All Hail the Mighty Trident!

In 1981, Korg quietly dropped a monster on the synth world: the Trident. An eight-voice, 16-VCO,16-memory-slot beast that was equal parts orchestra-in-a-box, multi-timbral wall of sound, and swiss army synth rolled into one. It was a glorious slab of knobs, wood, and analog circuitry that bundled three powerhouse instruments into one: a fat polysynth, a silky string machine, and a brass section that could rattle arena walls. Together, they formed a one-stop symphonic arsenal that was lush, commanding, and unmistakably alive.

When an improved (and more expensive) Mk II version of the synth arrived in 1982, it doubled the number of memories, added independent envelopes for VCF and VCA, and made a few other useful tweaks such as programmable volume parameters and improved program editing.

Though the Korg Trident never dominated the charts in the same way that the Prophet-5 or Jupiter-8 did, it left its fingerprints on some remarkable music. Paul Humphreys of Orchestral Manoeuvres in the Dark wove it into OMD’s early-’80s soundscapes. Rick Wakeman of YES put a Trident Mk II to

work on albums like *Journey to the Centre of the Earth* and *The Six Wives of Henry VIII*. French rockers Phoenix relied on it for the main synth hook in their hit “1901.” And in the ’90s, Pulp gave the Trident a spotlight on their album *More*.

So why isn’t the Trident spoken of in the same hushed tones as the Prophet-5 or Jupiter-8? Blame a few unlucky breaks. First off, it had big ambitions and a bigger price tag. With three discrete sections, dedicated filters, and a front panel bristling with controls, the Trident was a marvel of engineering. But it wasn’t cheap, light, or simple. In an era where affordability and portability were becoming the new normal, its grandeur ironically kept it out of more studios than it entered.

Second, it suffered from bad timing and worse luck. Just as the Trident was finding its stride, Yamaha detonated the market with the DX7. Digital FM synthesis arrived with sparkling pianos, glassy basses, and mass-produced affordability. Within a few years, it was everywhere, and on nearly half the Billboard Hot 100 in 1986 alone. Against that tidal wave, the Trident’s warm, analog soul seemed like yesterday’s news.

And finally, it got lost in the digital stampede. By the mid-’80s, the floodgates were wide open. Workstations like the Korg M1 and Roland D-50 promised PCM (aka sample-based) realism, with effects and workflows that drew the spotlight further away from analog giants like the Trident.

But here’s the thing: those very circumstances are what make the Trident so special now. It never got overplayed. It never became cliché. Instead, it became a rare, coveted voice and an underdog classic waiting for rediscovery.

Why Trident Still Matters

It’s lavish and cinematic. Pads feel infinite, strings sparkle with organic depth, and brass can cut through like a laser. It’s the kind of instrument players still call “majestic” because no other word quite fits.

It’s rare in the wild. Original units often suffered battery leaks, failing chips, and other analog aging ailments. Keeping one alive today is as much a restoration project as an instrument. Cherry Audio’s Trident saves you the heartbreak: all the sound, none of the soldering iron.

It’s an analog sanctuary. In our era of touchscreens and menus, the Trident reminds you how liberating it feels to just sit down, twist a knob, and immerse yourself in a wall of sound.

The Trident Reborn

Four decades later, Cherry Audio has resurrected this overlooked gem with the same warmth, depth, and character as the original, minus the back-breaking weight, maintenance nightmares, and second-mortgage price tag. And here’s where Trident Mk III truly flexes: each section now boasts 16 voices of polyphony. That means you can stack 16 notes of Brass, 16 notes of Strings, and 16 notes of Synthesizer all at once. The Synthesizer is fully polyphonic, with a filter per voice for independent shaping, while the Brass and Strings preserve the original character of their hardware counterparts. The Brass section runs through a single paraphonic filter and envelope for its ensemble punch, while the Strings section uses per-note attack/release envelopes and its own non-resonant filter ("Kbd Balance") for rolling off the brightness.

This hybrid design is what gives Trident Mk III its unique personality: the synth side offers pristine note-by-note articulation, while the strings and brass deliver sweeping, unified textures. Put them together, and you’ve got a sound that’s bigger than any single synth voice has a right to be.

The lower panels for Keyboard, Motion (a new feature), and Effects have been significantly expanded to include a virtual studio of tools that enhance this "orchestra-in-a-box" experience like never before. These features include drag-and-drop zones and quick templates for splits and layers, a DAW-friendly 16x2 polyphonic step sequencer, and dual arpeggiators. Trident also features 17 studio-quality effects that can now be arranged and reused within its four effects chains. These effects include the original BBD flanger, a compressor, a lo-fi effect, a phaser, a ring modulator, a 7-band EQ, and various delays and reverbs, including the new Lushverb.

Like all Cherry Audio instruments, Trident Mk III is built to welcome both first-time explorers and seasoned synth nerds. Beginners will find it approachable and instantly rewarding. Power users will discover layers of evolving timbres that the 1981 hardware could only dream about.

Whether you’re after cathedral-sized pads, brass stabs ripped from a vintage power ballad, or strings so lush they practically drip chorus, Trident is your ticket.

So go ahead. Fire it up, grab a knob, and step into a sound world that’s equal parts nostalgia trip and bold new frontier.

Polyphonic vs. