Re-Tron™

Operation manual

Rack Extension

GFORCE SOFTWARE

TABLE OF CONTENTS

Welcome to the GForce Re-Tron. This Rack Extension for Propellerhead's Reason is based on our M-Tron Pro, itself inspired by the legendary Mellotron® tape replay keyboard.

The chances are you'll need no introduction to the sounds of the Mellotron because this iconic instrument brought the world such delights as the flutes on *Strawberry Fields Forever*, the choirs on *Nights In White Satin*, the brass on *Cirkus*, the violins on... well, on countless tracks throughout the 1960s and 1970s via artists including The Beatles, The Rolling Stones, The Moody Blues, Genesis, Yes, Barclay James Harvest, Gentle Giant, David Bowie, King Crimson and many, many more.

In its 40+ year reign it has unquestionably helped shape the face of music and for a moment in the 1970s you weren't considered a proper prog rock band unless you owned one.

What made this instrument so special was that its sounds were real recordings of real players re-played via the medium of magnetic tape – long before the advent of samplers.

Under each note was a piece of tape containing a recording of an instrument. When a note was pressed a motor pulled this tape across a tape-head for up to 8 seconds and duly replayed the recording. After 8 seconds the tape would reach its end, whereupon the note would have to be released and the tape rewound ready to play again.

It was a simple yet highly effective idea and because this was magnetic tape, in theory the sound of any instrument could be replayed.

Legendary Mellotron sounds consist of flutes, brass, woodwind, violins, cellos, vibes, choirs and orchestras, but the library also encompassed full blown rhythmic motifs played in a variety of styles from jazz to foxtrots, as well as recordings of sound effects and even monophonic synthesizers which could then be replayed polyphonically, at a time when polyphonic synths were but a dream.

The 8 second note duration, although a limitation, forced the musician to develop a particular style when playing chords, which was often described as a spider crawling up the keyboard. However, this limitation allowed the music to breathe and remains a vital part of the Mellotron character. If anyone ever tells you a looped Mellotron sound is acceptable, question their sanity until they acknowledge the error of their ways.

Because the Mellotron was mechanical and tape-based there were inherent problems. Despite a succession of models, each attempting to improve on the portability and reliability issues of the previous, many of the problems were never cured. The 35-note M400 model, on which the Re-Tron is loosely based, probably remains the most robust but even with this Rick Wakeman tells a story whereby his frustration boiled over to the point where he deliberately set his alight at the end of a tour.

They were expensive too. A standard M400 came with 3 sounds that played across 35 notes and cost around £800 in 1971 (about £9500 at 2012 prices) and with the advent of string machines and polyphonic synthesis in the mid to late 70s, sales declined to the point where the original manufacturer Streetly Electronics was forced into liquidation.

However, while the 'Tron's sounds temporarily vanished from the mainstream, after a brief period of digital sterility ruling the world via DX7s and M1s, a resurgence in the love of that sound started thanks to three main factors:

1) Records such as Radiohead's *OK Computer* & Oasis' *(What's The Story) Morning Glory.*

2) The renovation and repair work to original Mellotrons carried out by original Streetly Electronics' experts, John Bradley and Martin Smith which made sure that those sounds were always available to original instrument owners.

3) The introduction of the world's first 'Tron plug-in instrument, M-Tron.

Proof if ever it were needed that you can never keep a good sound down was evident when the M-Tron went on to become one of the world's biggest selling plug-in instruments, while its successor, M-Tron Pro, continues the tradition of marrying a vast library of Mellotron sounds (sourced over a ten year period) with a highly intuitive workflow and comprehensive feature set.

The recently released Streetly Tapes - Vol 1 - for M-Tron Pro marked the instrument's true coming of age as this was the first time the original EMI tapes had been made available for a plug-in instrument.

Likewise, Re-Tron is something truly special. Based entirely on the sublime Streetly library, and including many previously unreleased tape banks, Re-Tron sets a new standard for a 'Tron instrument in the virtual world.

All of the sounds included with Re-Tron were recorded via the original EMI tapes and through a specially prepared Skelletron - an exoskeletal M400 that allows easy alignment and azimuth adjustments to each of the 35 tape-heads – to give you the very best 'Tron sounds available.

When we released the original M-Tron, what made us really smile was a new generation of music makers utilizing these magic sounds in a fresh and exciting way. It's our hope that within Reason, Re-Tron will inspire you to do likewise – 35 notes and 8 seconds at a time.

