Rotary 1. In addition, for all individual drums, the Mod Wheel controls the Delay Time.

Most all the drums operate pretty much the same way: Rotary 1, 2, and 3 provide three different processed drum sounds. Each of these three different sounds can then be parallel processed together in a variety of interesting ways. Note that for all drums except the Snares, one of the rotaries is dedicated to the Dry drum signal (and will be marked as "Parallel Mix" on the rotary). By adjusting these three rotaries you can come up with a wide range of sounds.

The four buttons are then used for different one-off effects that you can try out. For example, the Snare drums have a Chorus effect on button 1, a Unison effect on button 2, a Tin Can effect on button 3 and a Dampening effect on button 4. For all the other drums, there are other effects that work best with their respective drum "type."

Rimshot:



The Rimshot Combinator is a little different. It still has the same Delay parameters (Delay Amount on rotary 4 and Delay Time on the Mod Wheel). However, the assignments and way it works is a little different. The Parallel Mix adjustment can be found on rotary 2. Rotary 1 allows you to boost the Rimshot signal. Rotary 3 allows you to make the signal more mono or widen it. The buttons provide other one-shot parameters as found on the other drum Combinators. The reason why the Rimshot was built this way with a lot of varying parameters is because you never know what you're going to have in this last Redrum channel. Lots of times, this channel is dedicated to some off-the-wall or wacky samples and so rather than try to hone in on a specific sound, I wanted to keep things a little more flexible.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the ADP template, apply your control surface template, load your sounds into the sound source, and away you go.

- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. So don't feel that you need to turn on all the effects and sends full blast. Use your judgment. Start off slow and work your sound upward, like a good sculpture.
- The Redrum Kit that I used in order to develop each of the individual drum processing Combinators is the "Rock Kit RDK.drp" which can be found in the Factory Soundbank under the "Redrum Drum Kits" folder. This is not to say this is the only kit that can be used with the ADP. I just thought I should mention where the initial inspiration came from.

BPS (Bass Processing System)



The **BPS (Bass Processing System)** is a modular sound processing system used within Reason 4 or Reason+Record 1.0 and above, where you can load your own Bass sounds within the source Combinator and then process the Bass through a series of effects Combinators. Enable or disable each effect along the way by following the arrows and implementing each device. Once a device is enabled, you can shape the parameters of said device using the other Combinator rotaries and buttons. In some cases, an effect is housed inside a single Combinator. In other cases, the effect spans several Combinators.

The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

The BPS Combinator Effects Chain

The BPS includes 11 Combinators that are chained together. Here is an outline of each:

Sound Source:



This is a holding pen for your Bass sound. Any bass sound devices you want to process through the entire system will be stored here. For starters, I added a Thor bass device inside. But you can make up your bass sound using any number of reason devices. As long as they are housed inside this Combinator. The only thing you should note is that there are some CV connections on the back that you're going to want to preserve. These connections control the Arpinator effect, so if removed, your Arpinator won't work. These are the two CV cables going into the main Combinator's Gate In and CV in. Keep those as they are and you'll be fine.

Arpinator:



The Arpinator used in the BPS spans four Combinator devices and allows you to apply a flexible arp system to your bass sound source. Starting with the top Combinator, you can engage the Arp by setting rotary 4 to any value between 0 and 126. To bypass the Arpinator, set this rotary to 127. This is so that you have a master bypass for all the Arps. The Arpinator came out of an idea I had to reproduce some of the bass sounds of New Order back in the 80s, when they came out with their "Blue Monday" track. I thought this would be a good idea to reproduce this type of Arpeggio bass line in Reason. This is a little more customizable and flexible however, providing four different Arps to choose from. Not to mention you can still go in and tweak the Arps manually to get the sound you want.

There are four Arps in total, and you can select between them using any of the four buttons. The intention was to provide different Arp setups from which you can choose. Note that you CAN turn on more than one Arp at once, but due to the way the CVs are merged, this results in a very high pitch Arp that doesn't work well for Bass sounds. I'm hoping to find a workaround for version 2, but for now, it's best to stick with one Arp at a time, as that's what is intended.

Once an Arp is enabled, you can use rotary 1 to select the pattern playing the Bass via the Matrix inside this Combinator. The Matrix is already set up with 32 random patterns. Of course, feel free to open up the Combinator and enter your own patterns to suit your needs. Right here is the heart of everything. Get the patterns right on the Matrix, and the rest becomes pretty easy.

Moving down to the second Combinator (Arpinator 2), the four rotaries here control the Pattern feature of all four Arps. To use these rotaries, you must first enable the Pattern section of all four Arps by pressing button 4. In addition, there are other Global parameters set up to control all four Arps at once. Button 1 applies the Hold feature on all four Arps. Button 2 enables the Free running feature. By default, the Arps are synched to your song tempo. and button 3 turns the Single Note Repeat function off when lit. It's on by default. Since you will most likely be using one ARP at a time, having these features work globally ensures that whichever ARP you are using, the parameter is applied.

Onward to the third Combinator (Arpinator 3), the four rotaries control the rates of each ARP. Depending on whether you turned on the Free-running button (button 3 on the previous Arpinator 2 Combinator), this rate will either be synched to the song tempo or free running. The four buttons drops the bass down by 2 Octaves in case you need a quick Bass drop. And yes, all of this can be automated.

The fourth and final Combinator (Arpinator 4) allows you to adjust the Gate Length of each of the Arps using the four rotaries.

Bassinator:



The Bassinator is a Parallel Effects Processing unit that spans 2 Combinators. I created a single Combinator bass processing patch like this for my "[Parallel Effects Processing](#)" tutorial previously, and these 2 Combinators extends that functionality and opens up more possibilities. Here's how it works:

On both Combinators, button 4 enables each one. The Rotaries allow you to parallel process various Bass Tones and the buttons (1-3) open up various Cabinet models. This way you can process your bass through any variation of all 7 Bass tones, plus the original mix, and you can then select between the 6 different cabinet models.

Thor LP and Comb Filters:



The next two Combinators are the Thor Low Pass and Comb filters. Personally, I always like to process my bass sounds with a little of either filter or a little of both. So here you can adjust parameters to filter your bass sound through these two filters. Button 4 on both Combinators enables each filter respectively. And rotary 2 and 3 adjust the Filter frequency and resonance, respectively. Also, rotary 1 adjusts the envelope amount and button 1 inverts the filter envelope. Finally, button 3 turns on the filter's keyboard tracking. Those are the controls that are similar between the two Combinators.

On the LP Filter, the Mod wheel acts to control the Drive amount, and rotary 4 adjusts the ladder slope, switching between all the filter modes, button 2 turns on the self-oscillator.

On the Comb filter Combinator, the Mod Wheel controls the filter velocity. Rotary 4 controls the filter drive. Button 2 controls the Comb filter mode between Comb + (default) and Comb - (when the button is turned on).

Verb Deli:



The Verb Deli expands on the above parallel processing idea by providing 4 different Reverb effects in one, which can be processed together to apply complex reverbs to your sound. Enable the Verb Deli by pressing button 4. Then use the four rotaries to adjust the amount of each reverb applied to the sound. Use the limiter on button 3 if the sound gets a little out of control or unwieldy.

Included in the Verb Deli Combinator is a basic delay system. Turn the delay on by accessing the Quick Delay parameter on button 1. Then adjust whether the steps are 1/16 (default) or 1/8T (by pressing button 2). Finally, use the Pitch Bend Wheel to pan the delay left and right, and use the Mod Wheel to adjust how much feedback is applied to the delay.

Bass Width:



The Bass Width Combinator determines whether the bass Sound is Mono or Widened. You can adjust the low band using rotary 1 and the high band using rotary 3. The cross-over is controlled by rotary 2. Rotary 4 adjusts the Gain of the signal, and button 4 applies a soft clip to the Maximizer. Generally speaking, you'll want to make your bass sound more Mono, so this effect gives you the ability to do just that. This combinator is also different than all the others because there is no "enable" button for this effect. It's always applied to your sound. However, you can neutralize the effect by keeping the first 3 rotaries in the middle position (64) and the fourth rotary fully left (0). Then turn off the Soft Clip on button 4.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the BPS template, apply your control surface template, load your sounds into the sound source, and away you go.
- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. So don't feel that you need to turn on all the effects and sends full blast. Use your judgment. Start off slow and work your sound upward, like a good sculpture.

DRS (Deep ReGlitch System)



The **DRS (Deep ReGlitch System)** is a modular mega glitch system for Reason 4 or Reason+Record 1.0 and above, where you can load your own sound devices within the Sound Source Combinator and then process them through a series of Glitch effect Combinators. Enable or disable each effect along the way by following the arrows and implementing each device. Once a device is enabled, you can shape the parameters of said device using the other Combinator rotaries and buttons. In some cases, an effect is housed inside a single Combinator. In other cases, the effect spans several Combinators.

The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

The DRS Combinator Effects Chain

The DRS includes 14 Combinators that are chained together. Here is an outline of each:

Sound Source:



This is a holding pen for your sounds. Any sound devices you want to process through the entire system will be stored here. For starters, I added a Subtractor and Thor device inside. But you can send any sound using any number of reason devices through the system. As long as they are housed inside this Combinator.

Panorama:



This is a flexible, multiple Panning effect that you can apply to your sound source. To turn any of the Pans on, adjust any of the first three rotaries. Rotary 1 is a master Pan which is applied to the sound signal after it has been processed through all the other combinators. Rotary 2 pans the signal after it goes through the Auto ReBeat effect. And rotary 3 pans the signal after it goes through the Verbrillium effect. Note that in order for you to hear the panning effect on the signal from rotary 2 or 3, you need to enable those associated effects (the Auto ReBeat and/or Verbrillium).

The Mod Wheel allows you to select from 32 different waveforms. These waveforms determine the shape of the panning applied to the sound. Rotary 4 lets you adjust the rate of the Panning. And button 4 synchs the Waveform to the song tempo.

Filter 1:



This is a basic Thor filter system where you can process the sound signal through any of Thor's four filters as soon as it passes from the sound source down the chain. Use the mod wheel to enable any of the four filters. By default, the filter is bypassed.

Note that if you want to keep the filter engaged, you can automate this mod wheel to keep it in a specific position. This way, even if you stop the song from the transport bar (which brings the mod wheel back to zero), the automation will kick in and keep it in the position you select.

The first rotary enables the envelope, while the first button inverts this envelope. The second and third rotaries control the Filter Frequency and Resonance. The last rotary controls the filter's drive parameter. The third and fourth buttons turn on the Delay and Chorus, respectively, while the third button controls whether or not the delay is synced to the song tempo.

Auto ReBeat:



The Auto ReBeat effect spans 5 Combinators and allows you to apply some very complex and glitchy re-beat effects to your sounds. Starting off with the main Combinator at the top, you'll notice that there are 4 rebeat units which can be enabled individually via the four buttons. The first rotary determines the cross-over between the low and high rebeat units (1&2 and 3&4). Rotary 2 and 3 determine the cross-overs between those individual rebeat units (between 1 and 2, and between 3 and 4 respectively). The fourth rotary allows you to determine the width of the Rebeat. Turn the rotary left and the signal becomes more mono. Turn the rotary right and the signal is widened.

The four Combinators below the main Combinator are where each of the four Rebeat devices are stored, so you can set up different parameters for each one individually. They all contain the same parameters for each of the 4 rebeat units. It's very difficult to explain how each one operates due to the erratic nature of the glitch effect. The nature of the sound also depends highly on what kind of sounds you process through the device. Here are the assignments:

Rotary 1 adjusts the number of steps for each of the delay units. Rotary 2 determines the Curve used to apply to the delays. Rotary 3 is a dry/wet knob used to minimize the delay if it gets out of hand. And rotary 4 allows you to adjust the feedback of the delay units. The Mod Wheel determines how fast or slow the delay Rate becomes. Button 1 switches between 1/16 (default) and 1/8T steps (when turned on). Button 2 switches the delay devices between Milliseconds and Synched Tempo Steps. Button 3 synchs the curve rate to the song tempo. And finally, button 4 turns on the feedback sequencer. Basically, this is a matrix curve that controls the delay feedback by using a random pattern (which of course you can change by showing the devices and entering a new curve pattern in the Matrix).

Verbrillium:



This effect spans 4 Combinators and is a perfect Reverb system for those great glitchy sounds. It actually works in combination with a few scream devices and EQs, and then randomizes the whole shebang. Once again, it's a difficult effect system to describe. Your best bet is to just try it out, which you can do by enabling button 4 on the topmost Combinator. Going through the controls on this Combinator, the first rotary determines the scream damage type, and the second rotary determines whether the randomization is high or low (which works hand in hand with the Mod Wheel, which also affects how random the effect is). Rotary 3 and 4 affect the scream's P1 and P2 parameters, while also affecting the Scale Rate and Damage Type rate respectively. The EQ from the Screams can also be cut high or low via the Pitch Bend Wheel. Button 1 and 2 determine what section of the Screams are turned on: EQ Cutting on button 1, and Body section enabled on button 2. Lastly, button 3 synchs up the glitch to the song tempo. This all contributes to a very randomized insanity.

The Verbrillium 2 and 3 Combinators house the Stereo Imagers and EQ systems. So the controls affect these aspects of the sound. You can bypass the EQ randomization via buttons 3 and 4, if you like, so that removes the EQ from having and play on the sound. Rotary 1 determines the cross-over between EQ 1&2 via the Stereo Imager. Rotary 2 and 3 affect the Modulation of the EQs via some Malstrom curves. Rotary 4 affects the rate of those curves. The Mod Wheel adjusts the rate of the Malstrom curves. Button 1 adds a low cut to the EQs, and button 2 syncs the modulation curves to the song tempo.

The Verbrillium 4 Combinator is where the actual Reverbs are stored. Rotary 1 adjusts how much reverb is applied to the signal. Rotary 2 and 3 run through all the various algorithms of the RV7000 devices. By default, the algorithms are randomly cycled. However, you can turn off this behaviour by enabling button 4. Rotary 4 applies a delay to the signal. The feedback of that delay is adjusted by the Mod Wheel. Button 1 increases the modulation amount, meaning that the algorithms are cycled through quicker. Lastly, button 2 changes the pattern sequence used on the included Matrixes, which in turn control a bunch of different parameters on all the Reverb, Delay, and Chorus effect devices. Try it out to see if it gives you the type of randomized sounds you like.

Filter 2:



This is the same as Filter 1 above. The only difference is the position of the filter in the signal chain. In this case, it comes after the main glitch effects (the Auto ReBeat and Verbrillium). See Filter 1 above for a full explanation of how it operates.

CompEQ:

Last but not least we have a basic M Class Compressor and EQ system (with a Maximizer as well). This can be used to give the audio a final tweaking before it goes up to the main mixer. To enable the EQ or Comp, utilize button 1 and 2 respectively. To enable the maximizer, utilize the Mod Wheel.

The four rotaries adjust the parameters of the Compressor and should be fairly self-evident. The third button controls the Low Cut of the EQ; whether it is enabled or not. Finally, button 4 turns on the soft clip from the Maximizer. Note also that the Maximizer is enabled along with the Compression (via button 2). So if the Compressor is not on, the mod wheel and button 4 will have no effect on the Maximizer.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the DRS template, apply your control surface template, load your sounds into the sound source, and away you go.
- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. So don't feel that you need to turn on all the effects and send full blast. Use your judgment. Start off slow and work your sound upward, like a good sculpture.

EEF (EQ – Echo – Filter) System



The **EEF (EQ-Echo-Filter) System** is a modular sound processing system used within Reason 4 or Reason+Record 1.0 and above where you can load your own sound devices within the Sound Source Combinator and then process them through a series of oddball EQ, Echo, and Filter Combinators. Enable or disable each effect along the way by following the arrows and implementing each device. Once a device is enabled, you can shape the parameters of said device using the other Combinator rotaries and buttons. In some cases, an effect is housed inside a single Combinator. In other cases, the effect spans several Combinators.

The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

The EEF Combinator Effects Chain

The EEF includes 14 Combinators that are chained together. Here is an outline of each:

Sound Source:



This is a holding pen for your sounds. Any sound devices you want to process through the entire system will be stored here. For starters, I added a Malstrom and Thor device inside. But you can send any sound using any number of reason devices through the system. As long as they are housed inside this Combinator. There's also a matrix sound sequencer above the Combinator which you can elect to use if you wish. This sequences the Sound Source Combinator. Use it or delete it. It's up to you.

Pandamonium:



This is a flexible, multiple Panning effect that you can apply to your sound source. To turn any of the Pans on, adjust any of the first three rotaries. Rotary 1 is a master Pan which is applied to the sound signal after it has been processed through all the other combinators. Rotary 2 pans the signal after it goes through the Equazy effect. And rotary 3 pans the signal after it goes through the Echorium effect. Note that in order for you to hear the panning effect on the signal from rotary 2 or 3, you need to enable those associated effects (the Equazy and/or Echorium).

The Mod Wheel allows you to select from 32 different waveforms. These waveforms determine the shape of the panning applied to the sound. Rotary 4 lets you adjust the rate of the Panning. And button 4 syncs the Waveform to the song tempo. Buttons 1-3 affect whether or not the waveforms are turned on for their respective Pans.

Filter 1:



This is a basic Thor filter system where you can process the sound signal through any of Thor's four filters as soon as it passes from the sound source down the chain. Use the mod wheel to enable any of the four filters. By default, the filter is bypassed.

Note that if you want to keep the filter engaged, you can automate this mod wheel to keep it in a specific position. This way, even if you stop the song from the transport bar (which brings the mod wheel back to zero), the automation will kick in and keep it in the position you select.

The first rotary enables the envelope, while the first button inverts this envelope. The second and third rotaries control the Filter Frequency and Resonance. The last rotary controls the filter's drive parameter. The third and fourth buttons turn on the Delay and Chorus, respectively, while the third button controls whether or not the delay is synced to the song tempo.

Equazy:



This is the main EQ effect, and basically mangles your sound through various crazy EQ modulations. Starting with the main (topmost) Combinator, turn on Equazy via rotary 4. you can also turn compression on via rotary 1. This can be helpful to tone down the sound and tame it. Use rotary 1 for the main cross-over between AB/CD. Rotary 2 controls the crossover between A/B and rotary 3 controls the crossover between C/D. Rotary 4 controls whether the you make the sound more mono (to the left) or more wide (to the right).

The Combinators below the main one all work the same way and control each of the four EQ devices. There are 2 EQ devices within each Combinator. Enable each one individually using buttons 3 and 4. Rotary 1 adjusts the Stereo Imager frequency crossover between the two. Buttons 2 and 3 control the modulation of the EQs. And rotary 4 adjusts the rate of the EQ modulation. The Mod Wheel and Pitch Bend Wheel adjust the Parameter 1 and 2 Gains on the EQs. Button 1 enables the low cut on both EQs. And finally, the second button syncs up the rate to the song tempo. Fun stuff.

Echorium:



The Echorium spans 2 Combinators. It is an Echo effect which uses 2 RV7000 units set to the Multi-Tap Algorithm and contains several automatic randomizations of different parameters via the included matrixes in the bottom Combinator. You can invoke this effect to work magic on your sounds via button 4 on the top Combinator. In this Combinator, rotary 1 controls the cross-over, and rotary 2 and 3 control the Low and High band width, respectively.

On the bottom Combinator, you can control parameters on the two Reverbs. The four rotaries control the various taps for the delays, and the Pitch Bend and Mod Wheels control the modulation parameters; in turn adjusting the multi-tap delay steps. Use button 1 to increase the wet signal from the Echorium. Use button 2 to sync up the modulations with the song tempo.

LP, State Variable, Comb, and Formant Filter:



These four Combinators let you apply any combination of all four Thor filters to your signal in series, starting with the Low Pass filter at the top, then the State Variable filter, then the Comb filter, and finally down to the Formant filter. Advanced users can of course switch around the sequence of filters by rerouting them on the back of the rack. Enable each of the filters using button 4 on any of the Combinators. Also shared by all filters are the first three rotaries and first button: rotary 1 controls the envelope and button 1 inverts this envelope. Rotary 2 and 3 controls the filter frequency and resonance, respectively (on the formant filter this is the "X" and "Y" parameters).

On the LP and formant filter, the Mod Wheel controls the Drive of the filter. For the Comb filter, the drive parameter is assigned to rotary 4. And the State Variable filter's drive can be adjusted between a low and high state on button 3.

For the LP and State Variable filter, the second button enables self-oscillation for the filter.

Some of the differences between the filter Combinators and their controls are outlined below:

For the LP, Comb, and Formant filters, the third button controls the keyboard tracking. The State Variable filter does not have this option, and the key tracking is on by default.

For the Low Pass filter, rotary 4 adjusts the Ladder Slope (24 Type 1, 24 Type 2, 18, 12, 6)

For the State Variable filter type can be set using rotary 4. This means that you can cycle through the different modes (low pass, band pass, high pass, notch, and peak) using rotary 4. If this rotary is set to notch or peak, then you can use the Mod Wheel to adjust the State Variable Notch (from Low Pass at zero to high pass at 127).

For the Comb filter, the Mod Wheel adjusts the velocity of the filter. And button 2 determines whether the filter is in Comb + (default) or Comb - mode (when the button is turned on).

Lastly, the Formant filter's Gender is controlled by rotary 4, and filter velocity is controlled by button 2 and can be set to low (by default) or high (when the button is turned on).

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the EEF template, apply your control surface template, load your sounds into the sound source, and away you go.
- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. So don't feel that you need to turn on all the effects and sends full blast. Use your judgment. Start off slow and work your sound upward, like a good sculpture.

EMG (Evolving Mood Generator) System



The **EMG (Evolving Mood Generator)** is a modular audio processing system used within Reason 4 or Reason+Record 1.0 and above where you can load your own sounds devices within the Sound Source Combinator and then process them through a series of slowly evolving mood send effects and generators. This system is slightly different than the other systems in that most of the effects are "ON" by default and do not need to be enabled. This is so that you can experiment and adjust parameters without worrying about turning things on or off. The nature of the Evolving Mood Generator is to keep things moving. This is somewhat contrary to a system in which you can enable or disable effects. I wanted to keep things flowing with this type of system. Hopefully I've done that. Use the various rotaries and buttons on the Combinators to shape the sound.

The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

The EMG Combinator Effects Chain

The EMG includes 8 Combinators that are chained together. All these effects serve to provide you with a continually evolving and changing mood generator which works great on your pad sounds, though don't let this limit you. You can certainly apply it to your strings, horns or even drums if you like. Experimentation is key! So try it out.

Here is an outline of each Combinator in the chain:

Flange Send:



As the name suggests, this is a flanging effect that you can use as a send to process any of the pad sounds on the main mixer. Keep rotary 1 centered for the best effect. Do you really want to change the position of this rotary? Well nothing will blow up, but...

Rotary 2 adjusts the flange delay and rotary 3 adjusts the pan rate. Rotary 4 lets you select the appropriate curve to apply to the panning. Button 4 turns on the Automatic Pan effect, and button 3 determines whether the autopan is tied to the song tempo or not.

Buttons 1 and 2 are tied to the Unison devices. The first button determines if the detuning is set to about 40 (slightly detuned - this is the default), or set to full detune (when the button is pressed). Button 2 determines whether the Unison devices are detuned using 16 (default) or 8 (when the button is lit) voices.

Echorium Send:

The Echorium is an Echo Reverb device which uses an RV7000 set to the Echo algorithm. Rotary 1 determines the Echo Time, while button 1 determines whether the Echo is synced to the song tempo or not. Rotary 2 is linked to a set of 32 curves from the Malstrom which is used to control Rotary 1. This creates a randomized Echo Time applied to your sound signal. In order to utilize these curves, they must first be turned on using button 2.

Button 3 adjusts both the Echo Time and Decay Rate at once. And rotary 4 determines the length of the echo decay. Button 4 can be used to apply an automatic sequencing of the Echo's decay. And button 3 is used simply to turn on the EQ parameter of the Reverb.

The Pitch Bend Wheel is used to adjust the Hi EQ parameter, and the Mod Wheel adjusts the amount of pre-delay from the Echo algorithm.

EQWarp Send:

The EQWarp is an effect that modulates the EQ of your sound in weird and wonderful ways. Use rotary 1 to modulate the frequencies in the EQs, and rotary 2 to modulate the gain of those frequencies. Rotary 3 adjusts the cross-over between the two frequencies using a Stereo Imager. And rotary 4 adjusts the EQ rate, or how fast the frequencies shift around. Button 3 switches between 2 different sets of curves or waveforms. And button 4 synchs the rate with the song tempo.

Verbray Send:

This is a Reverb/Delay effects unit, which lets you mangle the Reverb and Delay of your pad sounds. The reverbs are static and all the controls affect the various delays. The four rotaries affect all the delays which are coming at your mix from different vantage points: rotary 1 adjusts the Left-Front delay, rotary 2 adjusts the Right-Front delay, rotary 3 adjusts the Left-Back delay, and rotary 4 adjusts the Right-Back delay. These rotaries adjust the delay time for each delay in the various corners of your mix. Adjust the amount of delay that is sent globally using the Mod Wheel.

You can also determine which section (front or back) gets turned on or bypassed using the first 2 buttons on the Combinator. Button 3 controls whether the delay is in milliseconds (when the button is enabled) or Steps that are synced to your song tempo (the default). Finally, you can set the delays to 1/16 steps (default) or 1/8T steps (when button 4 is lit).

Sound Source:



This is a holding pen for your sounds. Any sound devices you want to process through the entire system will be stored here. For starters, I added a group of 8 Malstrom pads inside. But you can send any 8 sounds or sound devices through the system. As long as they are housed inside this Combinator and as long as you end up with 8 different sounds sent to 8 different channels on the main mixer. The first 4 pads can be cross-faded with the second set of 4 pads using the Combinator rotaries 1 and 2. You can keep this type of setup if you wish, and simply replace the Malstroms with your own patches or different devices (Dr. Rex, Thor, Subtractor, etc). Or you can delete this type of setup altogether and start from scratch, adding your own sounds into the sound source Combinator. How you use it is up to you.

Button 3 turns on the auto-sequencing option, which will automatically sequence through the various Malstroms and cross-fades based on an included Matrix device. Once on, you can use rotary 3 to adjust the rate at which the Malstroms are randomly cycled. You can also individually cycle through pads 1-4 (using button 1) or pads 5-8 (using button 2).

1-4 and 5-8 Sequencer Control Combinators:



This is where the real nuts and bolts of the system are found. The send effects are great for some really awesome "per-pad" effects. But the sequencer Combinators adjust the various patterns that play the sounds, and have a huge effect on how they drift over time. There are 2 different Combinators involved with the sequencing. The first affects pads 1-4, and the second affects pads 5-8. They both have the same parameter adjustments routed to the knobs and buttons though. So I'll explain it once here:

Rotary 1 selects between 32 different Matrix patterns and probably has the most effect on how the sound comes out. You can, of course, go into the Matrix device and change the patterns around to your own if you like. In a future update, I might increase this to 64 different patterns, but that's for version 2.

Rotary 2 is a curve selector which is ultimately applied to rotary 1. You can use this curve to determine how the patterns in the matrix are switched and cycled around. Rotary 4 determines how much randomization you want applied to your sounds. Essentially this is probably the second-most important knob in this Combinator, since this controls how random the cycling of patterns becomes. And not to be outdone, rotary 3 is also pretty important by setting up how fast the cycling becomes. It adjusts the pattern cycling rate.

As for the buttons, there is only one: Sync Rate on button 3. Use this to sync the rate to the song tempo.

Pandorum:



This is a fully flexible Panning system which affects how the sounds are treated. The panning system is actually connected to the main mixer and rotaries 1 and 2 affect adjust which curves are sent to the various channels. Select the curves using these two rotaries. Then adjust the rate of the curves using rotary 3, and adjust the amount of panning applied using rotary 4.

If you wish, you can automate everything by enabling button 4. This turns on the auto-pan-sequencing. You can also sync the pan tempo to the song tempo via button 1, and increase the pace (or rate) of the sequencer using button 2.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the EMG template, apply your control surface template, load your sounds into the sound source, and away you go.
- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. So don't feel that you need to turn on all the effects and sends full blast. Use your judgment. Start off slow and work your sound upward, like a good sculpture.

