

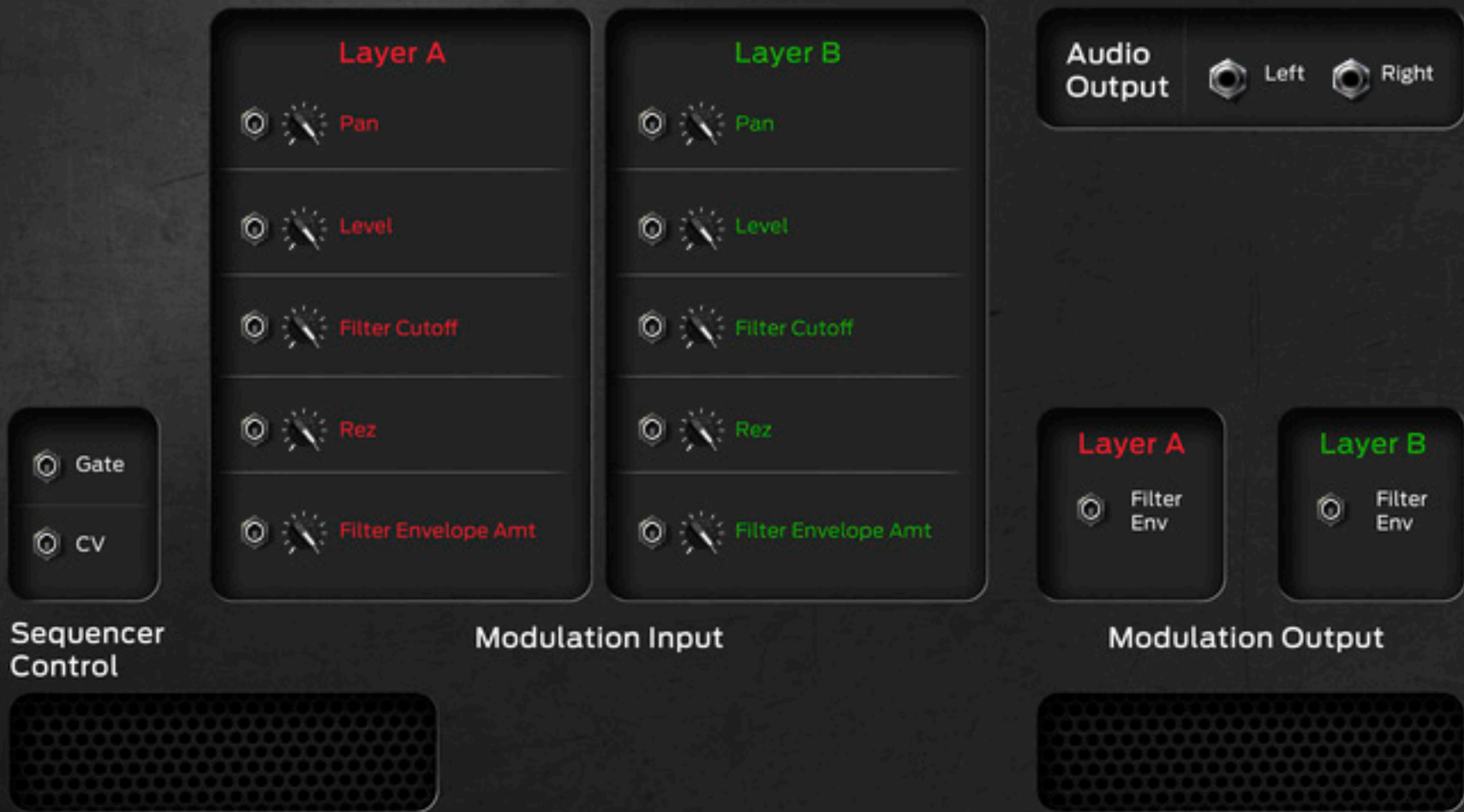


RE-STRINGS

Operation manual



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Welcome to RE-STRINGS, the Retro String Ensemble Rack Extension for Reason. This instrument is based on GForce Software's award winning VSM plug-in and contains thousands of recordings of classic vintage string machines, each recorded note-by-note then painstakingly looped in order to provide you with a supremely comprehensive and inspirational classic string machine library. These instruments include the ultra rare (and first ever string machine) Freeman String Symphonizer, the highly coveted Solina, the eminently desirable Eminent 310, the highly-lauded Logan String Ensemble, plus several other classics and oddities from the halcyon days of the string ensemble.