CELLO

One of the saddest sounds in the Mellotronic canon. Cellist, Reg Kirby refused to detune his cello for the bottom 5 notes so a double bass was used giving a knee jerk change of timbre.

CHOIR

The definitive 8 Choir recording. An absolute Mellotron classic with four males and four females battling it out at IBC studios. Used extensively by Genesis, The Strawbs and many more.

CHURCH ORGAN

The monstrous sound of St.John's Wood church organ in London. Heaving and bellowing with a feeling of controlled dissonance. Magnificent.

CLARINET

This early recording originally made for the MKI in 1963 is fragile and melancholic. It adds instant atmosphere in a gentle lo-fi way.

COMBINED CHOIR

This is a powerful mix of the Male, Female and Boys' Choirs in a huge sonic battle with ambulances and stretchers on standby. The winners are you, the listener!

ELECTRIC GUITAR

A Duane Eddy style twangy guitar with a solid bottom end. Think very early sixties basement clubs thick with the air of smoke and pubescent teenagers. Get hip daddio!

FEMALE CHOIR

Four ladies of a certain age singing in unison… almost. A classic M400 sound and one half of the fabled 8 Choir. There were four males next door doing the same but there were no compromising liaisons.

FLUTE

Strawberry Fields Forever… forever. There is nothing more to be said!

FRENCH HORN

One of the earliest Mellotron recordings from the original MKI master. Warm and atmospheric.

GC3 BRASS

This is the sound of George Chisholm, a well-known British comedy trombonist from the '60s overlaid three times to produce a phasey trombone ensemble. George also provided rhythm fills on Trombone and Sax for the MKII.

GLOCKS & BELLS

A nice keyboard split of crystal clear Glockenspiel and clanging Tubular Bells, ideal for *Penny Lane* covers.

LOWREY & LESLIE

A slice of '60s cheesey organ (not a medical condition), so get hip daddio. Groovy.

M300B VIOLINS

An attempt to make a very realistic, sweet toned violin sound after the raucous din of the MKII violins and the edgy M300As. This is a solo violin playing the scale and it can be best heard on *Watching And Waiting* by the Moody Blues. Whether or not you like the band, you've gotta love the strings!

M400 VIBES

Cool jazzy vibes with gentle vibrato. Ideal for obscure chords in 13/8 and one of the most popular tron sounds ever.

MALE CHOIR

This imposing recording features four males in the next room to the females as one half of the legendary 8 Choir. No body fluids were exchanged.

MANDOLIN

Another early recording that featured heavily on *Days* by the Kinks. Slightly lo-fi but none the worse for it!

MILLER BRASS

A subtle blend of mellotronic woodwind recordings with just enough clarinet to give you that *'In The Mood'* sonority that was Glenn Miller through and through.

ORCHESTRA

Les Bradley, the man in charge of Streetly tapes, would sometimes create Orchestra mixes on the fly. This one is the most popular featuring Violins, Brass, Cello and probably something else we can't quite determine. Marvelous stuff and BIG.

PIANO

This sounds very like John Lennon's *Imagine* piano. Slightly warbly and hesitant, Bill Fransen recorded this one night to prove it could be done after a frustrating and non-productive session.

PUMP ORGAN

A wheezing old American bible-thumping organ. You can hear the bellows and foot pedals working away. Pick up thy tambourines and walk!

TENOR SAX

Either a *Take Five* or take cover moment! Breathy, jazzy and great for pads.

TRUMPET

The strain of reaching the top notes and blowing them for 8 seconds is wonderfully obvious as the takes get shorter. The player had to have replacement testicles at the end of the session.

VIOLINS

THE legendary 3 Violins sound. Originally recorded by Harry Chamberlin, this is the only sound to make it into the Mellotron library. Used by The Rolling Stones, Moody Blues, Yes, Genesis and countless others. The definitive version of a truly classic sound.

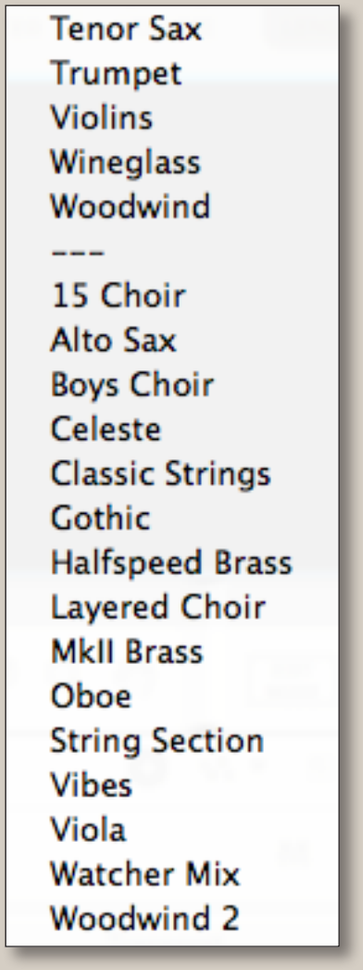
WINEGLASS

A delicate and haunting sound that adds a unique timbre.

WOODWIND

A rare recording of Shakespeare's first band. Well it sounds like it. Very reedy, very medieval.

We've expanded the Tape Bank library to include the following new sounds. These can be found under the three dashes – – – from the Layer windows.



15 CHOIR

To be truthful, the history of this recording is lost but nevertheless, this is a great alternative to the Eight Choir with a totally different timbre due to a large helping of men and boys. A gentle plate reverb makes this sit nicely in the mix.

ALTO SAX

A sassy sounding sexy sax. Try that with your dentures missing.

BOYS CHOIR

Another classic choir sound recorded simply with a handheld microphone back in 1970. It shouldn't work BUT IT DOES. Used extensively by Noel Gallagher in recent times.

CELESTE

This is a ridiculously clean recording from the mid 70s.

CLASSIC STRINGS

A blend of MKII Violins and the later M300A Violins, each smoothing out the imperfections and removing the OUCH! moments.

GOTHIC

Les Bradley once mixed together String Section, St. John's Church Organ and Eight Choir in a bizarre accident involving a mixing desk and absentmindedness. The result was this massive sound.

HALFSPEED BRASS

Mike Pinder of the Moodies would pitch down his MKII to give this effect. MKIIs are scarce so this sound was created as a homage to Mike for all to use.

LAYERED CHOIR

Males morphing to Females morphing to Boys across the 35 notes.

MKII BRASS

The classic sound of two saxes, two trumpets and a trombone. A popular sound and used by many including King Crimson, The Moodies, Genesis and many more.

OBOE

A Tangerine Dream fave. Just check out Rubycon. Very effective for a lead line but a chordal cluster sounds like traffic jam in Milan.

STRING SECTION

A dark mix of cello, viola and MKII violins that became a prog-rock essential. Big and moody, Tangerine Dream's Phaedra would never have sounded the same without it.

VIBES

Vibes with no vibrato. There's nothing else to say except Rick Wakeman used them on Six Wives.

VIOLA

A very close miked Viola. A little too close maybe. Maybe the engineer and the player were having a fling. we'll never know but a very useful recording came out of their sordid affair.

WATCHER MIX

The mix Genesis employed on Watcher of the Skies created from blending tracks A&B on their rickety MKII, thatched model.

WOODWIND 2

An alternative woodwind recording introducing french horn and piccolo and surgically removing the BASSOON of DOOM.

PATCH MANAGEMENT OVERVIEW.

A Patch consists of a combination of up to two sound layers - Layer A and Layer B. A tape bank can be loaded into each and then sculpted using a set of independent synth-type parameters such as pan, LFO, filter and filter & amplitude envelope settings.

PATCH LOADING

To load a Patch click on the Patch Selection Window and select from the list of Patches. Loading a Patch loads tape banks into either or both Layers, along with their individual settings and global effects. Sounds are stored on your hard drive, in folders, and these can be accessed via the Folder icon.

In the case of each instrument category folder, Choirs, Strings etc, Patches have been organised so that you can quickly see the variations of each Patch as follows:

Violins Basic = A basic mono instance of the Violins tape bank loaded into Layer A.

Violins Wide = Violins tape bank loaded into Layer A and Layer B with a little advance start on one layer to give the illusion of a stereo signal. There may be some envelope settings applied too, such as Envelope Attack and Release times

Violins Wide Slow & Dynamic = Violins tape bank loaded into Layer A and Layer B with a little advance start on one layer to give the illusion of a stereo signal. There will be some envelope settings applied too such as softened Attack and Release times. Additionally, the layers will be programmed to respond to velocity and possibly dynamic response of the filter.

As a rule, the more esoteric and complex sounds will be in the folders named Artist Mixes while the more traditional Mellotron type sounds will be in the Instrument Folders.

PATCH SAVING

Saving a Patch saves all the current interface settings. To save a Patch simply click on the Patch Save Button, name your Patch accordingly and click on OK.