EPG (Evolving Pad Generator) System



The **EPG (Evolving Pad Generator)** is a modular audio processing system used within Reason 4 or Reason+Record 1.0 and above where you can load your own sound devices within the Sound Source Combinator, and then process them through a series of slowly evolving pad effects. Enable or disable any effect by following the visual arrow design. Once enabled, you can shape the effect parameters using the other Rotaries and Buttons.

The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

The EPG Combinator Effects Chain

The EPG includes 9 Combinators that are chained together. All these effects serve to provide you with a continually evolving and changing pad generator, but don't let this limit you. You can certainly apply it to your strings, horns or even drums if you like. Experimentation is key! So try it out.

Here is an outline of each Combinator in the chain:

Sound Source:



There are 2 versions of the EPG system, both designed to showcase how it can be used on a simple sound (using a single Subtractor) or on a complex layered sound (using a few different devices to construct a mixed sound). You'll find both in the EPG folder. But don't be shy. Jump in and add your own sound devices and construct your own dream pad.

The Sound Source Combinator can be thought of as a holding pen for your sounds. Any sound devices you want to process through the entire system will be stored here. You can put anything you like inside the Sound Source Combinator. As long as they are housed inside this Combinator, you can use any Reason device to construct your pad sound (Dr. Rex, Thor, Subtractor, etc).

The rotaries and buttons on this sound source are specific to my layered synth or single Sub. So the buttons, rotaries, and performance controllers can vary based on the type of sounds you use. Therefore, I'm not going to go into all the settings found on this Combinator, as it can be anything your imagination can come up with in Reason.

Filter 1:



This is a basic Thor filter system where you can process the sound signal through any of Thor's four filters as soon as it passes from the sound source down the chain. Use the mod wheel to enable any of the four filters. By default, the filter is bypassed.

Note that if you want to keep the filter engaged, you can automate this mod wheel to keep it in a specific position. This way, even if you stop the song from the transport bar (which brings the mod wheel back to zero), the automation will kick in and keep it in the position you select.

The first rotary enables the envelope, while the first button inverts this envelope. The second and third rotaries control the Filter Frequency and Resonance. The last rotary controls the filter's drive parameter. The third and fourth buttons turn on the Delay and Chorus, respectively, while the third button controls whether or not the delay is synced to the song tempo.

Drift Delays:



The Drift Delays are a set of delays that are applied to two areas of your mix: front and back. You can enable this effect unit by pressing button 4. Then use rotary 2 and 3 to control the delay levels for both the front and back set of delays, respectively. Rotary 1 handles the crossover frequency between the front and back delays. Button 1 determines whether you have a slight "half delay" applied (by default) or a full-on delay assault (when this button is enabled). Button 2 sets the delays from 1/16 steps (the default) to 1/8T steps (when the button is lit).

Rotary 4 determines the strength of the reverb applied to the sound. At zero, there is no reverb applied, and at 127 you have a fairly thick amount of reverb applied to the signal. Use button 3 to switch from a Room algorithm (the default) to a Hall algorithm (when this button is turned on).

Randomizer:



The Randomizer is one of those effects at the heart of the whole EPG system. It simply randomizes the sound source audio via CV cables and some Malstrom curve trickery. Enable the randomizer by pressing button 1. Note that if you don't have the randomizer turned on, you will need to trigger the sound by targeting the Sound Source Combinator with your Keyboard controller and playing notes on the sequencer. If you enable the Randomizer, then this Combinator will trigger the sounds in your Sound Source Combinator.

Once enabled, use Rotary 1 and 2 to adjust the A & B curves of the Malstrom. Use rotaries 3 and 4 to affect the rates of each of those curves. Buttons 3 and 4 are assigned to sync the curves to the song tempo. This way, you can affect the curves individually and independent of each other.

Enveloper:



The Enveloper effect unit is used to apply an envelope gate to the filter the frequency of the sound. You can enable it by pressing button 4. Then use rotary 4 to adjust the Filter Frequency, and the Mod Wheel to adjust the Filter Resonance. The heart of the whole effect is rotary 1, which allows you to select different patterns as the envelope gate. If you don't like the patterns provided, no worries. Simply open up the devices, and add your own patterns into the ECF Gate Matrix, and you're on your way. Button 1 controls the modulation of the Filter's decay. By default this is turned off. When the button is enabled, the filter decay is modulated using a Matrix curve.

There is also some Reverb and Delay that are applied to the sound. Button 2 turns on the Delay modulation, where the feedback and pan are modulated. And button 3 turns on the Reverb modulation, where the Reverb's decay and gate triggering are modulated. You can select the delay pattern used to modulate these parameters via rotary 2, and the reverb modulation patterns via rotary 3. Of course, as with the envelope patterns, you can open up the devices, and enter your own patterns into the provided Matrixes.

Pad FX:



This is an all-purpose effect unit that can be applied to your sound. It uses some delays, phasers, and a Stereo Imager to work its magic. Give it a try and press button 4 to enable it and see if you like it.

The first 2 rotaries apply to the Stereo Imager. Starting with rotary 2 first, this is an inverted Stereo Imager. The low sounds are mono, while the high sounds are wider (if the rotary is turned left). When the rotary is turned right, the reverse happens. The low sounds are widened and the high sounds are sent more mono. Then rotary 1 can be used to crossover the frequencies. Rotary 3 controls the overall mix of the Stereo Imager applied to the signal.

Rotary 4 controls how much reverb is applied to the signal. The reverb here is a room algorithm. Button 1 turns on the delay units. And button 2 turns on the Phasers. While button 3 syncs the Phasers to the song tempo if you like.

Flange Warper:



As the name suggests, this is a flanging effect that you can use as a send to process any of the pad sounds on the main mixer. Keep rotary 1 centered for the best effect. Do you really want to change the position of this rotary? Well nothing will blow up, but...

The flanger system is enabled by pressing button 1. Then use rotary 2 to adjust the flange delay and rotary 3 to adjust the pan rate. Rotary 4 lets you select the appropriate curve to apply to the panning. Button 4 turns on the Automatic Pan effect, and button 3 determines whether the autopan is tied to the song tempo or not.

Button 2 is tied to the Unison devices. It determines whether the Unison devices are detuned using 16 voices (default) or 8 voices (when the button is lit).

Filter 2:



This effect is the same as Filter 1 described above, however, the difference is that it is applied to your sound after the Flanger effect in the signal chain.

Mastering:

This adds some default mastering to your sound. Turn on the Mastering suite via button 4. Then turn on individual sections using the other 3 buttons. Button 1 enables the Stereo Imager. Button 2 enables an EQ boost. And button 3 turns on the Compression.

Rotary 1 adjusts the loudness curve of your signal. Rotary 2 adjusts the EQ boost frequency from low to high. Rotary 3 adjusts the Compression threshold and ratio. Lastly, rotary 4 controls the Master Gain from the included Maximizer.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the EPG template, apply your control surface template, load your sounds into the sound source, and away you go.
- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. So don't feel that you need to turn on all the effects and sends full blast. Use your judgment. Start off slow and work your sound upward, like a good sculpture.

FM6 (Monophonic 6-Operator FM Synthesis Playground)



The **FM6 (Monophonic 6-Operator FM Synthesis Playground)** is a modular audio synthesis instrument used within Reason 4 or Reason+Record 1.0 and above, where you can play with 32 different Monophonic FM algorithms which span 3 different .rns files. The first .rns file holds algorithms 1-10. The second .rns file holds algorithms 11-20. And the third .rns file holds algorithms 21-32.

This system is a little different than the others. The idea is not to add your own sound sources into the system, but rather to play with the existing parameters to get some interesting FM sounds out of the system. With some experimentation, you can use this as a lead synth in your tracks, or try getting a few quirky one-off sounds that you can bounce down and utilize in Recycle or in your other Reason / Record projects.

The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Note that in order for the synth to function properly, you must have the same note data on all six operator Combinators in the sequencer. There's nothing saying you can't put different note data here, however, that's not the intended usage. There is a simple note clip that contains a basic C3 note played out a few times so you can hear the sounds and see how the proper setup works.

Note also that apart from 3 .rns files spanning the full range of 32 different 6-Operator algorithms, there is also an FM4 .rns file, which is a 4-Operator, 8-Algorithm system. This system was explained and showcased in my [FM Synthesis](#) article and was available for free download there.

The FM6 Combinator Chain

The FM6 includes 7 Combinators that are chained together. The topmost Combinator is the main FM sequencer, while the other Combinators below are all single-oscillator FM Operators. Here is an outline of how the Combinators work:

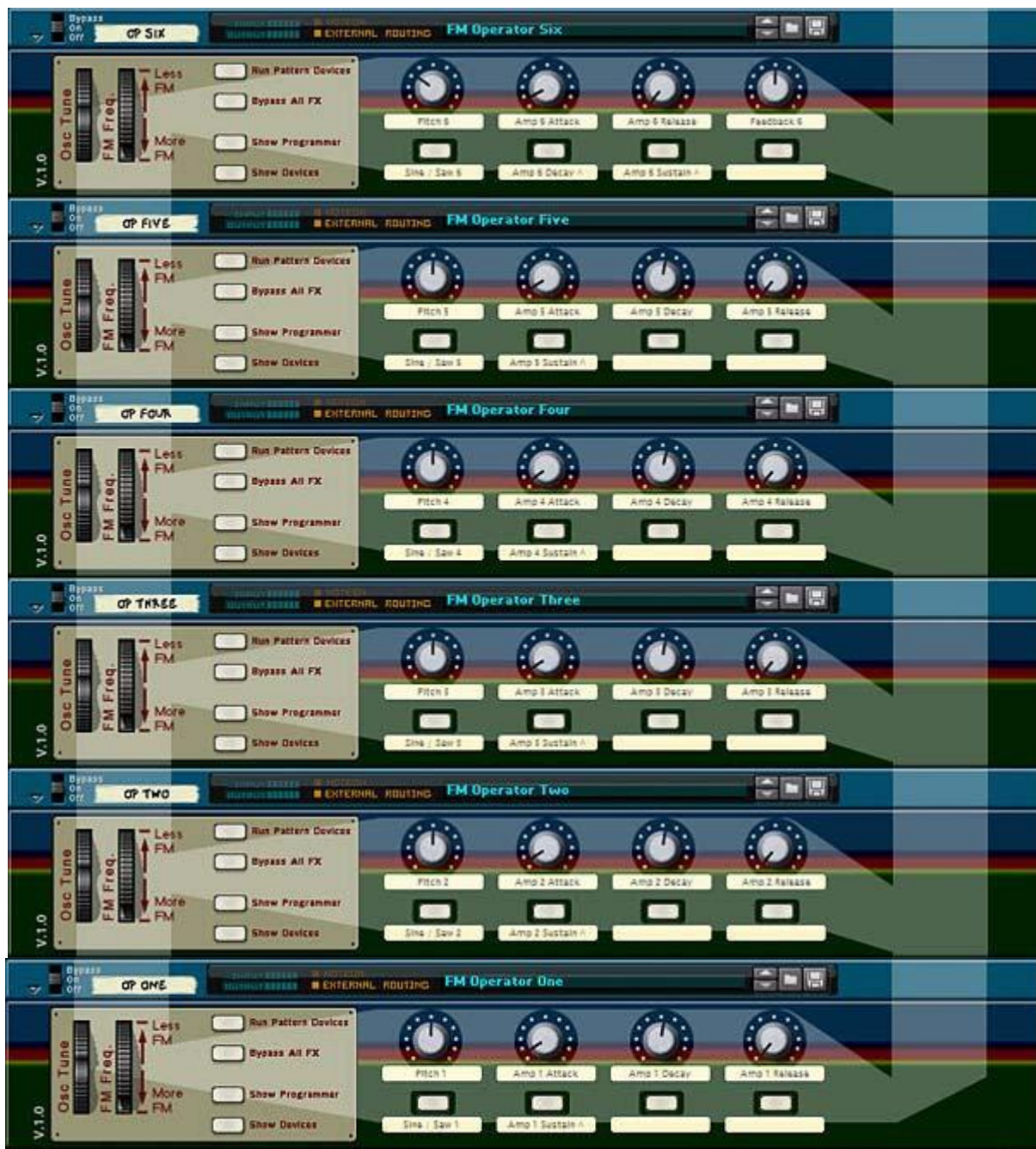
FM Sequencer:



To get started with this system, you'll have to press play and visually tune your eyes to the Mixer at the top while you switch around the "FM Sequencer's" first Rotary. This will switch between the 10 different algorithms dynamically (aka: instantly!). I've added a simple C3 note played out a few times in a loop to give you an idea of how the process works.

There is also a Compressor and Maximizer/Limiter which is adjustable from the various knobs and buttons. I found when experimenting with different FM settings using this system, often times levels got quite hot and far too loud. This should help to tame the levels. If needed, you can enable the Compressor and/or the Limiter via buttons 2 and 4, respectively. The other parameters should be self-evident.

Operators Six - One:



Each of the six Combinators below the FM Sequencer are tied to an individual Operator, and each Combinator has 10 Thors within, all doing the same thing at the same time. All four Combinator/Operators work essentially the same way. The parameters affect 2 main areas: Pitch and Amp Envelope. The first Rotary affects the overall Pitch of the Operator, and the Pitch Wheel affects the fine tuning of the Oscillator. Button 1 affects the wave form used (sine or saw). The rest of the Rotaries (and button 2) affect the Amp Envelope. Finally, the Mod Wheel affects the amount of FM applied to the current Operator by the previous Operator. This functions the same as I've explained before, whereby moving the mod wheel upward reduces the FM amount.

A notable exception is Operator six at the top. Where this operator differs is in the fact that it can be fed back into itself (self-oscillation or feedback). I have tied Rotary 4 from this Combinator to adjust the feedback amount, so even self-oscillation is fully controllable. This also means that the Amp Envelope Decay parameter had to take a back seat and I therefore applied the Decay to a button so you at least have the option of two different decay states.

Note that while you don't HAVE TO have the same note/clip data on all the Combinator tracks in the sequencer, this is the proper way to use the system and this is the only way to fire off all the Operators at the same time (short of programming a matrix to control all the operators at once). But again, nothing is stopping you from experimenting with only firing one or two Operators. If you do this, however, you may not get very good results. Just warning you about this.

