

ELEMENT ONE

8 VOICE VIRTUAL-ANALOG SYNTHESIZER

User Manual

OS Version - 1.2



WARNING – AS WITH ALL ELECTRICAL PRODUCTS, care and general precautions must be observed in order to operate this equipment safely. If you are unsure how to operate this apparatus in a safe manner, please seek appropriate advice on its safe use.

ENSURE CORRECT PSU POLARITY - FAILURE TO DO SO MAY CAUSE PERMANENT DAMAGE - RECOMMENDED USE WITH PROVIDED POWER SUPPLY

This apparatus **MUST NOT BE OPERATED NEAR WATER** or where there is risk of the apparatus coming into contact with sources of water such as sinks, taps, showers or outdoor water units, or wet environments such as in the rain. Take care to ensure that no liquids are spilt onto or come into contact with the apparatus. In the event this should happen, remove power from the unit immediately and seek expert assistance.

This apparatus produces sound that could cause permanent damage to hearing. Always operate the apparatus at safe listening volumes and ensure you take regular breaks from being exposed to sound levels

THERE ARE NO USER SERVICEABLE PARTS INSIDE THIS APPARATUS. It should only be serviced by qualified service personnel, specifically when:

- The apparatus has been dropped or damaged in any way or anything has fallen on the apparatus
- The apparatus has been exposed to liquid whether this has entered the apparatus or not
- The power supply cables to the apparatus have been damaged in anyway whatsoever
- The apparatus functions in an abnormal manner or appears to operate differently in any way whatsoever.

FCC This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Important Safety Information	2	MIDI	54
Introduction	4	MIDI CC Implementation Chart	58
Specification	5	MPE	60
Synth 101	8	Polychain	62
Getting Started	12	Update	64
Basic Functions	13		
Connections	18	MODALapp	66
 		Getting started	67
Synthesis engine	20	Main Editor Window	68
OSCILLATORS	22	Main Editor Window	69
FILTER	27	Preset Manager	70
ENVELOPES	29	Filtering Patches	72
LFOs	30	Modulation Tab and Mod Slots	73
ARPEGGIATOR	31	FX, KB, Performance + Settings Tab	74
Effects (FX)	32		
FX	33	Warranty Information	76
FX List	36		
Modulation	38		
Keyboard/Voice	42		
Joystick + Audio Input	44		
Audio Output + Gain	45		
Settings	46		
Screen Map	52		

01

Introduction

Modal ELEMENT One is an eight-voice polyphonic virtual-analogue synthesizer designed to make the synth experience accessible to all musicians and performers. By concentrating on the key user elements of a synthesizer, it eliminates clutter and distractions, allowing you to maintain a smooth and uninterrupted creative workflow.

ELEMENT One features two independent oscillator groups, each containing 40 different algorithms. There is a Mix control between the oscillator groups and an extended Oscillator Drift control for creating huge super-sounds.

The available algorithms include a variety of complex analogue synthesis techniques, built in cross-modulation (SYNC, RM, and many more), PWM, smooth Morphing between VA waves, bit crushing and filtered noise. Each algorithm has carefully curated controls that make complex synthesis simple with just two parameters.

There is a massive arsenal of inspiring morphable and static filters as well as three dedicated flexible envelope generators for AMP, MOD and FILTER that can be accessed independently or all three simultaneously on board.

ELEMENT ONE also boasts a hugely powerful “Mod Matrix” with eight assignable slots and four additional fixed routes, 12 mod sources and 55 destinations.

The 4-axis joystick can be assigned to a huge range of modulation destinations and can be ‘locked’ in place when desired.

There are three LFO’s with tempo sync (two poly, one global).

ELEMENT ONE has three incredibly powerful independent and user-configurable stereo FX engines for 26 Effects algorithms, incl. Drive, Chorus, Phaser, Flanger, Tremolo, LoFi, Rotary, Stereo Delay, Ping-Pong Delay, X-Over Delay and Reverb.

The hardware has been manufactured with high-quality components to ensure long-term reliability and consistent performance.

Among the many connections, Modal ELEMENT ONE features a USB port to connect your synth to the MODALapp user interface on a computer tablet or phone. This can be used for preset design and management as well as updating the firmware on your ELEMENT ONE (please see ‘Updates’ section).

Polyphony

- True 8 voice polyphony with option to polychain any two ELEMENT One synthesisers for 16 voice polyphony.

MPE

- Supports MPE-compatible MIDI controllers, allowing you to apply polyphonic control and expression to individual notes

Oscillators

- 64 high-resolution virtual-analogue oscillators, up to 8 per voice
- Two independent and self-contained oscillator groups with sine, pulse, triangle, sawtooth waveforms, 40 different algorithms including: complex analogue synthesis techniques, built-in crossmodulation (SYNC, RM, and many more), PWM, smooth morphing between VA waves, bit crushing, filtered noise
- Vintage Parameter and Oscillator Free Run to emulate the behaviours of vintage analogue synths

Filter

- 31 filter types including two two-pole state variable filters, six morphing dual peak filters and 26 types of ladder filter with drive
- Cutoff Scaling with three distinctive modes

Modulation

- 3 dedicated envelope generators for AMP, MOD and FILTER that can be accessed independently or all three simultaneously including negative (reverse) versions and multiple envelope curve options
- 3 assignable LFO’s with tempo sync (two poly, one global).
- 8 assignable modulation slots and 4 additional fixed modulation routings for common assignments with 12 modulation sources and 58 modulation destinations

Arpeggiator

- Built-In sophisticated programmable arpeggiator of 32 steps with rest capability and random up to 2048 steps before repeating, multiple Arpeggiator direction modes

FX

- Three incredibly powerful independent and user-configurable stereo FX engines for 26 Effects algorithms, incl. Drive, Chorus, Phaser, Flanger, Tremolo, LoFi, Rotary, Stereo Delay, Ping-Pong Delay, X-Over Delay and Reverb.

User Memory

- 500 patch memories, all fully editable and ships with 300 factory programs
- Sound Categories and Custom Banks

Enclosure and Display

- Road-ready enclosure with metal front panel
- 1.54-inch large OLED display for instant visual feedback at all times of playing/editing

Controls and Performance

- Premium 37-key Keyboard with velocity and channel aftertouch
- 17 endless encoders, 12 buttons
- 4-axis joystick that can be assigned to a huge range of modulation destinations and virtually 'locked' when desired
- Multiple keyboard modes, Mono, Poly, Unison 2, Unison 4, Unison 8, Stack 2 and Stack 4
- Glide/Portamento with both legato and staccato modes
- Chord Invert control to easily create chord inversions and variations

Inputs and Outputs

- 6.35 mm / 1/4" TS dual-mono line outputs
- 6.35 mm / 1/4" TRS headphone output
- 3.5 mm / 1/8" TRS stereo audio input
- MIDI DIN In and Out
- 3.5 mm / 1/8" TS Analogue clock sync In and Out
- Class compliant MIDI over USB connection
- 6.35 mm / 1/4" TRS expression pedal input
- 6.35 mm / 1/4" TS sustain pedal input

Power

- Power: DC-9.0V – 1.5A centre-positive

Editor Software

- Free MODALapp software editor available for macOS, Windows, iOS and Android
- MODALapp can also be run within your Digital Audio Workstation (DAW), with VST3 and AU versions available

Dimensions (L x W x H)

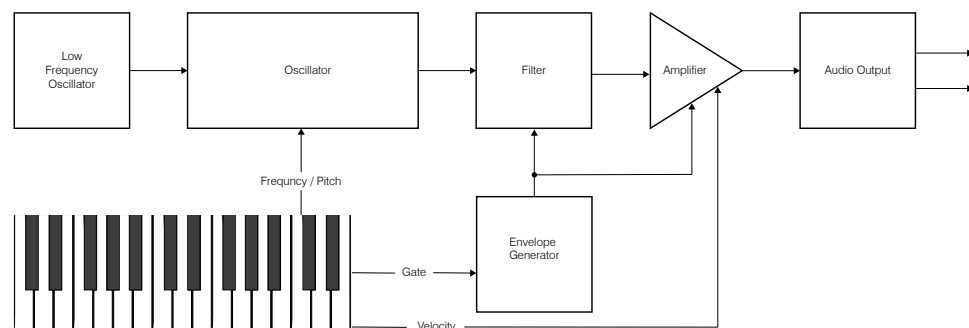
- 561 x 287 x 70 mm / 22.1" x 11.3" x 2.8"

Weight

- 5 kg / 11 lbs

Synthesizers are some of the most powerful and flexible tools in music. They don't just imitate instruments – they build sounds from the ground up. Want to create the sound of a spaceship taking off? A deep, rumbling bass? A shimmering, ambient pad? Synths can do all of that and more. But to really understand what's going on inside a synthesizer, you just need to get familiar with a few basic building blocks. Once you get the hang of them, it all starts to make sense.

Let's break it down.



1. IT ALL STARTS WITH THE OSCILLATOR

The first piece of the puzzle is the oscillator. This is where the sound is born. An oscillator produces a repeating wave at a certain frequency (how fast it vibrates), which your ears hear as pitch. Oscillators can create different wave shapes, and each shape has a unique sound or "timbre." Here are the common ones:

- **Sine wave:** A smooth, pure tone. Think of a tuning fork-very clean, no extra harmonics.
- **Square wave:** Has a hollow, buzzy sound. Great for retro video game sounds.
- **Triangle wave:** Kind of like a softer version of the square wave.
- **Sawtooth wave:** Bright and buzzy. It's packed with harmonics and sounds aggressive or rich.

ELEMENT One can generate more than just simple wave shapes. It employs complex algorithms that replicate sophisticated analog circuitry, which is typically found in expensive modular synth racks.

Many synthesizers let you blend multiple oscillators together. You can play two waveforms at once, tune them slightly apart to create a thicker sound, or mix in a sub-oscillator for added bass.

2. NEXT COMES THE FILTER

Once you've got your raw sound, it's time to shape it. This is where the filter comes in.

A filter changes the tone of the sound by removing certain frequencies. The most commonly used filter in synthesis is the low-pass filter. It lets low frequencies through but cuts out the high ones. This is how you make a sound smoother or darker. There's also the high-pass filter, which does the opposite-it cuts the low end and keeps the highs. And a band-pass filter focuses on a narrow slice of the frequency range, cutting both the highs and lows.

Many filters have a resonance control, which boosts the frequencies right at the cutoff point. This creates a sharper, more pronounced sound-often used in classic "wah" effects or squelchy basses in electronic music.

3. ENVELOPES: HOW SOUND MOVES

Sound isn't just a static thing – it changes over time. A snare drum hits quickly and fades out. A string note swells slowly. That motion is controlled by something called an envelope, usually labeled ADSR, which stands for:

Attack - how long it takes the sound to go from silence to full volume.

Decay - how long it takes to go from full volume to the sustain level.

Sustain - the level the sound holds while you keep the key pressed.

Release - how long it takes for the sound to fade out after you release the key.

You can apply this envelope to volume, filter, pitch-just about anything. Want a plucky sound? Use a fast attack and quick release. Want something ambient and slow? Use a long attack and a gentle release.

4. LFOS: ADD MOVEMENT WITHOUT LIFTING A FINGER

LFO stands for low-frequency oscillator, and it's a fun little tool that brings your sound to life.

Unlike regular oscillators (which make sound), LFOs are usually too slow to hear directly. Instead, they're used to modulate other parameters-basically, they wiggle knobs for you.

For example:

- Use an LFO to modulate pitch for vibrato.
- Use it on volume for tremolo.
- Use it on filter cutoff to create sweeping effects.

You can control the speed, depth, and even the shape of the LFO's movement. Whether it's smooth and wavy or sharp and choppy, the LFO adds animation to an otherwise static sound.

5. MONOPHONIC VS. POLYPHONIC

Some synthesizers can only play one note at a time—these are called monophonic synths. They're great for basslines, leads, and effects.

Others can play chords and multiple notes at once—these are polyphonic synths. Great for lush pads, keys, and harmonic layers.

Monophonic synths often have special tricks like glide or portamento, where the pitch slides smoothly between notes. This gives solos and basslines a slick, expressive feel.

6. ANALOG VS. DIGITAL

You might hear people talk about analog vs. digital synthesizers. The difference is in how they generate sound.

Analog synths use actual electrical components to create and shape signals. They're known for their warm, sometimes unpredictable character.

Digital synths use computer chips and embedded code to calculate and generate sound. They can be incredibly precise and offer more complex sound design options, including effects, deep modulation, and crazy waveforms.

Some synths even combine both, giving you the best of both worlds.

7. DIFFERENT TYPES OF SYNTHESIS

Most of what we've covered so far falls under subtractive synthesis, where you start with a rich waveform and carve parts of it away using filters.

But there are other methods, too:

- FM synthesis (frequency modulation): This involves modulating one waveform with another to create complex, metallic, or bell-like tones. It's trickier to learn but super powerful.
- Wavetable synthesis: Instead of using one static waveform, wavetable synths let you scroll through a series of different wave shapes. This creates evolving, morphing textures.
- Granular synthesis, additive synthesis, physical modeling, and others exist too—but they're more specialized and often used in digital synths or software.

8. MODULATION: THE SECRET SAUCE

One of the best things about synths is that most parameters can control each other. This is called modulation.

You can route an envelope to change a filter over time, or use an LFO to affect pitch, or let one oscillator influence another. Many synths have modulation matrices, which let you decide what controls what. It's like connecting wires between different parts of the synth (and some

analog synths literally do this with patch cables).

Modulation is what turns a flat, lifeless tone into something that evolves, pulses, breathes, and reacts.

9. Adding Shine and Depth with effects

Effects are like the final layer of polish on a synthesizer sound. While oscillators, filters, envelopes, and LFOs shape the core of the sound, effects add depth, motion, space, and texture. Many modern synthesizers—especially digital or software ones—come with built-in effects that let you enhance or radically transform your sound without needing external gear.

IN CONCLUSION:

Synths Are Sound Sculpting Machines. Think of a synthesizer like a sonic LEGO set. You start with simple building blocks—oscillators, filters, envelopes, and modulators – and assemble them however you like. Want a thick, crunchy bass? You can build it. Want something spacey and abstract? No problem.

You don't have to be a scientist to understand or enjoy synths. Start simple. Tweak a few knobs. Listen to what happens. There's no right or wrong—just endless creative possibilities. Whether you're making music, designing sound for games or films, or just having fun, synthesizers are one of the most creative tools you can get your hands on. And the more you play with them, the more rewarding they become.

01

Getting Started

POWERING ON

Connect the power lead to your ELEMENT One then connect the outputs of the ELEMENT One to your mixer, or if you prefer, connect your headphones. Optionally connect a USB cable from your computer or tablet device to the ELEMENT One for MODALapp communication.

Then power on.

You will see a loading animation on the screen. When the synth has loaded it will change to show the main patch page.

SCREEN CONTROL

The Modal ELEMENT One interface is designed to be extremely intuitive and easy to use, so that all the most important parameters are easily accessible and tweakable directly from the top panel, however, all functions are also accessible and tweakable on-screen using the two detented encoders.

These two switched-encoders are located either side of the screen are used for screen navigation and control and can be clicked to either switch mode or trigger / modify the selected function:

- **PAGE/PARAM** – When this encoder is in ‘Page’ mode (top row of on-screen text) it cycles through the parameter pages / groups (e.g. Osc1, Osc2, Filter); when it’s in ‘Param’ mode (bottom row of on-screen text) it cycles through the parameters on that page / group. Use the switch by clicking the encoder to toggle between the two modes, where the mode is displayed on the screen with a line at top for ‘Page’ mode and at the bottom for ‘Param’ mode.
- **VALUE** – This encoder/switch is used to adjust the currently selected value or ‘trigger’ the currently displayed parameter.
- **-/+ buttons** – These buttons can change values in decremental or incremental values.

NAVIGATING AND LOADING PATCHES

Finding one of the 500 patches on the ELEMENT One is very easy thanks to its built-in Categorization and Custom Bank System. Categories let you find patches based on certain characteristics (Analog, 70ies, Warm, Bass, Strings, etc.).

Additionally, Banks provide a convenient way to organize your patches into a structure that works for you. ELEMENT One holds up to a hundred banks. Use Banks to group every sound needed for a specific song, allowing you to cycle through patches instantly using the VALUE + button. You can also curate favorite banks to keep your go-to sounds within reach.

In Sound Mode, you have two primary ways to discover and select patches: browsing within a specific Bank or searching Globally via Categories. The navigation logic ensures that you always know exactly how you are filtering your sounds.

- **CAT (Category) Button** – Initiates a global search across all banks. This mode filters the entire library to show only the patches that match your selected category criteria. You can choose up to three categories:
 - Use the PAGE/PARAM encoder to select the one of the three available Category slots.
 - Scroll through the Categories with the Value encoder or the Value -/+ encoders.

When you hold the button longer, the categories for the currently selected patch are displayed and can be changed.

- **BANK Button** – Limits browsing to the currently selected bank. This mode ignores all category filters, allowing you to scroll through every patch in that specific bank.
 - Select a bank with the VALUE encoder or the -/+ VALUE buttons.

When you hold the BANK button for more than 2 seconds, a context menu lets you perform the following actions

- **New Bank** – Creates a new Bank. Confirm by pushing the VALUE encoder. Name the bank and press VALUE again to create a bank. If no name is selected an error message will appear to ask you to enter a name. Please see the Naming paragraph on page 14.
- **Rename Bank** – Lets you rename an existing bank. Choose the bank you want to rename with the VALUE encoder or the -/+ buttons and press the VALUE encoder again. Select a new name in the next screen and confirm by pressing VALUE again.
- **Delete Bank** – With this command you can delete an empty bank on ELEMENT One. Choose the bank you want to delete and press the VALUE encoder. If the bank contains patches, the operation is aborted.

The bottom half of the display acts as a persistent status bar, remaining in either Category or Bank mode to indicate your current browsing method.

SELECTING A PATCH

Press either the CATEGORY or BANK button. Use the VALUE encoder to scroll through the available categories or banks. Click the VALUE encoder to confirm your selection. You will be returned to the main Sound Mode screen with your new filters applied. You can abort the process by pressing any button other than the Value encoder and revert the system to its previous state.

CATEGORY SEARCH RULES

The system prevents you from searching for sounds that don’t exist:

- **Empty Categories:** Categories containing no patches are displayed with a strikethrough.
- **Disabled Confirmation:** You cannot “Confirm” a search if an empty category is selected.

- **Visual Cues:** Crosshair symbols will appear on the horizontal center line to indicate that the current selection is invalid and cannot be confirmed.
- **Resetting:** Perform a long press on the Value encoder to quickly clear the current category selection.

PENDING CHANGES & VISUAL INDICATORS

To help you track your navigation before committing to a sound change, the display uses dynamic icons on the center line:

Arrowheads	A bank or patch change is pending but has not yet been confirmed.
Crosshairs	The current category is empty; confirmation is disabled.

SAVE A PATCH

First press the SAVE button to enter the save procedures. The following options can be selected with the VALUE encoder or the -/+ buttons. Confirm the selected option by pressing the VALUE encoder. You can jump a step back by pressing the PAGE/PARAM encoder.

- **Save** – Saves the patch to the currenty selected memory location and overwrites the patch that ‘lives’ currently on this memeory location.
After confirming you will reach the ‘Edit Name’ page. Please read the Naming section for more information. After naming your patch, press VALUE again and you will receive the ‘Confirm’ page. Complete the operation by pressing the VALUE encoder.
When you press and hold this button for 2 sec, you ‘quicksave’ the patch and jump over the additinal Naming and Confirm pages.
- **Save As** – Saves the patch to a new memory location.
Next, you can select the bank in which the patch should be stored. After confirming you will reach the ‘Edit Name’ page. Please read the Naming section for more information. After naming your patch, press VALUE again and you will receive the ‘Confirm’ page. Complete the operation by pressing the VALUE encoder.
- **Move** – Moves the currently loaded patch to a different memory location and removes it from its previous location.
Next, you can select the bank in which the patch should be moved to. After confirming you will reach the ‘Edit Name’ page. Please read the Naming section for more information. After naming your patch, press VALUE again and you will receive the ‘Confirm’ page. Complete the operation by pressing the VALUE encoder.
- **Delete** – Deletes a patch from the library. After pressing the VALUE encoder you can confirm the procedure with pressing VALUE again.

Naming

Use the PAGE/PARAM encoder to select the character position, and use the VALUE encoder poder the -/+ buttons for character selection. Press the VALUE switch to finish editing the name. There are a number of panel shortcuts here:

- Press ‘Oct-’ to jump to lowercase characters
- Press ‘Oct+’ to jump to uppercase characters
- Press the ‘Page/Param’ encoder to add a space (increment all above characters)

02

Connections

Audio In

Audio Input on 1/8" stereo/TRS jack.

Expression Pedal over standard 1/4" stereo/TRS jack from an external expression source.

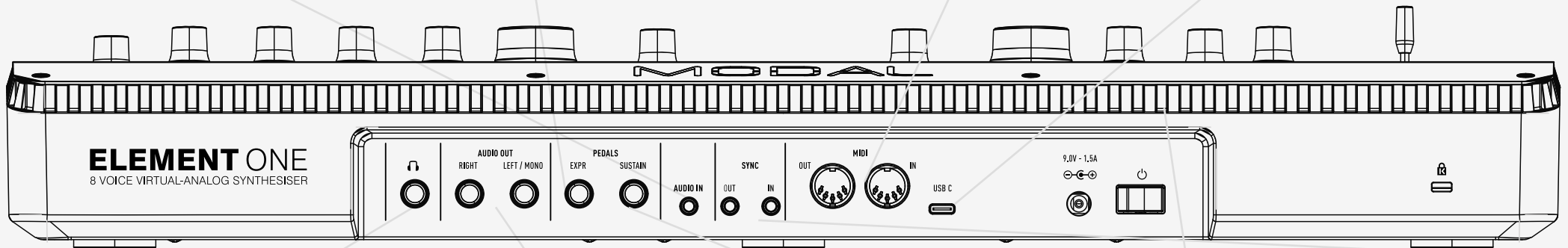
ELEMENT One works best with expression pedals that use the TRS polarity and have a resistance of 10k or above. However ELEMENT One has a software configuration option for providing basic compatibility with RTS polarity pedals as well as for improving the compatibility with different resistances. If your expression pedal has a polarity switch we recommend setting it to the 'TRS' polarity (the default setting on most pedals). For setting maximum compatibility with your expression pedal's polarity and resistance value, please see the 'Settings - Pedal Type' section. If you are unable to configure ELEMENT One to work adequately with your expression pedal, you may need to use a TRS Polarity Adapter. Please note that expression pedals with the TS polarity will not work with ELEMENT One.

MIDI (In, Out)

MIDI In / Out on MIDI 5-pin DIN cable. These outputs can be used to communicate with any other MIDI devices. The MIDI Out can be set to Thru using MODALapp or MODALplugin (See the MIDI section)

USB MIDI

ELEMENT One is a class compliant USB MIDI device and connects to a USB host via USB C Connection for MODALapp communication, MIDI input and MIDI output. Simply connect ELEMENT One to a USB socket, such as on your computer or tablet with a standard USB cable and find 'ELEMENT One' listed as a MIDI port on your computer or tablet.



Headphones

Headphone output on 1/4" stereo/TRS jack. The volume can be adjusted using the VOLUME knob or the dedicated Headphone Level control on the screen.

The headphone output will match the audio output so it can be either stereo or mono depending on the current audio out configuration.

Line Out

Line level stereo outputs on 1/4" TS dual-mono jacks. The left jack only will break the stereo circuit and collapse the signal to mono. These outputs can be connected to any line level input for monitoring and recording. The line output is higher quality than the headphone output, so always use it when recording or performing. The Line out level can be adjusted using the 'Volume' knob.

Sustain Pedal over standard 1/4" mono/TS from an external sustain pedal.

Note: ELEMENT One supports both types of sustain pedal polarities. "Positive / Normally Open" pedals can be connected / disconnected whilst ELEMENT One is powered on, however "Negative / Normally Closed" pedals must be connected before powering on the device and disconnected after powering off the device in order to work correctly. If your sustain pedal has a polarity switch we recommend setting it to the "Positive" polarity. If you are unsure of your pedal's polarity type, it is recommended to only connect / disconnect the pedal whilst the device is powered off.

Clock Sync (In, Out)

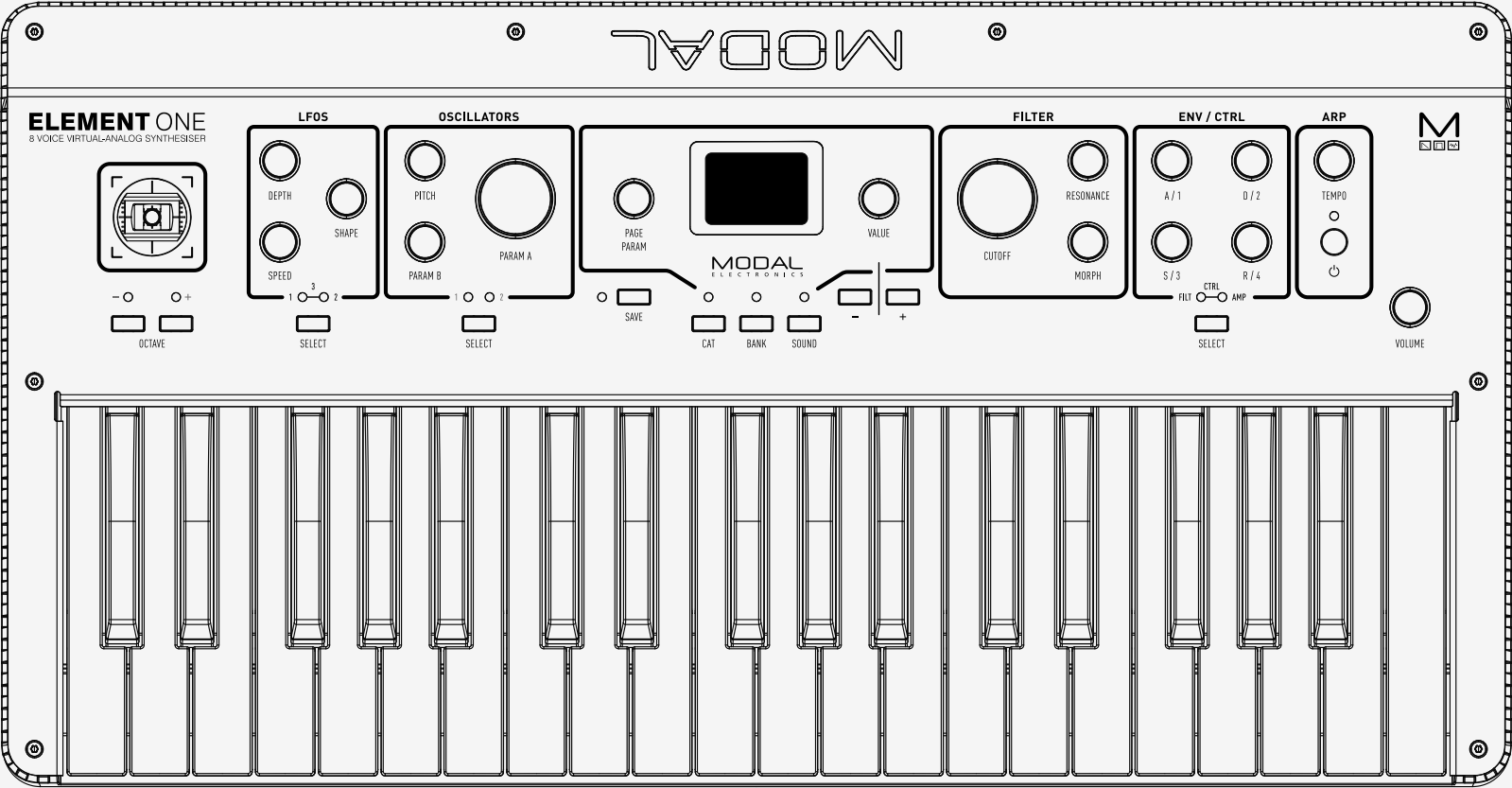
Clock Sync In / Out on 1/8" mono/TS jack. Simply plug into your clockable gear as desired. (See the Sync section)

Power

Power switch for ELEMENT One. Power via DC-9.0V - 1.5A centre-positive PSU (supplied)

03

Synthesis engine



OSCILLATORS

ELEMENT One features two independent oscillator groups, with a total of 8 oscillators per voice, which result in 64 oscillators that are constantly generating a waveform in realtime.