LAYER A

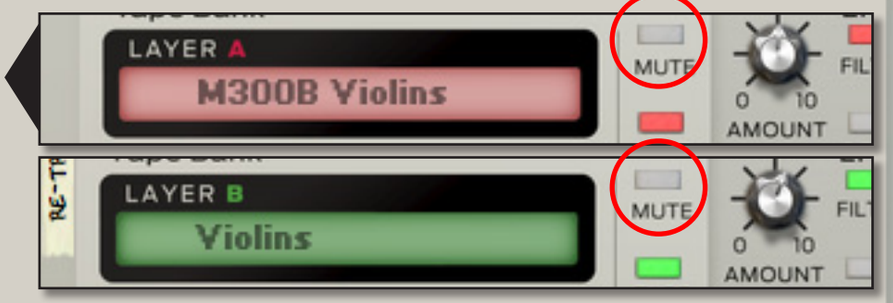
Click within the Layer A window to see the list of available tape banks. Scroll to the tape bank you want to load and release the mouse button. Once the load is complete the name of the tape bank will be displayed in the Layer A window.

LAYER B

Click within the Layer B window to see the list of available tape banks. Scroll to the tape bank you want to load and release the mouse button. Once the load is complete the name of the tape bank will be displayed in the Layer B window.

MUTE BUTTON

Each Layer has an associated Mute Button and clicking on this mutes that layer so that only one layer is heard. This is ideal for quick editing of individual layers.



TAPE REVERSE BUTTON

Selecting this reverses the selected tape bank and plays from end to beginning. Wonderful for creating things like backwards pianos and guitars. Use in conjunction with the Attack Start Knob to fine-tune the reverse time.

HALF SPEED BUTTON

Some users of the original instrument, such as Mike Pinder, used half-speed to get a deeper, fuller sound from their tape collection. This effectively drops the pitch by an octave and is useful in the context of Re-Tron for helping create some fresh and distinctive tones.

ATTACK START KNOB

This sets the attack start time for the loaded tape bank from between 0 and 2 seconds. You can use this in a multitude of ways as follows:

1. To remove the recorded attack 'ramp-in' of the tape bank. Then adjusting the envelope's attack parameters will allow you to create your own attack 'ramp'.
2. To widen the sound of the Patch when layering the same tape bank. Offsetting the attack start of one Layer will open the sound of the Patch markedly.
3. Use in conjunction with the Tape Reverse Button to create a more usable sound.

Some tape banks have a decay that finishes with the sound almost inaudible. When reversed, it can take time for the note to become audible. Turning the Attack Start Knob moves the start point within the audible signal.

DETUNE KNOB

This sets the fine tune range for the selected layer from between +100 and -100 Cents. Layer A and Layer B can have independent Detune settings.

PAN KNOB

Sets the Pan position for either layer. Using this, it's possible to create big, wide sounds. Try panning Layer A to the left and Layer B to the right.

LEVEL KNOB

Adjusts the volume level for the selected layer. Layer A and Layer B can have independent volumes.

LFO

LFO MODE

The LFO can be used to modulate filter cutoff or pitch depending on which Mode is activated in this section.

LFO AMOUNT

This control determines the vibrato amount or depth and is used in conjunction with the LFO Speed knob to help create pitch or filter movements. Layer A and Layer B can have independent LFO Amount settings.

LFO SPEED

This control determines the vibrato speed. Use this in conjunction with the Amount knob to create pitch movements. Layer A and Layer B can have independent LFO Speed settings.

When the LFO Sync button is activated, the LFO Speed knob will display a range from 16/4 (a four bar cycle) to 1/32 (a 32nd note cycle) when you move-over this knob. Dotted note settings are indicated via a 'd' and triplet note settings are indicated via a't'.

In Reason it's common to have other monikers for dotted notes as follows:

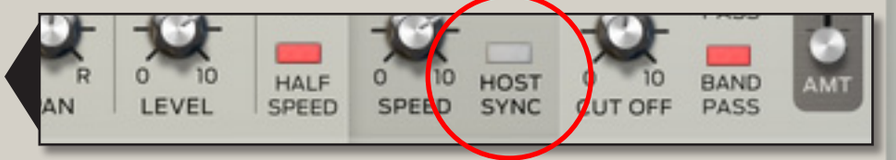
2/4d = 3/4 1/4d = 3/8

1/8d = 3/16 1/16d = 3/32

LFO SYNC

The LFOs can be synchronized so that they modulate precisely in time with your track. To activate LFO sync press this button. Whenever you move the mouse over the LFO Speed knob you will see the current setting.

The Sync ranges from 16/4 (a four bar cycle) to a 32nd note cycle with both dotted and triplet options (see LFO Speed above for details of this range).



FILTER

We have carefully modeled the Re-Tron filter to suit the tape bank sound characteristics. Given the organic nature of these sounds the last thing you want is a filter that self-oscillates so the Re-Tron filter does not self-oscillate when the resonance is fully turned up.

RESONANCE

This boosts the point at which the cutoff frequency is set. (See FILTER CUTOFF knob).

CUT OFF

This determines the frequencies that the filter allows to pass through depending on which filter mode is selected. For example, selecting highpass mode allows you to filter the low frequencies while allowing the high frequencies to pass through (See FILTER MODE).

FILTER MODE

This selects the specific filter modes from the following:

Lowpass

This mode allows the low frequencies to pass through while progressively filtering the higher frequencies as you rotate the cutoff knob anti-clockwise.

Highpass

Selecting this mode allows the high frequencies to pass through while progressively filtering the lower frequencies as you rotate the cutoff knob anti-clockwise.

Bandpass

This allows the selected band of frequencies to pass through while filtering out anything outside the selected range.

FILTER ENVELOPE

This slider determines the filter amount applied to the filter envelope.

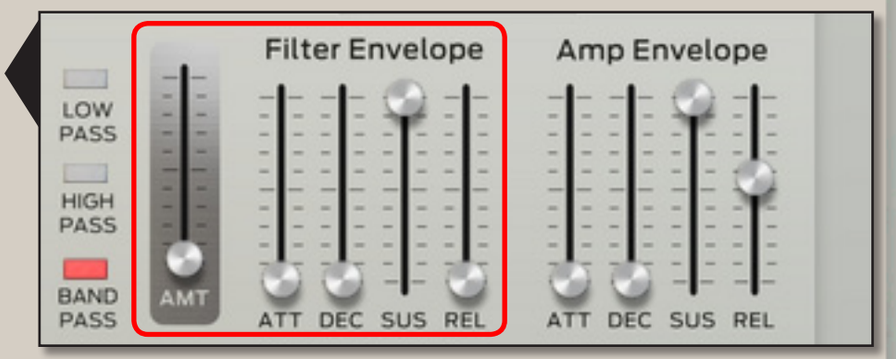
Used to alter the Attack Time of the filter envelope.

Please be aware though, that in order to retain vital characteristics of some instruments we have retained the start points of certain instrument tape banks. Therefore an immediate attack may not always be possible.

Used to alter the Decay Time of the filter envelope.

Used to alter the Sustain Level of the filter envelope between 0% and 100%.

Used to alter the Release Time of the filter envelope.



AMPLITUDE ENVELOPE

AMPLITUDE ATTACK

Used to alter the Attack Time of the Amplitude Envelope. Please be aware though, that in order to retain vital characteristics of some instruments we have retained the start points of certain instrument tape banks. Therefore an immediate attack may not always be possible.

AMPLITUDE DECAY

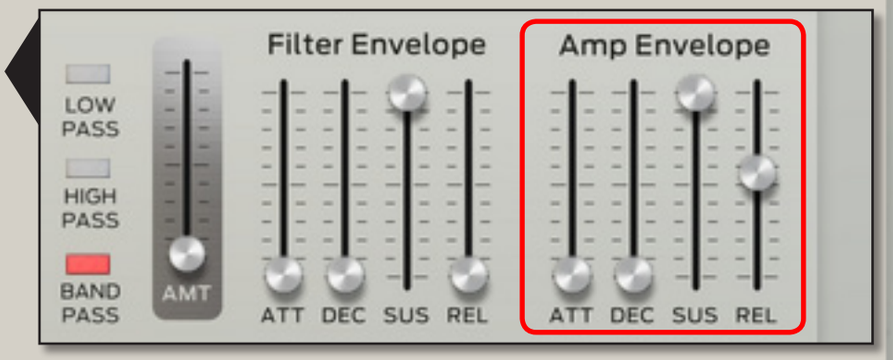
Used to alter the Decay Time of the amplitude envelope.

AMPLITUDE SUSTAIN

Used to alter the Sustain Level of the amplitude envelope between 0% and 100%

AMPLITUDE RELEASE

Used to alter the Release Time of the amplitude envelope.



VELOCITY

VOLUME

This determines the amount of dynamic control over volume (or amplitude). When set to zero, all velocities play at a constant volume. Turning the knob clockwise introduces progressively dynamic control over volume, meaning the harder you play the louder the notes and the softer you play the quieter the notes will sound.

FILTER

This determines the amount of dynamic control over filter cutoff. When set to zero, all velocities play at a fixed cutoff amount. Turning the knob clockwise introduces progressively dynamic control over the filter, meaning the harder you play the more the filter opens.

MASTER VOLUME

Sets the global volume of the instrument.

Re-Tron's delay is a global effect and can be used to add a little more depth or shimmer to an overall patch.

LEFT DELAY LENGTH KNOB

This knob allows you to adjust the delay time of the left channel. This is variable between 0 and 2000 milliseconds when unsynchronized and 1/32nd of a beat and 1 Bar when synchronized via the Host Sync button.

LEFT DELAY FEEDBACK KNOB

Determines how many delay repeats occur on the left channel.

DELAY CROSSFEEDBACK (CF) BUTTON

This feeds the left delay into the right channel and vice versa in order to achieve a ping-pong type delay effect.

HOST SYNC BUTTON

The Delay can be synchronized so that it repeats precisely in time with your track. To activate Host Sync press this button and, now, whenever you move the mouse over the Delay Time knobs you will see the current setting.

RIGHT DELAY LENGTH KNOB

This allows adjustment of the delay time of the right channel. As with the Left Delay Time knob this is variable between 0 and 2000 milliseconds when unsynchronized and 1/32nd of a beat and 1 Bar when synchronized via the Host Sync button.

RIGHT DELAY FEEDBACK KNOB

Determines how many delay repeats occur on the right channel.

DELAY DRY/WET MIX KNOB

This simply mixes the level between the dry signal and the wet (delay) signal. Anywhere over halfway will cause the delays to sound at a higher level to the original, dry signal.

ENSEMBLE

The Re-Tron Ensemble is modeled from a variety of vintage ensemble units and adds fixed pan positions for each voice to help give the patch some width. There are some things to consider when using this effect. For example, if you have two layers active with their sounds panned hard left and right, the more ensemble you add, the more you will lose the clearly defined pan positions. This is because the pan positions of the ensemble voices begin to dominate the higher the ensemble mix. In these cases simply be mindful that full-on ensemble settings may not be as effective as more subtle ones.

ENSEMBLE DRY/WET MIX KNOB

Balances the dry and effect level. Turned clockwise this knob increases the amount of ensemble effect applied to the sound.

ENSEMBLE VOICE DETUNE KNOB

Here you can determine the amount of detune between each voice. The larger the detune value the more chorused the sound.

ENSEMBLE VOICE SELECTION SWITCH

This selects the number of voices used in the ensemble section. Note that the higher the voice setting, the higher the load on your computer's CPU will be. Also excessive detuning with 8 voices might make the sound a little sickly, as if you've swallowed too much sugar!

KEYBOARD CONTROLS

MASTER TUNE KNOB

Sets the global tune of the instrument.

PITCHBEND RANGE KNOB

This sets the pitch bend range for both layers simultaneously. The range available is from between 0 (no effect) and 12 semitones (one octave).

The original instrument had no pitch bend control, but by flicking this control is possible to simulate the 'snatching of tape' that occurred either when a tape wasn't properly spooled or when hitting a note excessively hard. Used sparingly and carefully this can add extra realism to your Re-Tron performace.