Although viewed by some as a one-trick-pony or a poor man's polysynth, string machines had so much character they've graced tracks by artists as diverse as Lonnie Liston Smith, Air, Pink Floyd, The Cure, Parliament, Herbie Hancock, Camel, Joy Division, Jean-Michel Jarre, Thomas Dolby, Tonto's Expanding Head Band, Genesis, Toni Tone Tony and countless others. For an idea of how influential and evocative the sounds from these machines have been, ask yourself what would Lonnie Liston Smith's *'Expansions'* have been without that string machine fizz? Likewise, what would the intro to Pink Floyd's *'Wish You Were Here'* have sounded like without those moody string machine chords? And, seriously, can anyone imagine *'Oxygene'* without the tones imparted by the Eminent 310 and Small Stone Phaser?

The sheer variety of instruments contained within RE-STRINGS, in addition to the vast array of presets, means it's simplicity itself to dial up all those golden string machine tones from yesteryear. Via the dual layers you can mix and match the sounds from different string machines to create your own hybrid, retro, string ensemble patches. Alternatively, if you want to stray outside strictly retro string machine territory, the multitude of instrument samples available, coupled with the instrument's powerful yet intuitive synthesis engine, makes creating personal and unique tones a cinch.

RE-STRINGS includes string tones from the following rare and classic instruments:



ARP QUADRA (1978)

Granted, the ARP Quadra wasn't a dedicated string ensemble instrument but the strings from this 'multi-keyboard' are so full of character we simply had to include them.

Phased Strings (49 Notes)

Strings recorded with the Quadra's onboard phaser. Mix with the RE-STRINGS phaser for some madcap modulation

CRUMAR MULTIMAN (1975)

The Multiman was another multi-instrument featuring strings. This instrument had modulation options but no chorus or ensemble.

Cello (49 notes)

Violin (49 notes)

ELKA RHAPSODY (1975)

Again, this instrument had no ensemble or chorus, just modulation. A very desirable string machine during the 70s and used by Billy Currie and Vangelis (*Heaven & Hell*).

Strings (49notes)

Violin & Cello (49 notes)

Violin & Strings (49 notes)

A mix of all waves with the cello down in the mix

EMINENT 310 (1972)

A dual-manual organ with built in string section. This instrument, along with a Small Stone Phaser, was used to create the classic strings on Jean-Michel Jarre's *Oxygene*.

Lower 4 Ft (49 notes)

High Strings from the lower manual

Lower 8 Ft (49 notes)

8 Ft Strings from the lower manual

Upper 4 Ft (49 notes)

High Strings from the upper manual

Upper 8 Ft (49 notes)

8 Ft Strings from the upper manual

Upper 16 Ft (49 notes)

16 Ft Low Strings from the upper manual

FREEMAN STRING SYMPHONIZER (1973)

Our favourite string machine. The original inspiration to every string machine that followed and still full of character. Bob Moog was awarded the Polar Prize for his contribution to music and, in our opinion, Ken Freeman should be awarded a knighthood. If you want to find out more about how Ken came up with the concept, he reveals all in the Bright Sparks documentary.

Strings 1 (49 notes)

The basic Freeman tone

Strings 2 (49 notes)

Strings 3 (49 notes)

GODWIN MODEL 749 STRING CONCERT (1980)

A string machine with true polyphony instead of the usual paraphonic architecture. Interestingly, the same model we used to record the tone used to belong to Rob Puricelli from failedmuso.com

Cello Chorus (49 Notes)

16 ft strings with the on-board chorus being used to full effect

Cello (49 Notes)

Very simple 16 ft strings from a dedicated string synthesiser

Viola Chorus (49 Notes)

8 ft strings with the on-board chorus

Viola (49 Notes)

Very simple 8 ft strings

Violin Chorus (49 Notes)

4 ft strings with the on-board chorus

Violin (49 Notes)

Basic 4 ft strings

HOHNER K4 (1977)

Also known as Hohner Stringer, Hohner String Orchestra and Elgam String Ensemble.

All Strings (49 Notes)

A combination of the Cellos and Strings

Cello Ensemble (49 Notes)

A multiple Cello sound via the on-board ensemble

Cellos (49 Notes)

The raw multiple Cello sound

Strings Ensemble (49 Notes)

A String section via the on-board ensemble

Strings (49 Notes)

The basic Hohner String sound

JUNOST 21 (C 1986)

Strings from a rare Russian strap-on synth. What more can you say?