FRONT PANEL CONTROLS

- **SELECT:** This push button allows you to toggle between Oscillator Group 1 and 2. The LED indicates whether the knobs are controlling Group 1 or 2.
- **PARAM A:** This encoder allows you to control the Param A for the pre-selected algorithm on Oscillator Group 1 or 2.
- **PARAM B:** This encoder allows you to control the Param B for the pre-selected algorithm on Oscillator Group 1 or 2.
- **PITCH:** Turning this encoder allows us to control the coarse tuning of the selected Oscillator Group within +/- 2 octaves.

MENU PARAMETERS

OSC 1

- **Algorithm1:** This encoder allows you to select which algorithm to use for Oscillator Group 1.
- **A1:** This encoder allows you to control the Param A for the selected algorithm on Oscillator Group 1.
- **B1:** This encoder allows you to control the Param B for the selected algorithm on Oscillator Group 1.
- **Tune1:** Holding the 'Shift' button (or when latched in shift mode) and turning this encoder allows us to control the coarse tuning of Wave1 (Tune) at desirable intervals +/- 2 octaves.
- **Fine1:** Holding the 'Shift' button (or when latched in shift mode) and turning this encoder allows us to control the fine tuning of Wave1 (Fine) +/- 100 cents.

OSC 2

- **Algorithm2:** This encoder allows you to select which algorithm to use for Oscillator Group 2.
- **A2:** This encoder allows you to control the Param A for the selected algorithm on Oscillator Group 2.
- **B2:** This encoder allows you to control the Param B for the selected algorithm on Oscillator Group 2.

- **Tune2:** Holding the 'Shift' button (or when latched in shift mode) and turning this encoder allows us to control the coarse tuning of Wave2 (Tune) at desirable intervals +/- 2 octaves.
- **Fine2:** Holding the 'Shift' button (or when latched in shift mode) and turning this encoder allows us to control the fine tuning of Wave 2 (Fine) +/- 100 cents.
- **Glide:** Holding the 'Shift' button (or when latched in shift mode) and turning this encoder controls the speed with which the oscillators change their pitch, 'sliding' from one note to the next one pressed. Positive values control the amount of Auto Glide and negative values control the amount of Legato Glide and will only glide if another note is already held.

OSC

- **Mix:** This encoder allows you to balance the volume between each oscillator group. All the way to the left you will hear only Algorithm 1, All the way to the right you will hear Algorithm 2. In the centre you will hear a balanced blend of both waves.
- **Drift:** This encoder controls the oscillator drift amount. This is the amount of slop or random detuning of each oscillators phase and tune.
- **Free Run:** This parameter emulates the behaviour of analogue oscillators by allowing them to run freely

ALGORITHMS

The available algorithms on ELEMENT One include a variety of complex analogue synthesis techniques, built in cross-modulation (SYNC, RM, and many more), PWM, smooth Morphing between VA waves, bit crushing and filtered noise. Each algorithm has carefully curated controls that make complex synthesis simple with just two parameters.

- **VA Sweep:** Sweep through sine, triangle, saw, square, pulse (with pulse width) (A), ability to detune the oscillators (or snap to musical intervals) using spread (B)
- **VA Crushed:** Sweep through sine, triangle and saw shapes (A) with real-time control over bit crushing (B)
- **Spread Saw:** Spread mode with increased oscillator count, ability to blend between the fundamental and detuned oscillators (A) and more comprehensive spread (B) options (e.g oct up + detuned)
- **Spread Square:** Spread mode with increased oscillator count, ability to blend between the fundamental and detuned oscillators (A) and more comprehensive spread (B) options (e.g oct up + detuned)
- **Spread Triangle:** Spread mode with increased oscillator count, ability to blend between the fundamental and detuned oscillators (A) and more comprehensive spread (B) options

(e.g oct up + detuned)

- **PWM:** Classic Pulse Width Modulation with width control (A) and ability to detune the oscillators using spread (B)
- **PWM Dual:** PWM mode where as the width control (A) changes, the pulse width increases in the first cycle of the wave and decreases in the second cycle. Oscillators can be detuned using the spread (B) control
- **PWM Triangle / Square:** Alternating triangle and square waves with control over the width of the triangle portion (A) and an asymmetry control (B) that allows every second cycle to have a different triangle width (inverse) to the first
- **PWM Saw Eraser:** Wave with both a saw and PWM portion, with control over the ratio between the two portions (A) and the width of the PWM portion (B) relative to parameter A
- **PWM Triangle Pinch:** Triangle wave with pulse width modulation (A) and an asymmetry control (B) which allows every second cycle of the wave to have a different width to the first (can be wider or narrower)
- **Hard Sync Saw:** Classic hard sync with un-quantised ratio (A) that can be blended with a sub oscillator (B) one octave below the fundamental
- **Hard Sync Square:** Classic hard sync with un-quantised ratio (A) that can be blended with a sub oscillator (B) one octave below the fundamental
- **Hard Sync Triangle:** Classic hard sync with un-quantised ratio (A) that can be blended with a sub oscillator (B) one octave below the fundamental
- **Fractal Saw:** Complex sync with un-quantised control over ratio (A) and an asymmetry control (B) that allows every second cycle of the wave to have a different sync ratio to the first
- **Fractal Square:** Complex sync with un-quantised control over ratio (A) and an asymmetry control (B) that allows every second cycle of the wave to have a different sync ratio to the first
- **Fractal Triangle:** Complex sync with un-quantised control over ratio (A) and an asymmetry control (B) that allows every second cycle of the wave to have a different sync ratio to the first
- **Reverse Saw:** Periodically reverses the direction of the waveform and changes the playback rate (A), asymmetry control (B) changes the period length (i.e the switch point within a cycle)
- **Reverse Square:** Periodically reverses the direction of the waveform and changes the playback rate (A), asymmetry control (B) changes the period length (i.e the switch point within a cycle)

- **Reverse Triangle:** Periodically reverses the direction of the waveform and changes the playback rate (A), asymmetry control (B) changes the period length (i.e the switch point within a cycle)
- **Window Amp Sync:** Applies amplitude modulation to a sine wave using a hard synced waveform. Features an un-quantised sync ratio control (A) and the ability to morph between multiple window shapes (B)
- **Metal Saw:** Creates ring modulation/amplitude modulation like effects by syncing a waveform to two separate signals, one at the base rate and one at the sync rate. Features un-quantised control over sync rate (A) and ability to balance between the base wave and the modulated signal (B)
- **Metal Square:** Creates ring modulation/amplitude modulation like effects by syncing a waveform to two separate signals, one at the base rate and one at the sync rate. Features un-quantised control over sync rate (A) and ability to balance between the base wave and the modulated signal (B)
- **Metal Triangle:** Creates ring modulation/amplitude modulation like effects by syncing a waveform to two separate signals, one at the base rate and one at the sync rate. Features un-quantised control over sync rate (A) and ability to balance between the base wave and the modulated signal (B)
- **Ring Mod Saw:** Ring mod applied to two saw waves, with quantised ratio control (A) that snaps through a series of useful ratios, and a fine control (B), which cross-fades between these ratios allowing precise control across the whole range
- **Ring Mod Square:** Ring mod applied to two square waves, with quantised ratio control (A) that snaps through a series of useful ratios, and a fine control (B), which cross-fades between these ratios allowing precise control across the whole range
- **Ring Mod Triangle:** Ring mod applied to two triangle waves, with quantised ratio control (A) that snaps through a series of useful ratios, and a fine control (B), which cross-fades between these ratios allowing precise control across the whole range
- **Ring Mod Triangle / Square:** Ring mod applied to a triangle and a square wave, with quantised ratio control (A) that snaps through a series of useful ratios, and a fine control (B), which cross-fades between these ratios allowing precise control across the whole range
- **Ring Mod Saw / Square:** Ring mod applied to a saw and square wave, with quantised ratio control (A) that snaps through a series of useful ratios, and a fine control (B), which cross-fades between these ratios allowing precise control across the whole range
- **Ring Mod Saw / Triangle:** Ring mod applied to a saw and triangle wave, with quantised ratio control (A) that snaps through a series of useful ratios, and a fine control (B), which cross-fades between these ratios allowing precise control across the whole range
- **Chaos Saw:** Un-quantised ring modulation (A) combined with randomisation (B)

- **Chaos Square:** Un-quantised ring modulation (A) combined with randomisation (B)
- **Chaos Triangle:** Un-quantised ring modulation (A) combined with randomisation (B)
- **Fold Triangle:** Triangle wave-folding (A) with DC offset (B)
- **Filtered Noise:** Noise generator combined with a morphable filter with full control over Cutoff (A) and Morph (B)
- **FM Saw:Square:** Frequency Modulation using a Sawtooth as the carrier and a Square as the modulator with full control over FM Depth (A) and Modulator Frequency Ratio (B)
- **FM Square:Square:** Frequency Modulation using a Square as both the carrier and modulator with full control over FM Depth (A) and Modulator Frequency Ratio (B)
- **FM Tri:Square:** Frequency Modulation using a Triangle as the carrier and a Square as the modulator with full control over FM Depth (A) and Modulator Frequency Ratio (B)
- **Noise AM Saw:** Sawtooth Wave amplitude modulated by a filtered noise source with full control over AM Depth (A) and Noise filter cutoff (B)
- **Noise AM Square:** Square Wave amplitude modulated by a filtered noise source with full control over AM Depth (A) and Noise filter cutoff (B)
- **Noise AM Tri:** Triangle Wave amplitude modulated by a filtered noise source with full control over AM Depth (A) and Noise filter cutoff (B)

Note: The oscillator spread controls function as follows:

- 0 - all oscillators are perfectly in tune
- 1 - 63 - increasing oscillator detune
- 64 - 127 - oscillators detuned in musical intervals

FILTER

ELEMENT One has a wide selection of 31 different filter types to tastefully tailor the sonic content of the algorithms mix.

FRONT PANEL CONTROLS

- **Cutoff:** This knob controls the filter cutoff frequency. This affects the cutoff frequency of the filter, from 0Hz up to 22kHz.
- **Reso:** Dial in the amount of resonance of the filter with this knob.
- **Morph:** This encoder changes the frequency response of the filter. See below for how this control morphs each of the different filter types. In any static filter types the 'Morph' encoder is used to control filter drive.

MENU PARAMETERS

- **Cutoff:** This parameter controls the filter cutoff frequency. This affects the cutoff frequency of the filter, from 0Hz up to 22kHz.
- **Reso:** This parameter controls the amount of resonance of the filter.
- **Morph:** This parameter changes the frequency response of the filter. See below for how this control morphs each of the different filter types. In any static filter types the 'Morph' encoder is used to control filter drive.
- **Type:** Select the type of the filter. There are 31 filter types in total, including morphable and static filters.
- **Cutoff Scaling:** This Parameter switches the control curve of the Cutoff as well as the Note > Cutoff behaviour of the filter

Legacy - The original cutoff control scaling curve and note-to-cutoff tracking behaviour from firmware prior to version 2.0.

Relative - A scaling curve that is more balanced and changes the note-to-cutoff tracking to behave more closely to analogue synths and tracks portamento / glide and pitch bend. In this mode note-to-cutoff tracks best when the cutoff control is at 0.

Bipolar - The same cutoff control scaling curve as the 'Relative' mode, except in this mode note-to-cutoff tracks best when the cutoff control is at 64.

Morphable Types:

- **Resonant Low Pass** - Morphs 4-pole lowpass, through bandpass, to 1-pole lowpass
The Resonant Low Pass filter type is designed to maximise resonance response.
- **Balanced Low Pass** - Morphs 4-pole lowpass, through bandpass, to 1-pole lowpass
The Balanced Filter types lose less low end frequencies at high resonance settings, with the trade off that resonance is reduced when sweeping the cutoff towards lower frequencies.
- **Balanced High Pass** - Morphs 4-pole highpass, through notch, to 1-pole highpass
- **Balanced Phase** - Morph controls the width and depth of the dual notches
- **State Variable BP** - Morphs 2-pole lowpass, through bandpass, to high pass
- **State Variable Notch** - Morphs 2-pole lowpass, through notch, to high pass

Static Types:

- 4 pole Lowpass Ladder (with drive)
- 3 pole Lowpass Ladder (with drive)
- 2 pole Lowpass Ladder (with drive)
- 1 pole Lowpass Ladder (with drive)
- 4 pole Highpass Ladder (with drive)
- 3 pole Highpass Ladder (with drive)
- 2 pole Highpass Ladder (with drive)
- 1 pole Highpass Ladder (with drive)
- 4 pole bandpass Ladder (12dB Lp / 12dB Hp) (with drive)
- 2 pole Bandpass Ladder (6dB Lp / 6dB Hp) (with drive)
- 3 pole Bandpass Ladder (6dB Lp / 12dB Hp) (with drive)
- 3 pole Bandpass Ladder (12dB Lp / 6dB Hp) (with drive)
- 4 pole Bandpass Ladder (6dB Lp / 18dB Hp) (with drive)
- 4 pole Bandpass Ladder (18dB Lp / 6dB Hp) (with drive)
- Notch Ladder (with drive)
- Notch Ladder Alt (with drive)
- Lowpass Ladder with Notch (with drive)
- Lowpass Ladder with Notch Alt (with drive) - notch closes with resonance

- Lowpass Ladder with Notch and Resonance (with drive)
- Bandpass Ladder with Notch (with drive) - notch closes with resonance
- Bandpass Ladder with Notch and Resonance (with drive)
- Phaser Ladder (with drive)
- Highpass Ladder with Notch (with drive) - notch closes with resonance
- Highpass Ladder with Notch and Resonance (with drive)
- Peaking Filter (with drive)

ENVELOPES

ELEMENT One provides three separate 4-stage Envelope Generators (i.e. envelopes), one for the filter (FILT-EG), one for the amplifier (AMP-EG) and one for modulations (MOD-EG). the Envelope Generators for filter and amp can be controlled by physical knobs on the front panel. With negative amounts (FILT-EG and MOD-EG) only the attack, decay and sustain levels are inverted, the release phase will still tend to 0.

FRONT PANEL CONTROLS

- **A (Attack):** This parameter controls the time passing from the moment you press a key (i.e. 'MIDI Note On' message) until the sound reaches its maximum value.
- **D (Decay):** This parameter controls the time passing for the envelope to drop from its maximum value to a sustain level (see below).
- **S (Sustain):** This parameter controls the level of the sustain phase (i.e. the volume of the sound while keeping the key pressed for AMP-EG). If there are no modulations active, this volume keeps constant until you release the key. (The envelope then enters the 'release' phase)
- **R (Release):** This parameter controls the time passing from the moment you leave a key (i.e. 'MIDI Note Off' message) until the sound reaches silence.

The blue indicators represent the functions available when the CTRL layer is active (signified by both LEDs being lit). These indicate the freely assignable controls. For assigning these to the various features of ELEMENT One's synth engine, hold the ENV / CTRL SELECT Button pressed for longer than one second to enter the Assign page on the menu. With the PAGE encoder you can now select one of the four available knobs, while the VALUE encoder and +/- buttons allow you to select the function you want to control.

MENU PARAMETERS

- **Attack:** This parameter controls the time passing from the moment you press a key (i.e. 'MIDI Note On' message) until the sound reaches its maximum value.
- **Decay:** This parameter controls the time passing for the envelope to drop from its

maximum value to a sustain level (see below).

- **Sustain:** This parameter controls the level of the sustain phase (i.e. the volume of the sound while keeping the key pressed for AMP-EG). If there are no modulations active, this volume keeps constant until you release the key. (The envelope then enters the 'release' phase)
- **Release:** This parameter controls the time passing from the moment you leave a key (i.e. 'MIDI Note Off' message) until the sound reaches silence.
- **Depth:** This controls the envelope depth amount of the selected envelope generator. This gives bi-polar (FILT-EG and MOD-EG) or uni-polar (AMP-EG) control of the amount of modulation the envelope has over its destination/s.
- **Type:** There are 8 envelope types. These types are stored per-patch and each envelope type is independent so you can have a different type for MEG, FEG and AEG in the same patch. You can find these settings at the bottom of the AEG, FEG and MEG pages on the screen.
 - **Expo** - classic exponential curve - suited for most sound types
 - **Snappy** - fast attack and decay time curves - best suited for percussive material
 - **Soft** - smoother attack and release time curves - best suited for pads
 - **Linear** - simple linear ramp for each envelope stage - best suited for modulation
 - **Expo Long** – Expo curve with double the maximum time for each stage of the envelope
 - **Snappy Long** – Snappy curve with double the maximum time for each stage of the envelope
 - **Soft Long** – Soft curve with double the maximum time for each stage of the envelope
 - **Linear Long** – Linear curve with double the maximum time for each stage of the envelope

Long variants possess a maximum release time of 10 seconds.

LFOs

ELEMENT One features three individual low frequency oscillators. LFO1 is global and LFO2 and LFO3 are polyphonic.

FRONT PANEL CONTROLS

- **SELECT:** This push button lets you assign the LFO section knobs to either control LFO1, LFO2 or LFO3 as indicated by the corresponding LEDs.
- **SPEED:** This parameter controls the rate or speed of the LFO.

An LFO in a positive amount is a free rate meaning it will run independently from the

synths tempo / MIDI clock input. In negative amounts it is synced to the synths tempo / MIDI clock input at various subdivisions

- **SHAPE:** Turning this encoder controls the given LFO Shape. The available shapes are Sine, Tri, Sqr, Sawtooth / Ramp up, Sawtooth / Ramp down, S+H, Slew S+H
- **DEPTH:** This parameter controls the depth of the given LFOs modulation.

MENU PARAMETERS

- **Rate:** This parameter controls the speed of the LFO.
An LFO in a positive amount is a free rate meaning it will run independently from the synths tempo / MIDI clock input. In negative amounts it is synced to the synths tempo / MIDI clock input at various subdivisions
- **Shape:** Holding the 'Shift' button and (or when latched in shift mode) turning this encoder controls the given LFO Shape. The available shapes are Sine, Tri, Sqr, Sawtooth / Ramp up, Sawtooth / Ramp down, S+H, Slew S+H
- **Depth:** This parameter controls the depth of the given LFOs modulation.
- **Mode:** Holding the 'Shift' button and (or when latched in shift mode) turning this encoder selects the Retrigger Mode. The modes are:
Retrigger - In this mode, each new keypress restarts the LFO and it continues to run - particularly useful for Unison/Stack sounds.
Free - In this mode the LFO is never reset, so it could be at any phase when a note is pressed.
Single - In this mode, the LFO will start when a new key is pressed, complete cycle and stop, but will not retrigger when a new note is triggered and one is already held.

ARPEGGIATOR

ELEMENT One features an intuitive programmable arpeggiator. A programmable pattern can hold up to 32 steps. The speed of the arpeggiator is controlled by the internal clock or external signals received via the sync in port or external MIDI.

FRONT PANEL CONTROLS

- **TEMPO:** This encoder sets the Tempo of the internal clock in BPM and impacts the speed of the arpeggio only when the clock is set to internal. You can tap the tempo by holding the ENV/CTRL SELECT button and tap the ARP ON/OFF button.
- Holding **SELECT (ENV / CTRL)** and tapping **ARP ON/OFF** allows to enter tempo values by following the tempo of your tapping.
- **ON/OFF:** This switch activates or deactivates the arpeggiator.

- Holding the **ARP ON/OFF** button and turning the **TEMPO** encoder lets you change the timing division of the arpeggio.

MENU PARAMETERS

- **Status:** You can activate or deactivate the arpeggiator with this parameter.
- **Division:** Turning this encoder allows you to select the clock division of the Arp. You can also Hold the **ARP ON/OFF** button and turn the **TEMPO** encoder on the front panel to set the division.
- **Mode:** Turning this encoder allows you to select the octave range and direction of the Arp.
- **Swing:** With this encoder allows you to dial in swing to the Arp. This setting is bi-polar allowing us to nudge every other note backward or forward in time.
- **Arp Gate:** This allows you to set Arp Gate length.
- **Sustain 'Latch Mode':** Holding the **Octave - and +** button for one second will enable Sustain 'Latch Mode' - press and release a note / chord to sustain it, press a new note / chord to overwrite the existing one. This also provides the classic arpeggiator 'Hold' functionality.

HOW TO PROGRAMM YOUR OWN ARPEGGIATOR PATTERN

Hold down the ARP ON/OFF button down and play the notes you want to include in your arp pattern on the keyboard. If you want to enter a rest step, hit the VALUE + button. If you want to go a step back, hit the VALUE - button.

Effects (FX)

ELEMENT One features 3 incredibly powerful independent and user configurable stereo FX engines. These 3 slots can be rearranged in any order in series. 1>2>3. Any effect can go in any slot, but you may only use 1 type of each effect per preset plus any effect with "+" in the name will take up two slots.

The FX parameters are available via the menu or Modalapp and each parameter can be controlled by the 4 assignable controllers in the ENV / CTRL section.

MENU PARAMETERS

- **Level:** This parameter allows us to control the FX level amount within this patch. This parameter affects the Dry/Wet mix of the of the FX engine's audio output with the pre-FX signal. When set to minimum, only the dry signal will be heard. When set to maximum, only the FX engine's signal will be heard.

The next description relate to all three effects slots.

- **Type:** Select one of the available effects
- **A:** Control the first parameter of the selected effect.
- **B:** Control the second parameter of the selected effect.
- **C:** Control the third parameter of the selected effect.
- **D:** Control the fourth parameter of the selected effect.
- **E:** Control the fifth parameter of the selected effect.
- **F:** Control the sixth parameter of the selected effect.
- **Swap with:** This function lets you reorder the FX chain by swapping the current FX with another FX in one of the other two slots. .
- **Delay Mode:** The delay mode control unlocks several different variations of delay. This setting can be found on-screen in the relevant FX slot page that any delay is loaded into. The modes are:
 - **Colour:** A classic colouring delay that saturates and smears delay tails slightly.
 - **Clean:** A crystal clear delay with no smear to the feedback tails. Offers the same time scaling as Standard.
 - **Long:** Our pristine Clean delay with up to 4x Colour or Clean delay times.

FX Presets

ELEMENT One comes loaded with 100 factory FX presets for you to instantly switch up your sound. FX presets range from simple single-FX presets to complex multi-FX presets.

To easily navigate to the FX preset page simply press all three FX slot buttons (FX1, FX2, FX3) at the same time. Loading an FX preset will apply preset FX settings to the currently loaded patch, but you need to save the patch to save the new FX settings to the patch.

+ FX Types

Some FX types due to DSP limitations will take up two FX slots instead of one. These are indicated by using "+" in the FX name.

FX List

FX	A	B	C	D	E	F
Chorus	Dry:Wet Mix	Mod Depth	Mod Rate	Time	Feedback	Phase
Chorus V2	Dry:Wet Mix	Mod Depth	Mod Rate	Feedback	-	-
Phaser	Dry:Wet Mix	Mod Depth	Mod Rate	Frequency	Feedback	Phase
Phaser V2	Dry:Wet Mix	Mod Depth	Mod Rate	Frequency	Resonance	Pole Count
Flanger (Pos)	Dry:Wet Mix	Mod Depth	Mod Rate	Frequency	Feedback	Phase
Flanger (Neg)	Dry:Wet Mix	Mod Depth	Mod Rate	Frequency	Feedback	Phase
Unisoniser	Dry:Wet Mix	Detune	Stack Count	Width Reduce	-	-
Tremolo	Dry:Wet Mix	Phase	Rate	Shape	-	-
LoFi	Redux Amount	SR Redux	Bitcrush	BC Amount	Noise	-
Rotary	Dry:Wet Mix	LFO Rate	Vibrato	Balance	Width	-
Stereo Delay	Dry:Wet Mix	Time	Feedback	HPF	LPF	-
Ping-Pong Delay	Dry:Wet Mix	Time	Feedback	HPF	LPF	Width Reduce
X-Over Delay	Dry:Wet Mix	Time	Feedback	HPF	LPF	-
Reverb	Dry:Wet Mix	Time	Size	Dampening	Pre-Delay	Modulation
+ Reverb V2	Dry:Wet Mix	Time	Brightness	HPF	Modulation	Pre-Delay
EQ	Low Gain	Low Freq	Mid Gain	High Gain	High Freq	-
Compressor	Dry:Wet Mix	Threshold	Ratio	Attack	Release	Makeup Gain
Utility	Gain	Pan	Width	Bass Mono	Low Cut	-
Drive-M (Hard)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-
Drive-M (Soft)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-
Drive-M (Rectify)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-
Drive-M (Fold)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-
+ Drive-S (Hard)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-
+ Drive-S (Soft)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-
+ Drive-S (Rectify)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-
+ Drive-S (Fold)	Dry:Wet Mix	Drive	Makeup Gain	-	-	-

NOTE: All of the Drive-M FX are mono - the wet signal of the Drive-M FX will sum the stereo input to a mono output. This means that any stereo elements of the signal that precede a Drive-M FX (e.g. oscillator width, stereo FX placed in lowered numbered slots) will not retain their stereo width in the wet portion of the signal, however the stereo image of the dry signal will not be affected.