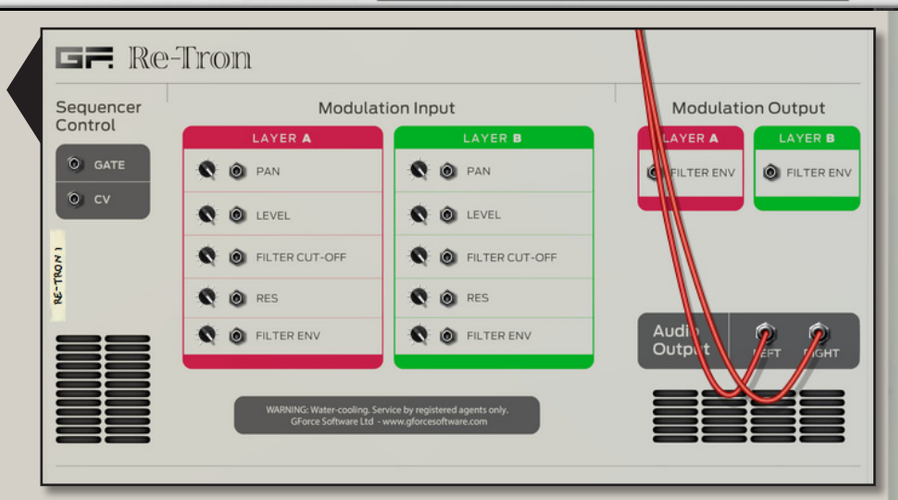
MODULATION

Although there is no modulation wheel on the Re-Tron interface, moving the mod wheel on your keyboard controller will affect the LFO pitch modulation parameters. This affects each Layer and takes effect from the point that you have set the LFO Amount. Increasing the modulation wheel on your keyboard controller, progressively adds modulation. If you already have a degree of pitch modulation applied to either layer, returning the mod wheel to zero will return pitch modulation to the Patch set values.

Again, one of our favourite things is to have slightly different mod rates for each layer so that when you use it in earnest, the effect is somewhat, epic.

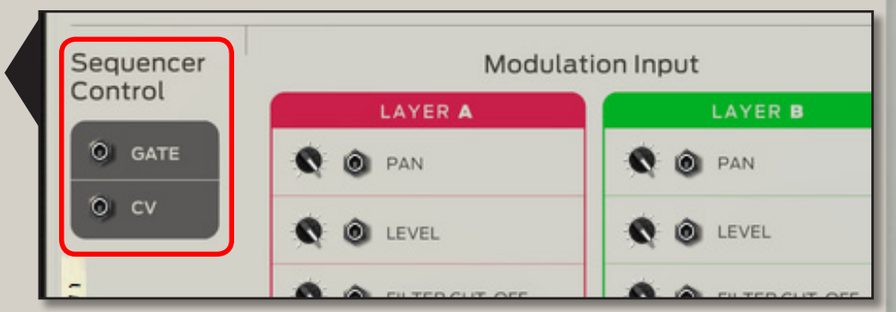
One of the undeniably coolest things about Reason is the ability to flip to the back of the rack via the Tab key. It's here where you'll encounter a wealth of inputs and outputs via which you can interconnect all manner of Reason devices.

Since this functionality has been around since version 1 of Reason, it's assumed that you have a good grasp of how this interconnection is implemented and the results that can be obtained by using this exceptionally smart feature.



SEQUENCER CONTROL

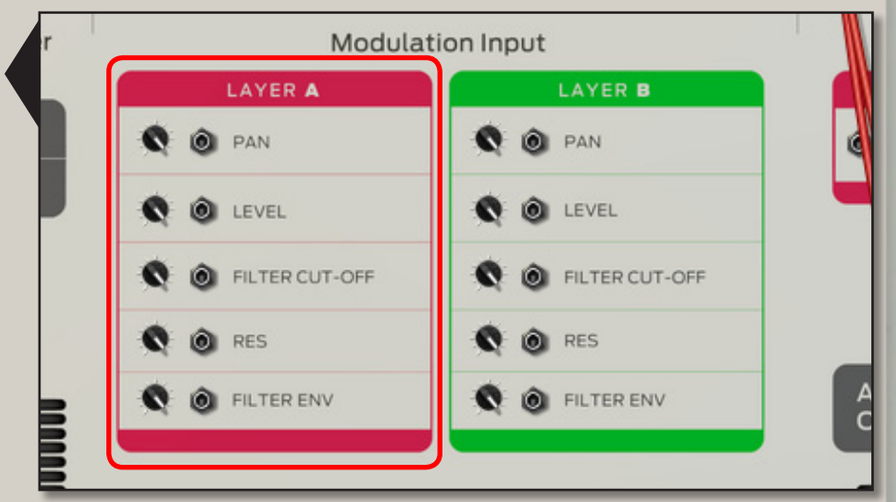
CV/Gate. These connections are used to trigger Re-Tron via another device such as the Matrix Pattern Sequencer or the RPG-8 Arpeggiator.