With this system, you have complete control over all Operators' pitch and amp envelope parameters. You can set up each operator individually or even automate any parameter, all from the front of the rack. So enter at your own risk. It can turn into many hours of fun.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation! Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the FM6 template, apply your control surface template, load your sounds into the sound source, and away you go.
- FM synthesis can be very erratic and unpredictable. This is just the nature of the beast. So I find it a good idea to keep recording as you play around with parameters. When you hit on something you like, you won't waste time trying to reproduce it. Instead, you'll already have it recorded.

RAM (Random Audio Madness) System



The **RAM (Random Audio Madness)** system is a modular audio processing system used within Reason 4 or Reason+Record 1.0 and above where you can load your own sound devices within the Sound Source Combinator, and then process them through a series of effects that resemble insanity in a can. Enable or disable any effect by following the visual arrow design. Once enabled, you can shape the effect parameters using the other rotaries and buttons.

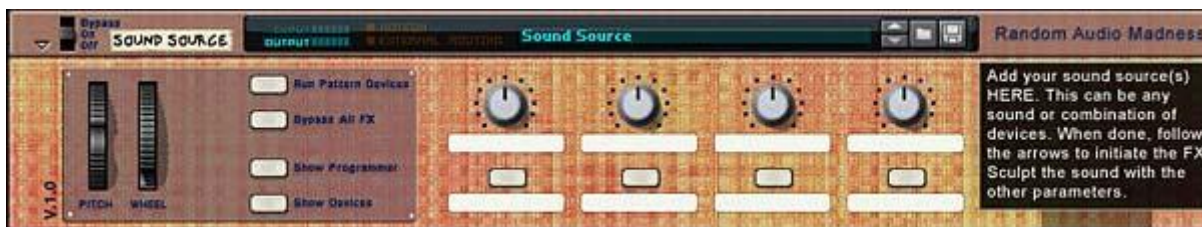
The system is fully flexible. You can use it to develop your sounds over time by automating any parameter in the sequencer. Each Combinator has its own track ready to go for you. Develop short loops that you bounce down to audio, or integrate this system inside your own project as a fully functional instrument. Subgroup it within Record so it goes to its own channel. Or develop a complete song with it. How you use it is only limited by your imagination.

Most of the single-combinator effects that you find inside each of these systems are also available as Combinator patches in the "Combinator > FX" folder (inside the refill). This way, a more advanced user can swap out effects and create their own systems suited to their own purposes. The idea is to provide a fully modular system that can be updated easily.

The RAM Combinator Effects Chain

The RAM includes 10 Combinators that are chained together. Here is an outline of each Combinator in the chain:

Sound Source:



The Sound Source Combinator can be thought of as a holding pen for your sounds. Any sound devices you want to process through the entire system will be stored here. You can put anything you like inside the Sound Source Combinator. As long as they are housed inside this Combinator, you can use any Reason device to construct your sound (Dr. Rex, Thor, Subtractor, etc) and this can be any sound you like: a drum, bell, whistle, pad, short chops, long bits and pieces. Whatever you like.

Auto-Sequencer:



The Auto-Sequencer does 2 things: It sequences the notes and it sequences the panning from left to right. Enable the Auto-Sequencer by pressing button 4. Then you can turn on the Auto-Sequencer via button 1. This sequences the notes/gate/velocity for your sound. Select from one of 32 different random patterns via Rotary 1. If you want to change the patterns, it's easy enough to open up the Combinator and assigning your own patterns in the Matrix.

Enable the auto-panning by pressing button 2. Then use rotary 2 to adjust the auto-panning rate and button 3 to sync the panning to the song tempo.

Auto-Envy:



The Auto-Envy is an Envelope generator, Filter, Delay and Reverb device which spans two Combinators. Starting with the Top Combinator, you can enable the entire effect by pressing button 4. Once this is done, you can selectively turn on or off the envelope decay randomization (button 1), Delay Panning/Feedback randomization (button 2), and Reverb Decay/Gate randomization (button 3). Then use rotaries 1-3 to select between a set of 32 random patterns to control that randomization for each respective device unit. Of course, you can change any of these random patterns by opening up the Combinator and entering your own patterns into the provided Matrixes. Finally, Rotary 4 controls the rate for all the randomization globally.

On the bottom Combinator, you can use rotary 1 to adjust the Filter Frequency, and rotary 2 to adjust the Filter Resonance. Rotary 3 adjusts the Filter Envelope amount and rotary 4 adjusts the Filter Velocity. Button 1 switches the Filter between a Low Pass (default) and Band pass filter (when the button is lit). Button 2 provides a slower attack on the filter envelope. Button 4 raises the sustain of the filter envelope. And button 4 provides a slower filter envelope release.

Filter FX 1:



This is an advanced 12-way Filter FX unit that delivers a powerhouse of features when filtering your sound through it. The basic gist of it was completely outlined in my [12-Way Filter FX patch tutorial](#). I would strongly recommend reading that to gain a full understanding of what this beast can do. I'll try to summarize here:

There are three main devices that can be used as filters: Thor (4 filters), ECF-42 (1 Filter with 3 Modes), and the Malstrom (2 Filters: A&B which work globally, and these with 5 variable modes). So 4 Thor Filters + 3 ECF Filter Modes + 5 Malstrom Filter Modes = 12-way adjustable Filter FX. Here are the parameter settings for each of the 3 different devices:

For the **Thor Filter**, rotary 1 cycles through all of Thor's 4 filters: Low Pass Ladder, State Variable (on High Pass mode), Comb Filter (+ mode), and Formant Filter. Rotary 2: Adjusts the full range of the Filter Frequency. Rotary 3: Adjusts the full range of the Filter Resonance. Rotary 4: Adjusts Thor's Shaper thingy Amount (termed the drive in Thor). Button 1: When pressed, the Thor filter becomes active. When not lit, Audio routed to Thor is muted. Button 4: When pressed, Thor's Shaper is enabled. The Mod Wheel acts as a Shaper selection for the different Thor Shaper waves. When recording using this combinator, I would highly suggest just setting this and forgetting it — in other words, program the automation for the mod wheel in the Reason/Record sequencer, but don't automate any changes with the Mod wheel. When you adjust the shaper modes using the mod wheel in this way, you'll hear an audible click which is nasty and you won't want it saved along with your recording. So set up a shaper wave and then forget about it.