Strings (49 Notes)

KORG LAMBDA (1979)

One of the kings of the string ensemble keyboards. Amongst the string ensemble intelligencia this instrument ranks as highly as the Solina, Logan and Freeman.

Epic Strings (49 Notes)

A heavily detuned combination of Strings 1 and 2

Strings 1 Ensemble (49 Notes)

Strings 1 via the Lambda's on-board chorus

Strings 1 (49 Notes)

The basic Strings 1 patch from the Lambda

Strings 2 Ensemble (49 Notes)

Strings 2 via the Lambda's on-board chorus

Strings 2 (49 Notes)

The basic Strings 2 patch

RE-STRINGS: String Tones

KORG PE2000 (1976)

A wonderful string ensemble used by Tangerine Dream and Edgar Froese. One of Gordon Reid's desert island keyboards.

Strings 1 (49 notes)

Strings 2 (49 notes)

LOGAN STRING MELODY II (1977)

The initial Logan String Melody was released in 1974, with the Mk II following in 1977. The latter version, with its multiple preset buttons, remains one of our favourite string ensembles of all time.

Cello (49 Notes)

The cello preset

Orchestra (49 Notes)

The orchestra preset

MELLOTRON (1963)

Granted, it's not strictly a string ensemble instrument but the Mellotron Three Violins sound has such character that it was worthy of inclusion in RE-STRINGS.

Three Violins (49 Notes)

A looped version of the legendary Three Violins sound which adorned the Mellotron and the Chamberlin

MOOG OPUS 3 (1980)

A multi-instrument from Moog with a very distinctive sound.

4 Ft Strings 50% Chorus (49 notes)

4 Ft Strings 100% Chorus (49 notes)

4 Ft Strings (49 notes)

The basic Opus 3 high octave string sound set

8 Ft Strings 50% Chorus (49 notes)

8 Ft Strings 100% Chorus (49 notes)

8 Ft Strings (49 notes)

The basic Opus 3 lower octave string sound set

Combi 50% Chorus (49 notes)

Combi 100% Chorus (49 notes)

Combi (49 notes)

A basic combination of 8 & 4 Ft Opus 3 tones

ROLAND VP330 (1979)

While the VP-330 was effectively a vocoder with an added string section, the strings were good enough to warrant being included in RE-STRINGS.

Strings Ensemble (49 Notes)

The classic Roland string sound from the classic Roland Vocoder.

SOLINA STRING ENSEMBLE (1974)

One of the most highly prized and sought after string machines. Used by Kasabian, Stevie Wonder, Herbie Hancock, Pink Floyd, Lonnie Liston Smith and countless others. A genuine classic and the inspiration behind this instrument.

Strings Mod (49 notes)

A combination of Solina Bass, Cello, Violin & Viola sounds put through that classic ensemble

Viola (49 notes)

The basic Solina viola sound

Voila Mod (49 notes)

The basic Solina viola sound with the on-board ensemble

Violin (49 notes)

The basic Solina violin sound

Violin Mod (49 notes)

The basic Solina violin sound with the on-board ensemble

TECHNICS KN200 (1982)

Chorus Strings (49 Notes)

The first string preset from one of the last string ensembles to be made

Ensemble Strings (49 Notes)

The second string preset

YAMAHA CE25 (1983)

A pre-DX-7 preset FM based, polyphonic ensemble with sounds that still stand up today.

Strings 1 (49 Notes)

The first string patch on this FM based instrument offering a lovely contrast to the usual analog string ensembles

Strings 2 (49 Notes)

The second, and thinner FM based string patch. Perfect for fattening up via the RE-STRINGS ensemble

Strings 3 (49 Notes)

Another thinner FM based string patch. Again, perfect for fattening up via the RE-STRINGS ensemble

YAMAHA SS30 (1977)

Another legendary string machine. Used by Billy Currie on many classic Ultravox tracks including 'Vienna'. For some odd reason this appears not to have been available in the USA.

Big Patch 1 (49 notes)

A lovely patch using a mixture of tones

Voila (49 notes)

Violin 1 (49 notes)

Violin 2 (49 notes)

A BRIEF HISTORY OF STRING SYNTHESISERS - GORDON REID

The string synthesiser was invented in 1970 by Ken Freeman, a British keyboard player and engineer who had discovered that, if you layered a note with another, detuned and slightly modulated version of itself, a pleasant 'chorused' sound resulted. Using multiple oscillator banks and vibrato oscillators, Freeman refined his ideas while work flooded in, largely because nobody else could create such a warm and realistic 'string ensemble' sound.

In the spring of 1972, Freeman and his associates demonstrated a prototype String synthesiser at the Frankfurt Musicmesse. With three oscillator banks and a sound that has become part of keyboard legend, this elicited great interest, but it was not destined to become the first string synth on the market...

In Holland, the Eminent organ company had discovered that they didn't require multiple oscillators per note to create the ensemble effect. A new class of chip – the BBD delay line – made it possible to take the output from a single oscillator and split this into multiple signal paths, modulating each out of phase with respect to the others to create a warm and lush ensemble sound. Late in 1972, a home organ, the **Eminent 310 Unique**, became the first commercially available keyboard to produce this sound, and it spawned an industry that, over the next decade, was to manufacture more than one hundred 'string synths' and 'multi-keyboards'.

When Freeman's keyboard arrived in 1973, it had been renamed the **Freeman String Symphonizer**. Built by Lowrey in the USA, this had lost one of the prototype's oscillator banks, so the sound was thinner and less complex than that of its forerunner. But it was much brighter than the Eminent, and provided an interesting alternative to the thicker sounds generated by BBD-based ensemble circuitry.

Recognising that the ensemble sound appealed to rock'n'roll bands, Eminent decided to separate their string synth from the rest of the organ to create a lighter, more portable instrument that players could take on the road. The result was one of the most important keyboards ever manufactured; the **Solina String Ensemble**. Released in 1974 under both the Eminent and ARP names, this remains one of the most desirable of all electronic keyboards.

The interest in these instruments was not going unnoticed elsewhere, and by the time that the Solina appeared, the Italian manufacturer Crumar (run by Mario Crucianelli) had released the first of a range of smaller and lighter string synths. But it was Mario's brother, Piero, whose instruments initially made the greatest impact. His company was Elka, and the affordable **Elka Rhapsody 490** (1974) and **Elka Rhapsody 610** (1975) became instant successes. Of these, the 490 was the smaller and less flexible, but the sounds of both keyboards – simultaneously warm and edgy – ensured that they became two of the iconic instruments of the era.

Meanwhile, just up the coast, a previously unknown Italian company released the forerunner of what is possibly the warmest, lushest, and most recognisable string synth of them all. Known as both the **Logan String Melody** and the **Vox String Thing**, this produced the most wonderful ensemble sounds. When, two years later, it



A BRIEF HISTORY OF STRING SYNTHESISERS

metamorphosed into the **Logan String Melody II**, Logan had extended its palette to include the most evocative cathedral organs yet heard. The Logans are legendary, still sought-after and used to this day.

Technology was now racing forward at a previously unprecedented rate and in 1975, just three years after Freeman had demonstrated his prototype, three companies released very different keyboards that were forever to change the way that players viewed and used their instruments. The most influential was the **Crumar Multiman**. Commonly accepted to be the first of the multi-keyboards, this was capable of generating piano-like, bass, brass and strings sounds simultaneously, and offered unparalleled flexibility. It didn't sound bad either! Across the Atlantic, ARP took the concepts embodied in the Solina and combined these with the filter and contour generator of a monosynth to create the **ARP Omni**, a primitive version of a polyphonic synthesiser, later dubbed a 'paraphonic' synthesiser. Then there was the **Moog Polymoog** synthesiser...

Often (but inaccurately) described as the first polysynth, the Polymoog lacked an ensemble circuit, but combined some genuinely polyphonic electronics with the paraphonic architecture of the ARP to provide a wider range of imitative and synthesised sounds. It was horribly unreliable and perhaps unfairly derided, but that didn't stop many of the most influential players of the time from using it.

By this time, string synths and their derivatives were mainstream instruments every bit as important as electric pianos, organs and synthesisers, so it was inevitable that the Japanese keyboard manufacturers would turn their attention to them. Roland had tested the water in 1975 with the **RS-101 Strings**, but this was curiously unsuccessful. The same could not be said of the **RS-202 Strings** (1976). This introduced the company's now-classic three-way ensemble generator, and produced a transparent sound that was to become a very desirable alternative to the thicker ensembles of the European and American keyboards.

Alongside this, Korg introduced an ensemble that reverted to Ken Freeman's original scheme of layering multiple, detuned oscillators to create the chorused sound. The **PE-2000 Polyphonic Ensemble** was a remarkable instrument, not only producing unique strings, brass and organs, but it was also the first to generate the nasal, 'vocal' timbre that was to characterize much of the Japanese electronic music of the mid- to late-1970s.