ELEMENT One has a comprehensive Modulation Matrix with 12 Modulation Sources and 55 Modulation destinations. These Mod slots can be used to assign a combination of modulation sources to destinations, 8 modulation sources can be assigned to a single destination, or any other combination thereof. There are also 4 preassigned slots for common modulation routings. These preassigned modulations are:

- **Note>Cutoff:** Increase or decrease how much key scaling is applied to the cutoff frequency. Use the 'Cutoff Scaling' parameter to select the behaviour of the modulation curve.
- **Y+>LFO1-Depth:** Increases LFO1-Depth with Y+ on Joystick, commonly used to set up vibrato when LFO1 is controlling global pitch.
- **AftT>Cutoff:** Bipolar control to Increase or decrease filter cutoff frequency with aftertouch.
- **Velo>AEG-Depth:** Increases amount of velocity applied to the AEG-Depth. Commonly used as one way to increase velocity sensitivity of patches.

TIP: Try Velo>FEG-Depth for a more consistent, organic sounding velocity sensitivity.

The Mod Matrix is additive - Modulation values are added or subtracted from the modulated parameter value and limited to the parameter range. If a parameter is at 0, negative modulation values will not be audible until the parameter value is increased. The opposite is true for parameters at max value.

All of the modulation depths are bipolar, meaning sources can be inverted using negative depths.

When multiple mod slots are assigned to the same destination, the modulation from all assigned slots is summed and limited before being applied.

MENU PARAMETERS

The menu in ELEMENT One's display lets you edit all free assignable Mod Slots. However, we suggest to use MODALapp to set up and edit modulation routes.

To select a Mod Slot in the display, turn the PAGE / PARAM knob until you see ModSlot1. Press the same knob to jump to the second row, which lets you scroll through the available parameters. Use the VALUE knob or the +/- buttons to change the value for each selected parameter.

The following list of parameters applies to all assignable modulation routes.

- **Status:** Activates or deactivates the selected Mod Slot.
- **Source:** Select the modulation source with this parameter.
- **Dest:** Select the modulation source for the the selected modulation slot.
- **Depth:** Dial in the intensity of the selected modulation. Negative values result in negative modulations.
- **Clear:** Resets the Modulation route. All selections for Source, Dest and Depth will be reset. The Status of .

Valid combinations are listed here, combinations marked “•” are possible and marked ‘X’ are not possible:

Param	LFO1	LFO2	LFO3	EG	NOTE	VELO	EXPR	AFTT	X+	X-	Y+	Y-	CTRL
Osc1 A	•	•	•	•	•	•	•	•	•	•	•	•	•
Osc2 A	•	•	•	•	•	•	•	•	•	•	•	•	•
Mix	•	•	•	•	•	•	•	•	•	•	•	•	•
Osc1 B	•	•	•	•	•	•	•	•	•	•	•	•	•
Osc2 B	•	•	•	•	•	•	•	•	•	•	•	•	•
Osc1 Freq	•	•	•	•	•	•	•	•	•	•	•	•	•
Osc2 Freq	•	•	•	•	•	•	•	•	•	•	•	•	•
LFO1 Rate	X	X	X	X	X	X	•	•	•	•	•	•	•
LFO2 Rate	•	X	•	•	•	•	•	•	•	•	•	•	•
LFO3 Rate	•	•	X	•	•	•	•	•	•	•	•	•	•
LFO1 Shape	X	X	X	X	X	X	•	•	•	•	•	•	•
LFO2 Shape	X	X	X	X	•	•	•	•	•	•	•	•	•
LFO3 Shape	X	X	X	X	•	•	•	•	•	•	•	•	•
LFO1 Depth	X	X	X	X	X	X	•	•	•	•	•	•	•
LFO2 Depth	•	X	•	•	•	•	•	•	•	•	•	•	•
LFO3 Depth	•	•	X	•	•	•	•	•	•	•	•	•	•
Cutoff	•	•	•	X	•	•	•	•	•	•	•	•	•
Reso	•	•	•	•	•	•	•	•	•	•	•	•	•
Morph	•	•	•	•	•	•	•	•	•	•	•	•	•
FEG Attack	•	•	•	X	•	•	•	•	•	•	•	•	•
FEG Sustain	•	•	•	X	•	•	•	•	•	•	•	•	•
FEG Release	•	•	•	X	•	•	•	•	•	•	•	•	•
FEG Amount	•	•	•	X	•	•	•	•	•	•	•	•	•
AEG Attack	•	•	•	X	•	•	•	•	•	•	•	•	•
AEG Decay	•	•	•	X	•	•	•	•	•	•	•	•	•
AEG Sustain	•	•	•	X	•	•	•	•	•	•	•	•	•
AEG Release	•	•	•	X	•	•	•	•	•	•	•	•	•
AEG Amount	•	•	•	X	•	•	•	•	•	•	•	•	•
MEG Attack	•	•	•	X	•	•	•	•	•	•	•	•	•
MEG Decay	•	•	•	X	•	•	•	•	•	•	•	•	•
MEG Sustain	•	•	•	X	•	•	•	•	•	•	•	•	•
MEG Release	•	•	•	X	•	•	•	•	•	•	•	•	•

Param	LFO1	LFO2	LFO3	EG	NOTE	VELO	EXPR	AFTT	X+	X-	Y+	Y-	CTRL
MEG Amount	•	•	•	X	•	•	•	•	•	•	•	•	•
Glide	•	•	•	X	•	•	•	•	•	•	•	•	•
Global Freq	•	•	•	•	•	•	•	•	•	•	•	•	•
FX Amount	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-1 A	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-1 B	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-1 C	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-1 D	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-1 E	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-1 F	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-2 A	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-2 B	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-2 C	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-2 D	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-2 E	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-2 F	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-3 A	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-3 B	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-3 C	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-3 D	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-3 E	•	X	X	X	X	X	•	•	•	•	•	•	•
FX-3 F	•	X	X	X	X	X	•	•	•	•	•	•	•

- **Oct +/-:** These buttons control the key range available along the keyboard. Holding both buttons down will enable Sustain Mode (both LEDs will blink). Notes will be held until the Amp EG Release phase has been concluded or new notes have been played. This is particularly useful when playing with Arps as it functions than as Arp Latch Function.

Tip: You can use this while holding notes to access unavailable notes. Particularly handy when used in conjunction with Sustain and Chord mode.

- **Transpose:** Holding this button enters Transpose mode. Here you can directly transpose the pitch of both oscillators using the keyboard. C2 (directly beneath the Transpose button) is the default position. Keys below this transpose down 1 semitone per key and keys above transpose up 1 semitone per key.

Note: Using transpose will not trigger a new note. If you are using low EG settings you may not notice the change. This can be used to great effect while sequencing the synth from its Arp or Seq or from external sources.

Note: Pressing Transpose without entering any key values will reset transposition to 0. Transpose is a performance feature and as such is not saved per patch. It will remain until it is either reset, turned off or the unit is power cycled.

- **Chord:** Pressing this button while holding a chord (input directly from the keys or via incoming MIDI) stores this chord and enables chord mode. This chord can then be played from a single note trigger until the chord is changed, or chord mode is disabled. To change a chord, simply turn Chord mode off and repeat the process holding your new chord shape. To exit simply press the Chord button again. The Chord function is a performance feature and as such is not saved per patch. It will remain until it is either reset or the unit is power cycled.
- **Mono:** This button selects Mono voice mode for the current patch. 4 oscillators will be stacked into a single voice
- **Poly:** This button selects polyphonic voice mode for the current patch. 8 voice stereo true polyphonic path all the way to the stereo FX engine input.
- **Unison:** This button selects Unison voice mode. Cycle through to choose between Unison-2, Unison-4 or Unison-8. These are monophonic voice modes where multiple voices are stacked and detuned, the number reflects the number of voices per note.
- **Stack:** This button selects Stack voice mode. Cycle through to choose between Stack-2 or Stack-4. These are polyphonic voice modes where multiple voices are stacked. Stack-2 offer 4-note polyphony and Stack-4 offers 2-note polyphony.
- **Drift:** This encoder controls the oscillator drift amount. This is the amount of slop or random detuning of each oscillators phase and tune.
- **Vintage:** Holding the 'Patch' button and turning the 'Mix' encoder controls Vintage. This emulates the behaviour of vintage synths by introducing variation between the voices
- **Width:** Holding the 'Shift' button and (or when latched in shift mode) turning this

encoder controls the voice width of the current patch. This sets how far left and right the alternating pan of the voices is from mono at 0 to hard panned & wide at 127.

- **Chord Invert:** Holding the 'Patch' button and turning the 'Drift' encoder controls Chord invert. Chord invert looks at the notes that are being played across the voices on the synth, then adds octave offsets to these notes depending on the setting:

Oct 1 : n - adds 1 octave to the lowest n notes in the chord, inverting the chords in the traditional way

Oct 2 : n - adds 2 octaves to the lowest n notes in the chord and 1 octave to all other notes

Even 1 : n - adds 1 octave to the lowest n even notes in the chord i.e. the 2nd, 4th, 6th and 8th notes

Odd 1 : n - adds 1 octave to the lowest n Odd notes in the chord i.e. the 1st, 3rd, 5th and 7th notes

Shuffle 1 - adds an extra octave to each additional note in the chord up to 3 octaves. i.e 1 octave added to the 2nd note, 2 octaves to the 3rd note, 3 octaves to the 4th note, 1 octave to the 5th note

Shuffle n - the same as shuffle 1 but with different orderings of octave offsets

Note - Chord invert looks at the state of the synth voices rather than MIDI note input, so pressing a 3 note chord with "Stack-2" voice mode will be counted as a 6-note chord.

You can take advantage of this for huge stereo pads by combining Chord Invert, Stack and Voice Width/Drift settings.

Joystick

The joystick can be assigned to multiple destinations in any of the X or Y directions. The Joystick position can be locked or unlocked using the Velo + XYLock button combination. This locks the joystick at whatever value it was held at while the buttons were depressed.

The X axis controls pitch bend as standard, but this can be turned off (on-screen: Joystick: Pitchbend status or on MODALapp). It also sends MIDI pitch bend messages to the MIDI outputs which can be toggled on or off in the global settings.

Y+ sends MIDI mod wheel data (CC1) which can also be toggled on or off in the global settings.

Audio In

The audio inputs route audio directly into the 3-slot stereo FX engine although this can also be bypassed if you want to use the Audio In to only mix in the audio input with the synths output. The Audio In settings (Audio-In Volume, FX Bypass) are temporary and will not be saved so will need to be reset when using upon each boot. Audio-In Volume can be accessed on the front panel by holding the ‘Shift’ button (or when latched in shift mode) and turning the Audio In encoder.

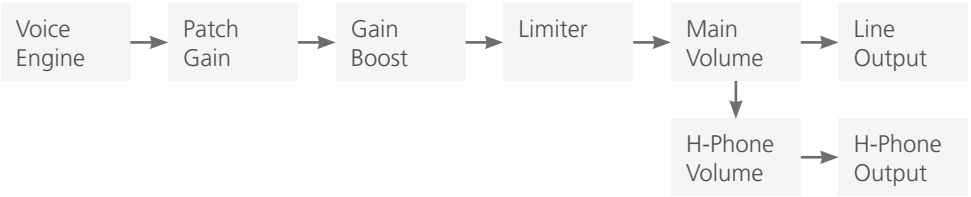
The Gain Boost setting applies to all patches and increases the average output level.

The Patch Gain control, allows you to balance even the quietest patches, and dramatically improved the audio quality while decreasing noise floor, so adding gain from external sources won’t introduce unwanted noise.

Because ELEMENT One employs a limiter as the final stage before output in its audio signal path, headroom for dynamics might be reduced as a result of higher gain levels.

Note: The main outputs on ELEMENT One are designed to output Line Level signals

- **Patch Gain:** Per-patch gain adjustment for balancing patches relative to each other. Values in the range 0-100 should be transparent to use on any patch that needs it, moving the control past 100 can begin to saturate the limiter on some patches. Note that this can be used creatively.
- **Gain Boost:** Global gain boost that increases average output level. There are 3 settings:
Off - full dynamic range
Normal - boost to output volume (Default Setting)
Saturate - a large boost to output volume, potentially saturating the internal limiter. You may notice that dynamic range is reduced with this setting on, although this has creative uses.
Gain boost setting will be saved automatically
- **Headphone Volume:** Headphone output volume can vary dramatically depending on which model of headphones is connected. This global control adjusts the output range of the headphone out to compensate for this variance and prevent unsafe listening levels.
- **Main Volume:** Master output volume of the synth, post limiter. Controls the output volume of both the headphone out and the main outputs. For best signal to noise, set this to 127.



General

- **Clock Source:** Sets the clock source for the ELEMENT One with the following available options: Internal, MIDI, Sync-In, Auto, Master. If 'Auto' is selected then the ELEMENT One will automatically use any detected clock source (prioritising Sync-In over MIDI) else it will use the internal clock. If 'Master' is selected then ELEMENT One will run from the internal clock and constantly output MIDI clock to USB and DIN MIDI ports (dependant on DIN Out setting).

Note: if 'MIDI' or 'Sync-In' is selected whilst there is no MIDI or Sync-In clock present then clocked-synced functions (sequencer, arpeggiator, delay FX, LFOs) may not work correctly or at all.

- **Global Tune:** Sets the global tuning of the ELEMENT One with a range of +/- 1 semitone. You may need to adjust this if using the ELEMENT One with other synthesisers that are not tuned to the standard tuning (e.g. old analogue synthesisers).
- **Polychain Master:** Sets this ELEMENT One to be the master in a polychain setup. When active any changes on this ELEMENT One will be mirrored on the others.
- **Preset Auto-Load:** Toggles if presets are loaded with or without confirming with a press of the Preset knob. If enabled when scrolling through presets a preset will be loaded automatically after a short pause.
- **Reset:** Press the 'Edit' switch and follow the confirm instructions to reset all global settings to the factory default settings. Please note that this will also reset the Main Volume and Tempo parameter values.