LAYER A MODULATION INPUT

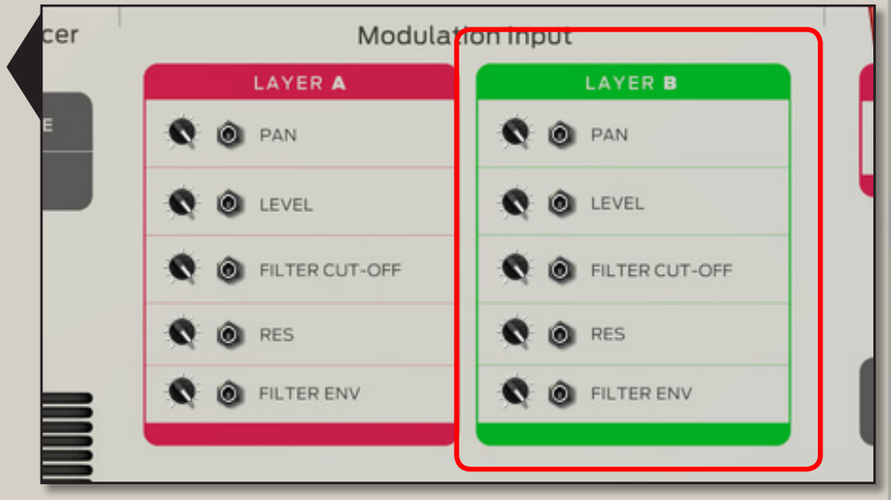
Here you can connect external CV modulation sources for modulating specific Re-Tron parameters.

Connect an external CV source to these inputs in order to independently modulate Re-Tron's Layer A parameters. The adjacent sensitivity knob is used to attenuate the CV signal to tailor the amount of modulation affecting the selected parameter including: Pan, Level, Filter Cutoff, Resonance and Filter Envelope.



LAYER B MODULATION INPUT

Connect an external CV source to these inputs in order to independently modulate Re-Tron's Layer B parameters. The adjacent sensitivity knob is used to attenuate the CV signal to tailor the amount of modulation affecting the selected parameter including: Pan, Level, Filter Cutoff, Resonance and Filter Envelope.

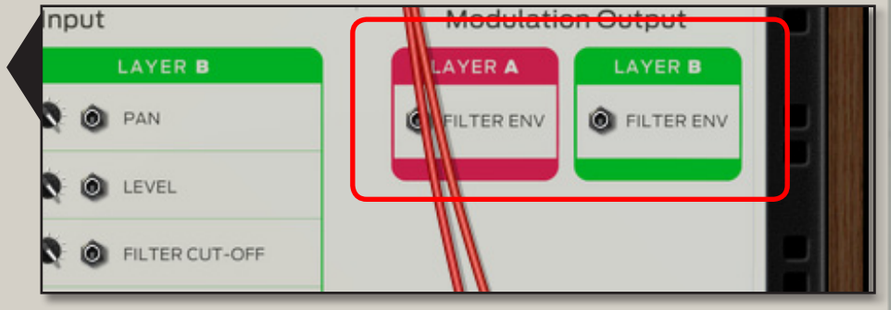


LAYER A MODULATION OUTPUT

Use this output to modulate other device parameters according to Re-Tron's Layer A Filter Envelope settings.

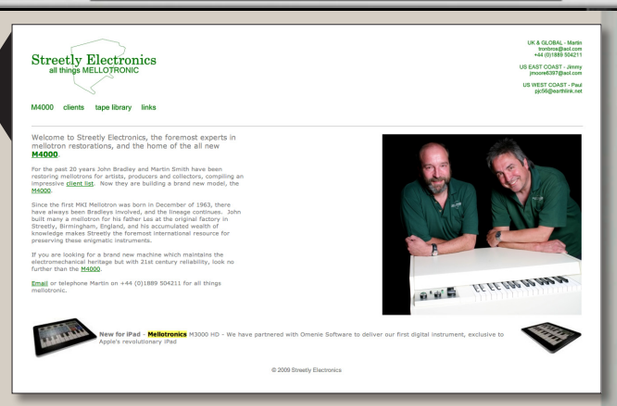
LAYER B MODULATION OUTPUT

Use this output to modulate other device parameters according to Re-Tron's Layer B Filter Envelope settings.



The original 'Tron people and home of the magnificent M4000

http://www.mellotronics.com/



The Great British Tron Story: The story behind the world's most iconic tape playing instrument.

http://www.youtube.com/playlist?list=PL5F5F7837DCD39F55

The Chamberlin Story: The story behind the story behind world's most iconic tape playing instrument.

http://www.youtube.com/playlist?list=PLEE5B556ED15B3AEB

Streetly Electronics' Martin Smith talks about what makes the EMI tapes included in Re-Tron so special.

http://www.youtube.com/playlist?list=PL07F17FDED0DB765B

CREDITS AND THANKS

Engineering: Svante Stadler and Hugo Brangwyn

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The Propellerhead Beta Test Team

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