Even the mighty industrial giant that is Yamaha decided to enter the market and became the first to combine Freeman's method with a BBD-based chorus unit. Announced in 1977, the resulting keyboard was the **SS-30**, a remarkable instrument that was equally capable of producing the edgy sounds of the Freeman; the high, aetherial tones of the Solina; and the thicker, lush sounds of a conventional ensemble.

The **Hohner K4** (1977) was a high-quality string synth with a murky lineage. Released in the USA as the Hohner Stringer, it appeared in Europe as the Hohner String Orchestra and the Elgam String Ensemble. Whether Hohner manufactured any of these is open to question, as all seem to have been linked with Logan Electronics. As for their character... this was rich and lush in the style of the Logans, but with a somewhat different timbre and an unusual Ensemble control that could layer three octaves of the voices, resulting in a mighty sound.



A BRIEF HISTORY OF STRING SYNTHESISERS

The following year, ARP released what may be the greatest of the so-called 'multi-keyboards'. Described by one of the company's directors as a "synthesiser sandwich", the **Quadra** (1978) combined four sound generators: a string ensemble and polysynth reminiscent of the ARP Omni II, a dual-oscillator monosynth, and a bass synth. Like many other strings synths, the Quadra's ensemble sound was based on a divide-down sound generator shaped by a single (paraphonic) AR contour generator, but it benefited hugely from being passed through ARP's celebrated chorus ensemble. The Quadra was designed in a hurry and rushed out almost in desperation, but it still did some things better than any other instrument.

Like Ken Freeman's second and fourth prototypes and Korg's earlier PE-2000, the **Korg Lambda** (1979) featured three divide-down oscillator banks that allowed players to detune banks A and B against a fixed bank, thus creating a rich ensemble sound. In addition, its Chorus (i.e. human voice) preset slotted nicely into the class of sounds often referred to as Vox Humana. The combination of Chorus, String I and String II is a classic sound, quite different from other string synths.

Appearing the same year, the **Roland VP-330** was one of the classic keyboards of the late 1970s, and its Strings and Human Voice sections generated some of the most recognisable sounds of the era. With just one footage, the Strings sound was generated by a single divide-down oscillator bank passed through Roland's fabled ensemble unit. Enveloping was very basic; it offered variable Release, but its Attack was paraphonic, which could result in a 'sucky' and artificial sound. Nonetheless, the VP-330's strings were remarkably useable, and some players even dumped their Mellotrons in favour of the little Roland!

By the end of the 1970s, the keyboard-playing world was on the brink of moving in a new direction, but there were still numerous variations of the ensemble keyboard to explore. One such was the **ARP Quartet** (1979); small, light, cheap, and therefore surprisingly popular. Another was the **Moog Opus 3** Released in 1980, this compact multi-keyboard proved to be Moog's only foray into ensemble synthesis, but still managed to offer a somewhat different approach and another range of sounds.

One of the nicest 'pure' string synths ever released, the **Godwin Model 749 String Concert** (1980) was another to show Logan-esque characteristics. Like the String Melody II, it offered 'cello, viola and violin registrations, plus attack and release controls with wonderful, slow maximum times and, best of all, true polyphony rather than the paraphonic architecture of so much of the competition. However, improving upon the Logan, the 749 had fully variable modulators so, instead of offering preset voices, it allowed players to control the ensemble effect, making it far more subtle than other string synthesisers.

Then there was Yamaha's "SK" range, which encompassed the **SK-10**, **SK-20**, **SK-30**, the dual-manual **SK-50** and, finally, the **SK-15 Symphonic Ensemble**. Released in 1981, this was a cut-down version of the SK-20; a basic, low-cost string synth that offered yet another variation on the ensemble sound.

By the time that the SK-15 appeared, the world was no longer interested in the sounds produced by basic string synthesisers, and the writing was on the wall for all ensemble



A BRIEF HISTORY OF STRING SYNTHESISERS

keyboards. Expensive polysynths such as the Prophet 5 and Jupiter 8 were already capable of producing many string-like sounds, and the first of the affordable polysynths had started to appear.