MIDI

- **Channel:** Sets the MIDI channel that the ELEMENT One uses for both MIDI input (the MIDI-in messages channel that the device will respond to) and MIDI output (the channel for the transmitted MIDI messages).
- **Omni:** Enables the ELEMENT One to be configured to 'Omni Mode', where it will respond to MIDI-in message on any MIDI channel.
- **Pitch Bend Range:** Sets the ELEMENT One pitch bend range - in semitones - for both MIDI-in Pitch Bend messages and the joystick X axes.

Note. If MPE Mode is enabled then this sets the pitch bend range MPE master channel messages only, where the MPE Pitch Bend Range setting should instead be used for configuring MPE member channel messages

- **MPE Mode:** Enables / disables MPE Mode for compatibility with external MPE instruments. Please note that you cannot enable both MPE Mode and Polychaining simultaneously.

- **MPE Master Channel:** Sets the MPE Master Channel for MPE Mode. Please note that if using external non-MPE MIDI controllers or software when MPE Mode is enabled, please set their output MIDI channel to match this MPE Master Channel value to ensure correct behaviour.
- **MPE Number of Channels:** Sets the number of MPE member channels to use in MPE Mode.
- **MPE Pitch Bend Range:** Sets the pitch bend range / sensitivity - in semitones - for MPE member notes in MPE Mode.
- **DIN In:** A set of MIDI filter settings for enabling / disabling the ELEMENT One from responding to certain types of MIDI-in messages from the MIDI DIN-in port.
- **DIN Out:** A set of MIDI filter settings for enabling / disabling the ELEMENT One from transmitting certain types of MIDI-in messages from the MIDI DIN-out port.
- **DIN Thru:** Enables a 'Soft MIDI Thru' mode for the DIN ports, where messages received by the DIN-in port are forwarded to the DIN-out port.
- **USB Thru:** Enables a 'Soft MIDI Thru' mode for all MIDI sources, where messages received by the DIN-in port are forwarded to USB-out and messages received by USB-in are forwarded to DIN-out.
- **Arp/Seq Out:** Enables the ELEMENT One arpeggiator and / or sequencer to transmit notes to the MIDI-out ports. When arp out is enabled the internal keyboard notes will not be transmitted to MIDI-out. Please note that MIDI-in notes that are being arpeggiated will also be transmitted to MIDI-out if arp out is enabled, which may cause MIDI loop / echo issues in complex MIDI setups.
- **In Oct Offset:** Enables / disables the Keyboard Octave parameter from transposing MIDI-in notes

- **MIDI-in Monitor:** The MIDI-in Monitor is a useful tool to use if needing to verify if the ELEMENT One is receiving MIDI messages. It will display the data of any MIDI message that ELEMENT One can respond to and will ignore the current MIDI channel and filter settings.

The MIDI monitor will provide the following information for each received message:

Source - USB or DIN

Message type - Note-on ("NO"), Note-off ("NO"), Control Change ("CC"), Program Change ("PC"), Channel Aftertouch ("CA"), Pitch bend ("PB"), System Exclusive ("Sys"), Clock Start ("Srt"), Clock Continue ("Con"), Clock Stop ("Stp")

Channel

Message data / values

Incoming clock timing messages are displayed in the top right corner of the screen, where a "U" indicates it is receiving USB clock messages and a "D" indicates it is receiving DIN clock messages.

Please note that it will only display messages that are received whilst the MIDI Monitor screen is being displayed.

Press the 'Edit' switch to exit the MIDI Monitor.

Keyboard

- **Local:** Enables / disables the internal keyboard's connection with the internal sound engine. If you are using ELEMENT One with an external sequencer you may need to set the Local setting to 'Off' to eliminate the double-triggering of notes caused by MIDI loops / echoes.
- **Velocity Curve:** Sets the velocity curve / sensitivity for notes from the internal keyboard. There are six curve options - Very Light, Light, Normal, Heavy, Very Heavy, Fixed. Select 'Light' or 'Very Light' if you play keys lightly but would like the device to respond as though they were played harder; select 'Heavy' or 'Very Heavy' if you play keys heavily but would like the device to respond as though they were played lighter; or select 'Fixed' to have a constant velocity value of 127 (maximum velocity).
- **Aftertouch Curve:** Sets the aftertouch curve / sensitivity for the internal keyboard. There are five curve options - Very Light, Light, Normal, Heavy, Very Heavy. Select 'Light' or 'Very Light' if you want more control over the upper range of values of the aftertouch response; or select 'Heavy' or 'Very Heavy' if you want more control over the lower range of values of the aftertouch response.

Joystick

- **Mod Wheel Out:** Enables / disables the joystick Y+ axis from transmitting MIDI Modulation Wheel messages (MIDI CC 1) to MIDI-out. You may want to disable this behaviour if the ELEMENT One is connected to other synthesisers that responds to MIDI Modulation Wheel messages.
- **Pitch Bend Out:** Enables / disables the joystick X axes from transmitting MIDI Pitch Bend messages to MIDI-out. You may want to disable this behaviour if the ELEMENT One is connected to other synthesisers that responds to MIDI Pitch Bend messages. Please note that if this is disabled the joystick X axes will instead transmit CC messages for MODALapp communication.
- **X+ / X- / Y+ / Y- Calibration:** These are manual calibration settings for adjusting the usable travel range of each axis of the joystick.

Increase this value if the joystick axis is not reaching the top modulation / MIDI value (especially in the corner positions), however if too large the usable travel range will be massively reduced. Decrease this value if the joystick axis has a small usable travel range, however if too small the joystick may not reach the top modulation / MIDI value.

- **Centre Calibration:** This is a manual calibration setting for adjusting the centring of the joystick.

Increase this value if the joystick is not properly returning to the 'centre' value (it sends sporadic values when untouched or is too sensitive in its resting position), however if too large the usable travel range of each axis will be reduced.

Decrease this value if the joystick doesn't respond to small movements around the centre position, however if too small the joystick may not centre properly.

Screen

- **Brightness:** Sets the brightness / contrast of the ELEMENT One screen.
- **Switch:** Sets the screen 'Page Switch' / 'Context Sensitivity' mode to determine how the screen responds to certain panel control interactions and MIDI-in messages.

There are three main Page Switch modes - Regular, Smart, Off; and the first two modes contain three sub modes - All, Panel, MIDI.

The 'Regular' mode causes the screen to switch to the page of the adjusted parameter and stay on the page until another parameter is adjusted; the 'Smart' mode causes the screen to switch to the page of the adjusted parameter but then switch back to the previous page after two seconds, where the 'previous' page will be the page accessed via either the screen 'Page / Param' control, the Patch / Seq button, or the FX1 + FX2 + FX3 button combination.

The sub-mode of each mode sets the parameter source - the panel, MIDI-in, or both.

- **Saver:** Sets the idle time for the screen's screensaver. A smaller time will increase the lifetime of the screen.

LEDs:

- **Brightness:** Sets the brightness of the panel LEDs.

Expression Pedal

- **Pedal Type:** Allows you to configure the ELEMENT One to work with various types of expression pedals.

There are two main modes here (TRS and RTS) where each mode has three sub modes (1-3).

Select a 'TRS' polarity mode if you are using a TRS expression pedal (or an expression pedal with a polarity switch, set to the TRS polarity) - this is the most common polarity of expression pedals. Select an 'RTS' polarity mode if you are using an RTS expression pedal which contains no polarity switch. If your pedal does not contain a polarity switch and you are unsure of its polarity, if the ELEMENT One isn't responding to your pedal correctly (e.g. full modulation range can't be obtained, modulation curve is skewed), it is likely that you need to switch the ELEMENT One polarity mode. Please note that expression pedals with the TS polarity will not work with ELEMENT One.

Select the '1' sub-mode for expression pedals with a resistance of 10k; select the '2' sub-mode for expression pedals with a resistance of 20k or 25k, or select the '3' sub-mode for expression pedals with a resistance of 50k or above. If you are unsure of the resistance of your expression pedal then select the '1' sub-mode - this will work with the majority of expression pedals but you may find that the maximum modulation happens before the pedal completes its movement (but selecting '2' or '3' instead may improve on this).

If you are unable to configure ELEMENT One to work adequately with your expression pedal using this setting, you may need to use a TRS Polarity Adapter.

Keyboard / Voice

Voice Mode
Glide
Octave
Transpose
Chord Latch
Vintage
Voice Width
Chord Invert
Sustain
Velo Assign
Velo Depth
AftT Assign
AftT Depth
Note Assign
Note Depth
Expr Assign
Expr Depth

Osc1

Algorithm
Param A
Param B
Tune
Fine

Osc2

Algorithm
Param A
Param B
Tune
Fine

Osc (General)

Mix
Drift
Free Run

Osc (General)

XCore
XMod
Drift
Free Run

Filter

Cutoff
Reso
Morph
Type
Cutoff Scaling

Filter EG

Amount / Depth
Attack
Decay
Sustain
Release
Type

Amp EG

Amount / Depth
Attack
Decay
Sustain
Release
Type

Mod EG

Amount / Depth
Attack
Decay
Sustain
Release
Type
Assign

LFO1

Shape
Rate
Depth
Transform
Mode
Sync
Assign

LFO2

Shape
Rate
Depth
Transform
Mode
Sync
Assign

LFO3

Shape
Rate
Depth
Transform
Mode
Sync
Assign

Mod Slot 1

Status
Source
Destination
Depth
Clear

Mod Slot 2

Status
Source
Destination
Depth
Clear

Mod Slot 3

Status
Source
Destination
Depth
Clear

Mod Slot 4

Status
Source
Destination
Depth
Clear

Mod Slot 5

Status
Source
Destination
Depth
Clear

Mod Slot 6

Status
Source
Destination
Depth
Clear

Mod Slot 7

Status
Source
Destination
Depth
Clear

Mod Slot 8

Status
Source
Destination
Depth
Clear

Mod (General)

Note -> Cutoff
Y+ -> LFO1 Depth
AftT -> Cutoff
Velo -> AEG Amount

Joystick

XYLock
Pitch Bend Status
X+ Assign
X+ Depth
X- Assign
X- Depth
Y+ Assign
Y+ Depth
Y- Assign
Y- Depth

FX Preset

Load FX
Save FX

FX (General)

Level

FX-1

Type
A
B
C
D
E
F
Swap

FX-2

Type
A
B
C
D
E
F
Swap

FX-3

Type
A
B
C
D
E
F
Swap

Arpeggiator

Status
Division
Direction
Octave
Swing
Gate

Clock

Tempo

Audio

Main Volume
Patch Gain
Headphone Level
Gain Boost
Audio In Volume
Audio In -> FX

Settings - MIDI

Channel
Omni
Pitch Bend Range
MPE Mode
MPE Master Channel
MPE Num Channels
MPE Pitch Bend Range
DIN In Filters
DIN Out Filters
DIN Thru
USB Thru
Arp / Seq Out
MIDI-in Oct Offset
MIDI-in Monitor

Settings - UI

Screen Brightness
Screen Switch Mode
Screensaver Idle Time
LEDs Brightness
Keyboard Local
Velocity Curve
Aftertouch Curve
Mod Wheel Out
Pitchbend Out
X+ Calibration
X- Calibration
Y+ Calibration
Y- Calibration
Center Calibration
Expr Pedal - Type

Settings - Sequencer

Metronome
Pre-Roll
Quantize
Transport

Settings - General

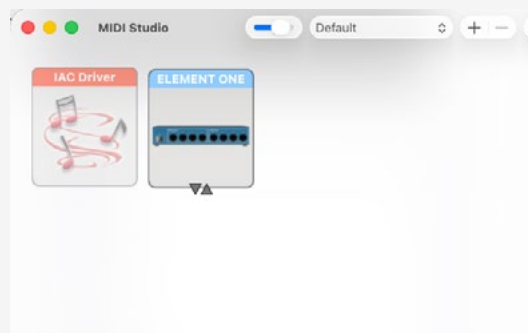
Clock Source
Global Tune
Polychain Master
Preset Auto-Load
Reset Settings
Firmware Version

04

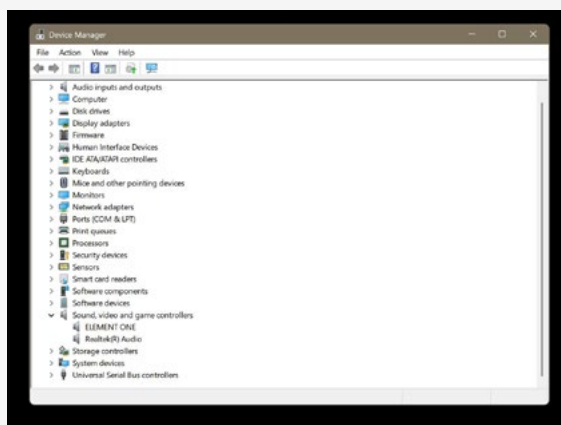
MIDI

ELEMENT One is a fully class-compliant USB-MIDI device, meaning you can plug it into your computer, no drivers required, and gain access to a huge array of extra features. Simply plug in ELEMENT One synthesiser to a USB port and it will show up as a MIDI input and output device in any software that supports external MIDI devices.