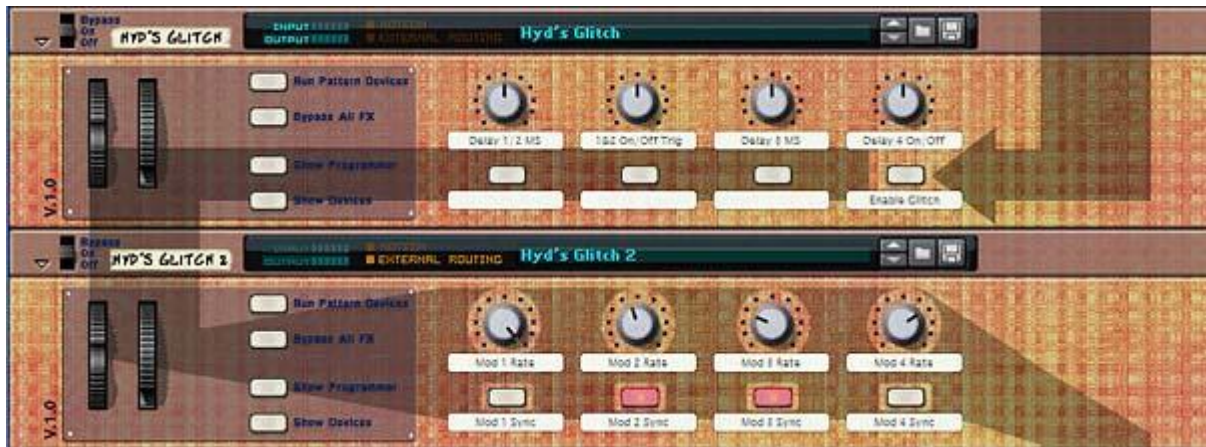
For the **ECF-42 (Envelope Controlled Filter)**, rotary 1 Cycles through the 3 ECF Filter modes: BP-12, LP-12, and LP-24. Rotary 2 adjusts the full range of the Filter Frequency. Rotary 3: Adjusts the full range of the Filter Resonance. Rotary 4 adjusts the Filter Envelope Amount. Button 2: When pressed, the ECF-42 filter becomes active. When not lit, Audio routed to the ECF-42 is muted. Button 4: Activates the Envelope when lit. The Envelope is off by default. Actually, what's happening is the Matrix inside the Combinator is used as a gate CV to control the Filter frequency of the envelope. Since it is routed through the CV in/out of one of the Thor devices, this button acts as a trim knob control for the free-running Gate CV from the Matrix into the ECF CV Gate in. This makes things instantaneous when switching the Envelope button on / off. The Mod Wheel acts as the Velocity setting for the Envelope amount in the ECF Filter. Of course, it won't do anything unless you have the Envelope enabled (button 4).

For the **Malstrom's separate A/B Filter** processor, rotary 1 cycles through the Malstrom's A/B Filter modes: LP-12, BP-12, Comb+, Comb-, AM. Rotary 2: Adjusts the full range of the Filter Frequency. Rotary 3: Adjusts the full range of the Filter Resonance. Rotary 4: Rotary 4: Adjusts the Malstrom's Shaper Amount. Button 3: When pressed, the Malstrom filter becomes active. When not lit, Audio routed to the Malstrom is muted. Button 4: When pressed, Malstrom's Shaper Thingy is enabled. The Mod Wheel acts as a Shaper selection for the different Malstrom Shaper waves. When recording using this combinator, I would highly suggest just setting this and forgetting it — in other words, program the automation for the mod wheel in the Reason/Record sequencer, but don't automate any changes with the Mod wheel. When you adjust the shaper modes using the mod wheel in this way, you'll hear an audible click which is nasty and you won't want it saved along with your recording. So set up a shaper wave and then forget about it.

Some other notes about the Filter FX Combinator:

- There is no "bypass" option for the filters. In other words, if you turn off buttons 1, 2, and 3, then you won't hear any audio coming out of the combinator (even though audio is going INTO the combinator). So, to get around this, bypass the Combinator. This way, you will still hear audio going through the Combinator.
- If you press play or record while the Thor filter is enabled (Button 1 is lit), Thor will not sound. You need to actually engage this button after playing or recording is initiated. Not sure if there is a workaround for this, but let me know if there is and I can update the patch.
- Since each Filter has its own dedicated Line Mixer associated with it, and the first three buttons simply turn the master level on or off (0 at a minimum and 100 at maximum for the respective buttons), then having more than one filter on simultaneously will effectively duplicate the audio and combine the filtered audio together. This wasn't really intended when I put this Combinator together. Usually, I would think you would want one of the filters on at any given time, and not have them both on in unison. But I'm not stopping you from using it in this way. You might get some interesting effects by enabling both the Thor and the Malstrom Filter, and then using the Shaper for both at the same time.

Hyd's Glitch:



A huge debt of thanks goes to Hydlide at [The Sound of Reason](http://TheSoundofReason.com), for his help coming up with this system. I modeled it (as well as the Cruncher below) on his own Auto ReBeat system (which he modeled when listening to the Orb's "Ok, It's the Orb on Kompact" CD when I asked him how to come up with some of their traditional sounds). It's funny how we all feed off each others' ideas. And this is my way of saying thanks to him for coming up with it in the first place. This is not his actual design. It's his design modified and tweaked to come up with my version of a Glitch box.

This effect device spans 2 Combinators. Rather than me getting into how it all works, I think it's best if you just give it a go and have a try. You can enable the device by pressing button 4 on the first Combinator. And both combinator are based on a series of delay units which you can tweak, tug and pull using all the other rotaries and buttons. Have fun with it! Honestly, even I'm not sure of all the inner workings of this one. It just sounds very glitchy and very freaky. Therefore, I like it.

Cruncher:



This effect uses 4 Scream units to crunch and distort your sound. Enable the effect by pressing button 4. Then use rotary 1 to select between all 9 Scream algorithms for Scream units 1 and 2. Use rotary 2 to select which Scream units are enabled or disabled, thereby providing a different triggering effect. Use rotary 3 to select between all the damage algorithms of the third Scream unit. And use rotary 4 to select whether the fourth Scream unit is turned on or off.

It's ultimately impossible to predict the sound you will get from this effect unit, because ultimately this is used to produce a distorted random glitchy effect. So it's best to try it out with your own sounds and see what you can get out of it.

Filter FX 2:



This is the exact same as the Filter FX 1 Combinator (explained above). The only difference is that this filter falls into the signal chain after the Glitch and Cruncher effects. This way you can have a filter after the Auto Envy effect (Filter FX 1) and a filter after the effects (Filter FX 2 here). Refer to Filter FX 1 above for a full explanation of how this filter operates.

Comp-EQ:

Last but not least we have a basic M Class Compressor and EQ system (with a Maximizer as well). This can be used to give the audio a final tweaking before it goes up to the main mixer. To enable the EQ or Comp, utilize button 1 and 2 respectively. To enable the maximizer, utilize the Mod Wheel. This is your gain adjustment.

The four rotaries adjust the parameters of the Compressor and should be fairly self-evident. The third button controls the Low Cut of the EQ; whether it is enabled or not. Finally, button 4 turns on the soft clip from the Maximizer. Note also that the Maximizer is enabled along with the Compression (via button 2). So if the Compressor is not on, the mod wheel and button 4 will have no effect on the Maximizer.

Tips and Tricks

- Well, the first thing I would say is to just play around with the various parameters and see how your sounds are affected. This can take some time and experimentation, but in the end the results can be well worth it. I hope you have as much fun with it as I have. So have at it!
- Utilize your automation, especially on the mod wheels. Automating your parameters on the sequencer is key to getting the most out of these systems. It really helps you modulate your sound over time and creates some really great textures and levels of depth.
- Tie the Combi parameters to your Keyboard Control Surface or multiple surfaces so that you can adjust parameters in a tactile way. Most controllers allow you to create templates that you can then use for just such a situation. That way, you save the template, load up a new version of the RAM template, apply your control surface template, load your sounds into the sound source, and away you go.
- When I developed this system, I didn't think of it in terms of turning on and enabling all effects. I thought of it more as an all-in-one effects processor for your sound. So don't feel that you need to turn on all the effects and sends full blast. Use your judgment. Start off slow and work your sound upward, like a good sculpture.