Nonetheless, perhaps the most interesting keyboard of 1982 was the Technics SX-K200. At first sight, this seemed to be destined for the toy bins occupied by Bontempi organs in the 1970s, but a closer inspection showed that it was an important instrument that anticipated the direction that much of keyboard technology would take in the 1980s. Most importantly, the SX-K200 was the first keyboard to include PCM samples as part of its sound generation. Nonetheless, its Orchestral Presets were generated by Technics' analogue organ technology, so the SX-K200 also qualifies as one of the last of the analogue string ensembles!

Before releasing the DX7, Yamaha released two (relatively) low-cost digital keyboards for the domestic market. One of these was the CE25 Combo Ensemble (1983), which included three FM-generated strings voices among its twenty presets. Surprisingly, the CE25 was both velocity- and pressure- sensitive, and it offered a Symphonic Depth control that determined the amount of chorusing applied to the sound. The results could be superb, and even today the CE25's strings can hold up their heads in respectable company.

By 1986, the string synth was dead in Europe, Japan and the USA, but elsewhere it lived on for a while longer. Behind the Iron Curtain, technology and affluence trailed the western world, and string synths were produced late into the 1980s. One of these was the **Junost-21**, a combination of a basic analogue polysynth and a preset ensemble keyboard, designed to be worn like a guitar and articulated using the controllers on its stubby neck. Sounding unlike any other string synth, it is a suitably strange and unusual instrument with which to end a Brief History Of String synthesisers.



PATCH MANAGEMENT OVERVIEW

A patch consists of a combination of up to two sound layers - Red upper and Green lower. Any of the String Ensemble soundsets can be loaded into one or both layers and then sculpted using a set of independent synth-type parameters such as pan, LFO, filter and filter & amplitude envelope settings. String ensembles were relatively simple and immediate instruments and the parameters within each layer have been carefully chosen to offer the most suitable and effective sound-sculpting features without over complicating matters.

PATCH LOADING

To load a patch click on the Patch Selection Window and select from the list of patches. Loading a patch loads instrument soundsets into either, or both, layers along with their individual settings and global effects. Patches 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, ARP Quadra, Crumar Multiman, Elka Rhapsody etc, patches have been organised so that you can quickly see the variations of each patch.

By selecting the patch named 'Violin Basic.repatch' we load a basic mono instance of the Crumar Multiman Violins soundset into the upper red layer.

Similarly, if we load the patch called 'Violin Dyn Phased.repatch' we load an instance of the Crumar Multiman Violins soundset into both layers. This patch responds to velocity dynamics, has a degree of filtering applied and also makes use of the on-board phaser.

As a rule, the more esoteric and complex sounds will be in the folders named Artist Mixes while the more traditional string ensemble 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.



MAIN SOUND SELECTION & CONTROLS

INSTRUMENT SELECTION WINDOW - UPPER RED LAYER

Clicking at the top or bottom of the INSTRUMENT section of the window, allows you to scroll up or down through the instruments contained within RE-STRINGS. Clicking at the top or bottom of the SELECTION part of the display, allows you to scroll up or down through the soundsets contained within each selected INSTRUMENT.

For example, starting with the default 'Empty' INSTRUMENT, we can click at the bottom of that window until 'Logan Melody II' is highlighted in the centre of the display. Then we can move to the SELECTION part of the display and change between the Logan Melody II soundsets.

When making a sound selection there will be a short period of silence while the sound is loaded.



TUNE KNOB

This sets the coarse pitch for the samples in the selected layer from between -12 and +12 Semitones, or -1 and +1 Octave. The layers can have independent tune settings.

DETUNE KNOB

This sets the fine tune range for the samples in the selected layer from between +100 and -100 Cents. The layers can have independent Detune settings.

PAN KNOB

Using this, it's possible to create big, wide sounds. For example, the upper red layer panned to the left and the lower green layer panned to the right.

LEVEL KNOB

Adjusts the volume level for the samples for the selected layer. The layers can have independent independent volumes.

MUTE BUTTON

Each layer has an associated Mute Button which, when selected, will silence that layer. This is ideal for precise editing of the non-muted layer.



LFO CONTROLS

LFO AMOUNT KNOB

This control determines the vibrato amount (depth) and is used in conjunction with the LFO Speed knob to help create pitch movements. The layers can have independent LFO Amount settings.

LFO SPEED KNOB

This determines the vibrato speed used to affect the chosen soundsets in the corresponding layer. Use this in conjunction with the Amount knob to create pitch or filter movements. The layers can have independent LFO Speed settings. When the LFO HOST 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 this knob.

LFO FILTER AND PITCH SWITCHES

RE-STRINGS allows you to choose either pitch or filter modulation via the red buttons (upper red layer) and green buttons (lower green layer).