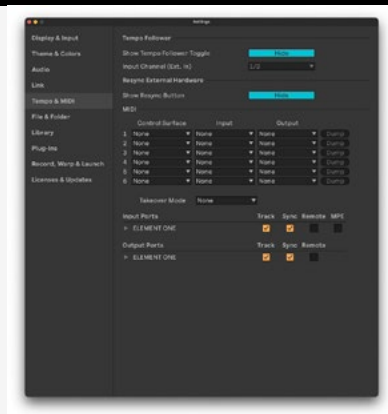
On macOS, ELEMENT One will show up in 'Midi Studio', found in Applications > Utilities > Audio MIDI Setup. (Once open, select Window > Show MIDI Studio)



On Windows, ELEMENT One will show up as a sound device in the Device manager.



Remember to enable the device input and output in your DAW's preferences.



MIDI Channel

On ELEMENT One the MIDI channel can be set in the on-screen settings, or with the MODALapp.

You can also change additional MIDI settings in the on-screen settings pages or in the settings tab of MODALapp.

MIDI Output

ELEMENT One can sequence your DAW or any device that can send MIDI notes over USB, MIDI or CV clock using the keyboard, sequencer or the arpeggiator.

The keyboard sends MIDI Channel Aftertouch messages and the Joystick can send MIDI Pitch Bend messages.

All of the encoders on ELEMENT One output MIDI messages (The appropriate CC message depending on the SHIFT or panel state). This allows ELEMENT One to be used as a fully functional plug and play MIDI controller!

When a change is detected on any of the parameters, a CC message is sent out. See the MIDI implementation chart to find which parameters send which CC numbers. The keys also send the appropriate MIDI notes for the Octave range and scale that they are programmed to.

MIDI Input

ELEMENT One can be played by sending it MIDI notes. This means you can use your DAW or any device that can send MIDI notes over USB/MIDI to sequence ELEMENT One or control any of the parameters featured in the CC Implementation List.

MIDI Clock

Configure your DAW and MIDI devices to send or receive MIDI clock (Sync) to or from ELEMENT One and, when Auto is selected it will automatically configure itself to work in time with your track tempo. When no clock is detected, the ELEMENT One will continue to use whatever tempo it is internally configured to.

MIDI Soft Thru

ELEMENT One has two soft thru settings configurable from the app:

- **DIN Thru:** Forwards Midi received on din in to din out
- **USB Thru:** Soft interface mode which forwards midi received on din in to USB out, and USB in to din out

Program Change

Sending a bank change (0-4) followed by a program change (0-99) to ELEMENT One will load the relevant preset.

Sync

The analogue sync connections on ELEMENT One are configured to use a 3.3v, rising edge, 1 pulse per 16th note signal. This is used to syncopate any other gear that is CV clock enabled with your device. **PLEASE DO NOT EXCEED 5V INPUT AND OUTPUT.**

Any signal received by the SYNC IN connection is automatically forwarded to the SYNC OUT. When running off internal clock or external clock SYNC OUT sends out the received clock.

Sync auto detects incoming clock / sync signals and will select these in priority order:

1) Sync, 2) Ext MIDI and 3) Internal.

Sync will fall back to the next available sync source in reverse priority order after a timeout of 3 seconds.

Din MIDI Filters

ELEMENT One has app-configurable midi filters on the Din input and output:

Notes, CC, Program Change, Aftertouch, Pitchbend, Transport, Clock and Sysex.

By default Din IN allows all message types, and Din OUT allows all message types except clock.

MIDI In Omni

MIDI can be made omni within the Settings pages or in the Settings tab of MODALapp.

Omni mode makes ELEMENT One listen to all midi channels, for all received midi (din or usb).

Transmitted midi is still sent out on ELEMENT One's current midi channel.

MIDI CC Implementation Chart

CC	Function
0	Bank Change
1	Mod Wheel
2	-
3	LFO3 Rate
4	-
5	Glide
6	-
7	Main Volume
8	
9	Voice Mode
10	-
11	Expression Pedal
12	-
13	LFO3 Depth
14	Osc1 Tune
15	Osc1 Fine
16	Osc1 Param A
17	Osc2 Param A
18	Osc Mix
19	Osc1 Param B
20	Osc2 Param B
21	LFO3 Shape
22	FEG Attack
23	FEG Decay
24	FEG Sustain
25	FEG Release
26	AEG Attack
27	AEG Decay
28	AEG Sustain
29	AEG Release
30	Osc2 Tune
31	Osc2 Fine

CC	Function
32	FEG Amount
33	Morph
34	Cutoff
35	Resonance
36	LFO1 Rate
37	LFO1 Depth
38	-
39	LFO1 Shape
40	Octave
41	Delay Mode
42	Filter Type
43	MEG Attack
44	MEG Decay
45	MEG Sustain
46	MEG Release
47	LFO2 Rate
48	LFO2 Depth
49	MEG Depth
50	LFO2 Shape
51	AEG Depth
52	LFO1 MIDI Sync
53	Arp Gate
54	LFO2 MIDI Sync
55	Delay MIDI Sync
56	LFO1 Mode
57	LFO2 Mode
58	Arp Status
59	Arp Octave
60	Arp Direction
61	Arp Division
62	Osc1 Algorithm
63	Osc2 Algorithm

CC	Function
64	Sustain Pedal
65	-
66	-
67	Seq Length
68	Seq Mute
69	Seq Clear
70	Seq Hold
71	Seq Loop
72	Seq Record
73	FX Amount
74	-
75	Transpose
76	-
77	-
78	Swing
79	Seq Quantise
80	AEG Type
81	FEG Type
82	MEG Type
83	Audio In
84	All EG Attack
85	All EG Decay
86	All EG Sustain
87	All EG Release
88	ModSlot 1 Depth
89	ModSlot 2 Depth
90	ModSlot 3 Depth
91	ModSlot 4 Depth
92	ModSlot 5 Depth
93	ModSlot 6 Depth
94	ModSlot 7 Depth
95	ModSlot 8 Depth

CC	Function
96	Chord Mode
97	-
98	-
99	-
100	ModSlot 1 Source
101	ModSlot 2 Source
102	ModSlot 3 Source
103	ModSlot 4 Source
104	ModSlot 5 Source
105	ModSlot 6 Source
106	ModSlot 7 Source
107	ModSlot 8 Source
108	ModSlot 1 Dest
109	ModSlot 2 Dest
110	ModSlot 3 Dest
111	ModSlot 4 Dest
112	ModSlot 5 Dest
113	ModSlot 6 Dest
114	ModSlot 7 Dest
115	ModSlot 8 Dest
116	Joystick X+
117	Joystick X-
118	Joystick Y-
119	Patch Gain
120	All Sound Off
121	Reset All Controllers
122	-
123	All Notes Off
124	Omni Off
125	Omni On
126	-
127	-

MIDI Polyphonic Expression (or MPE) is a method of using MIDI to enable expressive electronic musical instruments to control multiple dimensions of sound polyphonically. In MIDI, channel-wide messages (such as pitch bend, CCs, and channel aftertouch) are applied to all notes being played on a single channel; therefore, in MPE each note is assigned its own channel so that those messages can be applied to each note individually.

An MPE instrument typically has three dimensions of expression / control – left-right (X-axis); front-back (Y-axis); and pressure (Z-axis) – each axis can be mapped to various parameters of sound and be applied on a per-note basis.

ELEMENT One is an MPE-compatible synthesiser, which means any valid MPE instrument / controller can control multiple parameters of ELEMENT One's sound engine polyphonically. The majority of the ELEMENT One parameters can be controlled by MPE.

Setting up MPE on ELEMENT One

Enabling ELEMENT One to respond to MPE involves the following steps:

1. Navigate to the MIDI settings controls on the screen
2. Set 'MPE Mode' to 'On'
3. Set 'MPE Master Channel' to match that of your MPE instrument. Your MPE instrument may refer to this as its 'MPE Zone' – 'Lower Zone' uses channel 1 and 'Upper Zone' uses channel 16. Some MPE instruments may not specify a Master Channel / Zone – in this case the most likely value to use here is '1'. Please refer to the MPE instruments settings or documentation for more information.
4. Set 'MPE Number of Channels' to match that of your MPE instrument. It is recommended to set this value as high as possible (on both your MPE instrument and ELEMENT One) to take full advantage of ELEMENT One's polyphony. Some MPE instruments may not specify a Number of Channels – in this case the most likely value to use here is '15'. Please refer to the MPE instruments settings or documentation for more information.
5. Set 'MPE Pitch Bend Range' to that of your MPE instrument. Your MPE instrument may refer to this as its 'Pitch Bend Sensitivity'. Some MPE instruments may not specify, or use, a fixed Pitch Bend Range – in this case use this value to set your preferred semitone range of the MPE X-axis. Please refer to the MPE instruments settings or documentation for more information.

Each MPE dimension is mapped to the ELEMENT One sound engine as follows:

- Left-right / X-axis (sent as MIDI Pitch Bend) – This controls the pitch of the note, with the range set using the 'MPE Pitch Bend Range' global setting (see above).
- Front-back / Y-axis (sent as MIDI CC 74) – This controls the ELEMENT One Y+ modulation assignments.
- Pressure / Z-axis (sent as MIDI Channel Aftertouch) – this controls the ELEMENT One Aftertouch modulation assignments.

As the MPE Y and Z dimension assignments are built into ELEMENT One's existing modulation matrix, these assignments are saved and recalled with each patch.

Using MPE on ELEMENT One

If using in conjunction with non-MPE MIDI controllers or software, please set their output MIDI channel to match the ELEMENT One's 'MPE Master Channel' to ensure correct behaviour.

ELEMENT One MPE limitations:

- If Y+ or Aftertouch is assigned to any global sound parameters (LFO1 or FX parameters) then these parameters will change for all notes / voices and only the latest / newest MPE note will have control of these parameters.
- MPE is not available in Polychain mode
- MPE expression data cannot be recorded into the ELEMENT One sequencer, and any MPE notes recorded into the sequencer are converted in 'master' notes.
- ELEMENT One doesn't support MPE 'MIDI Mode 4' ('one channel per string' voice allocation).

Polychain

You can connect any 2 ELEMENT One models together to give 16 voices using polychain.

First, connect the desired master ELEMENT One DIN MIDI Out to your desired slave ELEMENT One DIN MIDI In.

On the master ELEMENT One navigate to 'Settings (General) > Polychain Master' and turn this on.

The slave device should now be showing all voice mode LEDs lit and 'Polychain Slave' on-screen.

When In Polychain mode, the slave ELEMENT One panel is disabled along with the keyboard.

Polychain mode can be exited by turning off the 'Settings (General) > Polychain Master' setting on the master ELEMENT One or by rebooting the synthesisers.

Note: Polychain can only be enabled when not in MPE mode

05

Update

The firmware on ELEMENT One can be updated remotely. This means that you will be able to update your ELEMENT One to the latest version each time an update is released.

You can update ELEMENT One using the MODALapp.

MODALapp is available for macOS, iOS, Windows, and Android.

To find the app on your platform, visit **www.modalelectronics.com/modalapp**

DO NOT run any other MIDI software that could be sending messages to ELEMENT One during the update process.

The MODALapp serves as a comprehensive visual companion and command center for ELEMENT One and other Modal Electronics hardware. It transforms the sound design experience by providing real-time visual feedback and deep-dive access to parameters that are otherwise tucked away in hardware menus.

The application is designed around a streamlined, single-interface philosophy, organized into dedicated tabs to ensure every part of the synthesizer is easily reachable:

- **Preset Manager:** This page is the hub for your sound library, allowing for efficient bank management, categorization via tagging, and essential tasks like patch backup and patch importing.
- **Modulation Page:** A specialized view that lets you quickly visualize and edit the current patch's modulation routing, making complex "Mod Slot" assignments clear and intuitive.
- **FX Page:** Provides full control over the three independent stereo FX engines found on the ELEMENT One, allowing for precise editing of spatial and temporal effects.
- **Performance Page:** Here you can set up the performance parameters, like the XY joystick, the assignable controls, etc.
- **Keyboard Page:** This tab enables you to play the ELEMENT One directly from your

connected device's touchscreen or mouse, while also providing access to specific keyboard performance settings.

- **Settings Page:** The administrative core of the app, used to configure MIDI routing, system preferences, and perform essential firmware updates to keep the hardware current.

To ensure a seamless workflow regardless of your studio setup, MODALapp is cross-platform and available for macOS, iOS, Windows, and Android.

To find the app on your platform, visit www.modalelectronics.com/modal-app

SYSTEM REQUIREMENTS

To run MODALapp (v2.10 or higher), your devices need to meet the following minimum system requirements:

DESKTOP REQUIREMENTS

macOS: Version 10.14 (Mojave) or later.

Note: Supports both Intel and Apple Silicon (M1/M2/M3) architectures.

Windows: Windows 8 or later (Windows 10 or 11 is highly recommended for stability).

Plug-in Note: The VST3 and AU versions (MODALplugin) share these same OS requirements.

MOBILE & TABLET REQUIREMENTS

iOS / iPadOS: Version 12.0 or later.

Compatible with iPhone, iPad, and iPod touch.