HOST SYNC SWITCH

The LFOs can be synchronised so that they modulate precisely in time with your Reason track. To activate LFO HOST SYNC press this button to illuminate it.



FILTER CONTROLS

FILTER CONTROLS

RE-STRINGS filter was carefully modelled to compliment our string ensemble recordings. While this filter isn't modelled on a specific hardware instrument, it is similar to the 4 pole filter found on the Oberheim OB-8 and does not self-oscillate at full resonance values.

CUTOFF KNOB

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

RESONANCE KNOB

This adds harmonics at the cutoff frequency (See filter CUTOFF knob).

FILTER TYPE

LOWPASS SWITCH

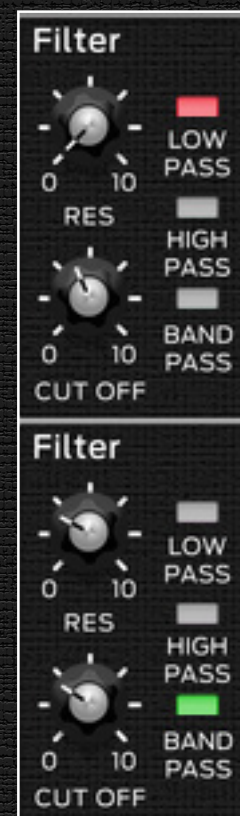
This mode allows the low frequencies to pass through while progressively filtering the higher frequencies as you rotate the cutoff knob anti-clockwise.

HIGHPASS SWITCH

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 SWITCH

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



FILTER ENVELOPE CONTROLS

FILTER AMOUNT SLIDER

This slider determines the amount of Filter Envelope applied to the layer.

FILTER ATTACK SLIDER

Used to alter the Attack Time of the Filter Envelope.

FILTER DECAY SLIDER

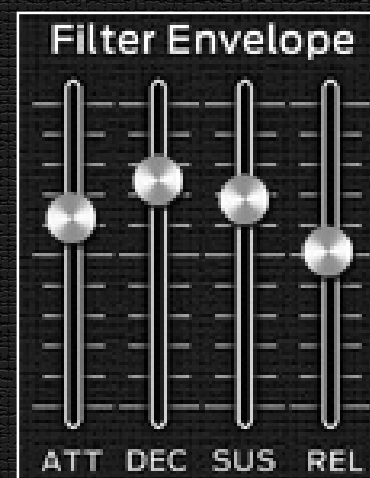
Used to alter the Decay Time of the Filter Envelope.

FILTER SUSTAIN SLIDER

Used to alter the Sustain Level of the Filter Envelope between 0% and 100%.

FILTER RELEASE SLIDER

Used to alter the Release Time of the Filter Envelope.



AMPLITUDE ENVELOPE CONTROLS

AMPLITUDE ATTACK SLIDER

Used to alter the Attack Time of the Amplitude Envelope.

NB: The note-on characteristics of the string machines we recorded differed quite significantly between instruments. This vital characteristic is retained and as such an immediate, sharp attack may not always be possible.

AMPLITUDE DECAYSLIDER

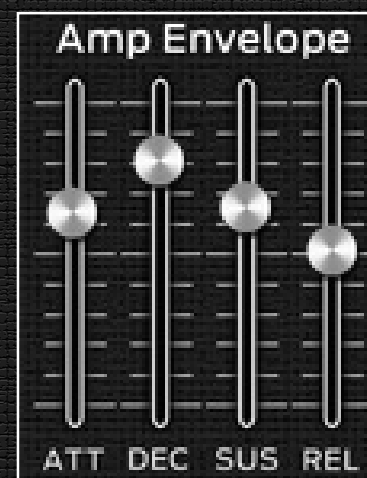
Used to alter the Decay Time of the Amplitude Envelope.

AMPLITUDE SUSTAIN SLIDER

Used to alter the Sustain Level of the Amplitude Envelope between 0% and 100%

AMPLITUDE RELEASE SLIDER

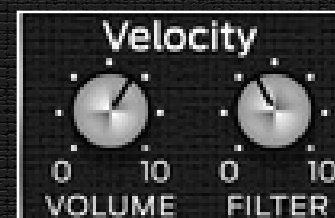
Used to alter the Release Time of the Amplitude Envelope.



KEYBOARD VELOCITY CONTROLS

VELOCITY TO VOLUME KNOB

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.