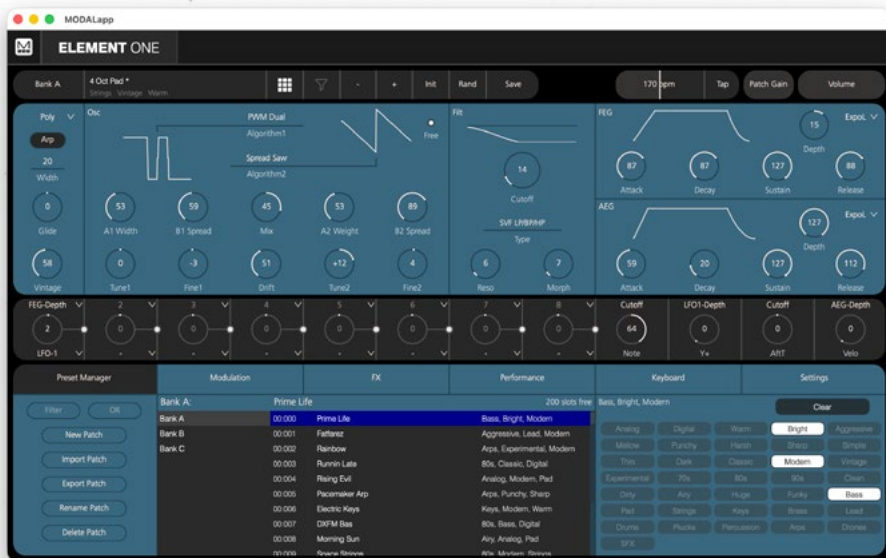
Android: Version 7.0 (Nougat) or later.

Some older documentation mentions Android 6.0, but the current 2025/2026 builds generally require 7.0+ for full feature compatibility.

CONNECTIVITY TIPS

To get the most out of the app with your ELEMENT One or other Modal gear, keep these hardware tips in mind:

Firmware Updates: It is generally recommended to perform firmware updates via the Desktop version of the app over a direct USB connection for the most reliable results.



On top of the MODALapp Main Editor interface you see various functions to manage various functions. From Left to right you will find here:

- **Bank Indicator:** This shows the bank in which the selected patch resides. In our example the selected patch sits in bank 'Factory CS'.
- **Patch Display:** Shows the currently loaded patch and the category tags for the patch. Clicking on the name opens a menu to select a different patch from any available bank.
- **Patch Filter (Grid and Filter symbols):** The grid symbol opens the filter panel and the filter symbol switches the filter on or off.
- **- / + :** These buttons let you choose the previous or the next patch. The function varies based on the setting in your patch filter.
- **Init:** To initialize a patch using preset basic parameters, please use this button. It mirrors the function available in ELEMENT One's display menu.

- **Rand:** Use this button to randomize your patches parameters. This function mirrors the identical feature available in the display menu of ELEMENT One.
- **Save:** Press this button to save your patch permanently to the memory of ELEMENT One.
- **BPM Display:** This slider lets you determine the tempo of ELEMENT One's internal clock.
- **Tap:** This button allows to tap in the tempo of the internal clock of ELEMENT One.
- **Patch Gain:** This slider allows you to easily determine the gain of the selected patch.
- **Volume:** This slider allows you to easily determine the gain of the selected patch.

The largest area of the window is occupied by the main section for patch design / editing. You will find keyboard/voice, oscillator, filter, and envelopes here.

Across the middle there are the 12 modulation slots with 8 user configurable and 4 pre defined. Only valid modulation destinations for the respective source will be shown in the drop down menu.



The Preset Manager Tab is the central location where you can organize your patches. Here you assign category tags, curate custom banks, move, backup or import presets. ELEMENT One can hold 500 preset patches, 300 are preoccupied with factory patches.

Presets can loaded with a double click. Multiple presets can be selected by holding shift, ctrl or cmd and clicking.

TAGGING PATCHES

Every patch can be categorised using up to three criteria. Use the Tag Manager to the right of the preset list allows you to select, deselect or clear the categories you want to associate with your patch.

ORGANIZE PATCHES

To move a preset simply click and drag it into your desired location or bank. An arrow will indicate the location you intend to move the patch to. Once multiple presets are selected you can start moving them by clicking on a selected preset and dragging.

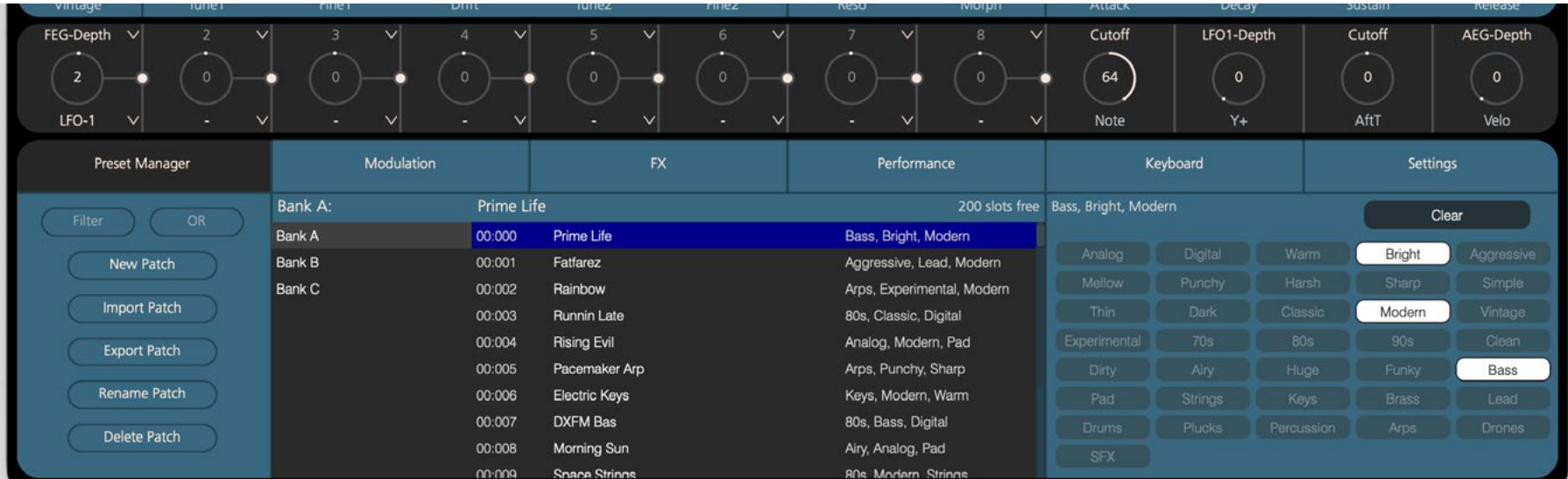
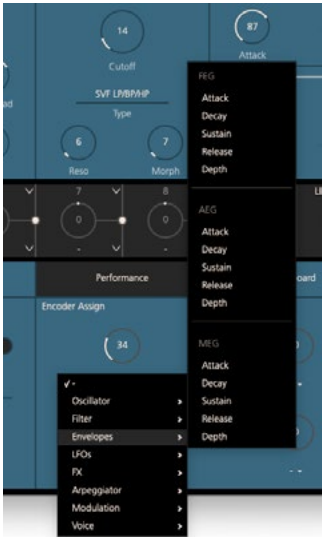
Right clicking on a selected preset allows renaming and exposes the exporting or importing options. Exporting will copy and send all of the selected presets to the selected folder.

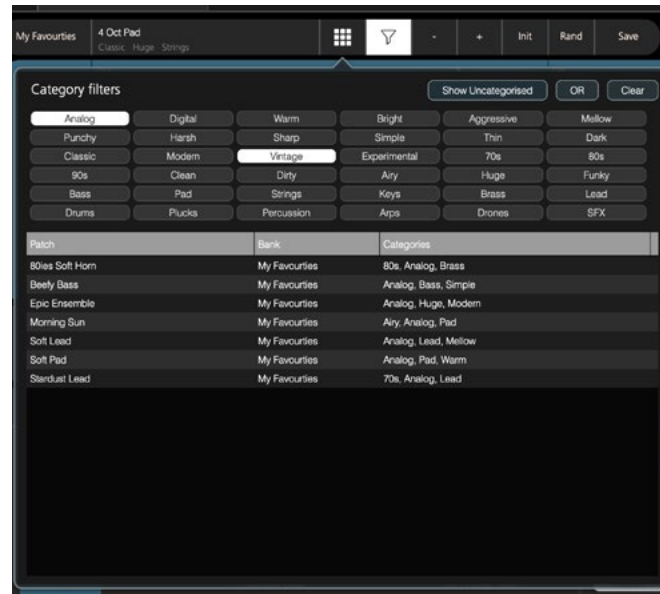
Importing will overwrite all of the selected presets in the preset manager with the presets selected from your computer.

You may also right click on a bank to expose exporting and importing options of the entire bank (as individual .syx files)

All actions will display a confirmation window unless the yes to all button has been clicked. In which case no confirmation window will appear for the rest of the session.

On touchscreens a single tap will be the equivalent of a cmd or ctrl click. Holding a selected preset will start a move action





With ELEMENT One's comprehensive patch filter you can find patches very easily based on their tagged categories. Open the filter by clicking on the Grid symbol next to the patch name.

Select the filter criteria or categories you want to filter. If you want to filter multiple categories at once, we recommend switching the OR/AND button to AND.

If you hit the filter symbol right beside the Grid symbol only patches with the associated tags that match the filter can be selected with the + and - buttons.

In the Modulation Tab there is access to the parameters for LFO-1, LFO-2, LFO-3 and MOD-EG.

There is also an XY pad that will emulate the movements of the Joystick on ELEMENT One as well as options for pitch bend and XYLock so that the XY pad will not return to zero on release.

Finally there is also access to the global depths of the 8 modulation sources Velo, Aftertouch, Note, Expression Pedal and the 4 Joystick axes.



In the FX Tab you can load, initialise and save any of the FX presets as well edit any of the global FX parameters such as Level and Distortion.

The FX preset selection box on the left will display that no preset is loaded if an fx parameter is altered in any way, e.g. changing an fx parameter on ELEMENT One or loading a patch.

Also, on this page you will find the external Audio In parameter that controls the amount of Audio In signal sent through the 3 stereo FX engines.

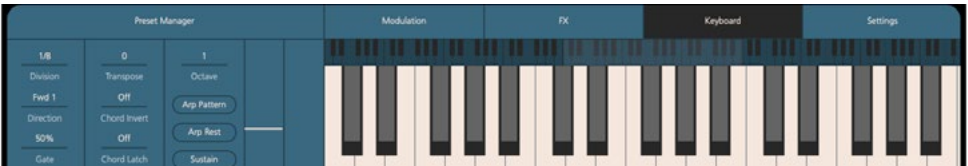
Finally, there is access to the 3 stereo FX engines that show the currently selected FX in each slot and their respective controls.



In the Performance Tab, you can set up all the tools you want to need during your performance, mainly settings for the XY joystick and the four assignable encoder,



In the Keyboard Tab there is a MIDI controller that can be used to play notes on ELEMENT One from your device. There are pitchbend and modwheels as well as 3 buttons to determine how many octaves are shown on the screen at one time. The piano keyboard can be scrolled using the top scroll bar.



There is also access to the Arpeggiator controls and transpose/chord options.

In the Settings Tab there are options for updating your ELEMENT One to the latest versions. MODALapp will notify you when a new update is available.

To have the app update the screen in realtime, the page switch mode needs to be set to one of the (All) or (MIDI) options.

Finally there is access to the other settings available on ELEMENT One. For a list of all settings available please read the Settings section in Synthesis Engine section of this manual.



Warranty Information

Warranty Statement

- The Modal warranty period for any product purchased is 12 months from the date of the original purchase.
However, for products purchased after May 8th, 2025, Modal offers an extended 36-month (3-year) warranty, provided the product is registered on our website at: <https://modalelectronics.com/register-product/> within 60 days after purchase.
- The warranty is not transferable to a second user.
- Modal products are built using the latest manufacturing technology, tested to the highest possible standards and by using premium components this should result in providing you with reliable performance for many years.
- **The warranty is return to base, meaning the unit must be returned, carriage paid, to the Dealer you purchased the unit from or the exclusive territory Distributor responsible for the country in which you purchased the product.**
- Some of the products returned under warranty are found not to exhibit any fault at all when they are retested at our Service Centre's so it's always useful to contact our Support team first to try to avoid inconvenience to you at support@modalelectronics.com
- If you suspect that your unit is suffering from a component or manufacturing defect during the warranty period please contact either Modal support or the dealer that you purchased the Modal product from.
- In the event of a component or manufacturing defect becoming evident during the warranty period, Modal will ensure that the product is repaired free of charge or replaced.
- Whilst this warranty is provided by Modal, the warranty obligations are fulfilled by the exclusive territory Distributor responsible for the country in which you purchased the product.
- The Dealer will advise you of the appropriate procedure for resolving the warranty issue.
- In every case it will be necessary to provide a copy of the original invoice or Dealer purchase receipt to the Distributor.
- In the event that you are unable to provide proof of purchase directly then you should contact the Dealer from whom you purchased the product and attempt to obtain proof of purchase from them. The Dealer | Distributor will then advise the procedure to follow.
- This limited warranty is offered solely to products purchased from an Authorised Modal Dealer (defined as a Dealer which has purchased the product directly from Modal in the UK, or one of our Authorised Distributors outside the UK). Please note that if you purchased the product from outside of your country of residence you must return the unit to the original point of purchase for repair.
- The Modal warranty term is additional to any statutory rights in the country of purchase or as offered by the dealer at the time of purchase.

Warranty Information

What is meant by a Manufacturing Defect?

- We define this as a defect in the performance or specification of the product as described and published by Modal.
- A Manufacturing Defect does not include damage caused by post-purchase shipping, storage or careless handling, nor damage caused by misuse.

Warranty Limitations

- This warranty does not cover damage resulting from accident or misuse.
- The warranty is void unless repairs are carried out by an authorised service centre.
- The warranty is void if the unit has been modified other than at the manufacturer's instruction.
- The warranty does not cover components which have a limited life, and which are expected to be periodically replaced for optimal performance.
- We do not warrant that the unit shall operate in any other way than as described in this manual.

For further details please contact: support@modalelectronics.com