VELOCITY TO FILTER CUTOFF KNOB

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 & WIDTH CONTROLS

VOLUME KNOB

Sets the global volume while retaining the relative level settings of each layer.

WIDTH KNOB

This controls a stereo sample delay that delays either the left or right channel by up to 500 samples in relation to which side the knob is turned.



PHASER CONTROLS

RE-STRING's Phaser is a model of a 6/12 stage analog phaser effects unit. Think of a phaser as a series of notch filters spread evenly over the frequency spectrum. As the frequency of this series of filters is swept over the frequency range, you hear the trademark 'whooshing' of the classic phaser effect. Combining a string machine and a phaser during the 70s was almost *de rigueur*. On the classic *Oxygene* album Jean-Michel Jarre used an Eminent 310 processed through an Electro-Harmonix Small-Stone Phaser to get that magical shifting string sound.



PHASER LFO SPEED KNOB

This control determines the speed of the phaser low frequency oscillation. Use this in conjunction with the Phaser LFO Amount knob. When the Host Sync switch is activated, the Phaser 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.

PHASER LFO DEPTH KNOB

This control determines the amount (depth) of low frequency oscillation. Use this in conjunction with the Phaser LFO Speed knob.

PHASER CENTRE FREQUENCY KNOB

RE-STRINGS' Centre Frequency knob controls the mid-shift frequency of the bank of notch filters and moves the higher and lower frequency notches proportionally: all notches remain equally spaced as the centre frequency is swept. On vintage phasers this parameter was sometimes labeled 'Sweep'.

PHASER RESONANCE KNOB

The Resonance knob increases the emphasis of frequencies between notches. It works in much the same way as a resonance control on a VCF emphasises the frequency (or Q) at the cutoff point. Indeed, increasingly higher values of this parameter produce the 'howling' sound associated with VCF resonance.

PHASER HOST SYNC SWITCH

The Phaser can be synchronised so that it modulates precisely in time with your track. To activate Host Sync press this switch. When you move your mouse over the Phaser Speed knob you will see the current setting from 16/4 (a four bar cycle) to 1/32 (a 32nd note)

PHASER MODE SWITCHES

These select between 6 and 12 stages. A six-stage phaser notches the signal at three points on the frequency spectrum, while a twelve-stage phaser creates six notches. The six-stage setting is more conservative and representative of classic phaser sounds, while twelve-stage is more pronounced and 'spacey'.

ENSEMBLE CONTROLS

Many of the waveforms contained in RE-STRINGS can sound quite raw in isolation. While this may be perfect in certain circumstances, an attraction of the original instruments was their on-board chorus, modulation or ensemble effects. These helped 'sweeten' the sound considerably and in some cases became almost more a part of the sound as the waveforms themselves. Comparing a raw Solina waveform with one processed through the on-board ensemble reveals just how essential a part of the 'Solina sound' the ensemble was.

In much the same way as the Phaser was constructed, RE-STRINGS' Ensemble is modelled from a variety of vintage ensemble units. We also added fixed pan settings for each voice to give the instrument some 'fatness' and this can help make a simple, raw tone become much richer and wider.

However, there are some factors to consider when using RE-STRINGS Ensemble. For example, if you have both layers active with one panned hard left and the other hard right, the more ensemble you add (via the Mix knob), the more their clearly defined initial positions will start to blur. This is because the pan positions of the ensemble voices begin to dominate the mix. In these cases simply be mindful that full-on ensemble settings may not be as effective as more subtle ones.



ENSEMBLE WET/DRY MIX KNOB

Balances the unaffected signal with the effect. Turned clockwise, this knob increases the amount of ensemble effect applied to the sound.

ENSEMBLE VOICE DETUNE KNOB

Used to determine the amount of detune between each voice. The greater the detune value, the more 'chorused' the sound.

ENSEMBLE VOICE SELECTION SWITCH

This selects the number of voices used in the ensemble section. Be careful, excessive detuning, and a high voice quota, might make you feel sick in the same way as swallowing too much sugar does.

RE-STRINGS RESOURCES

Billy Currie talks String Ensembles, RE-STRINGS & VSM

<https://www.youtube.com/watch?v=nIYfLhISEhQ>

Freeman String Symphonizer

<https://www.youtube.com/watch?v=WvHqjJMVM-g>

Solina String Ensemble

<https://youtu.be/JRcGCsMtbh4>

RE-STRINGS Video

<https://www.youtube.com/watch?v=T79sXm400c>

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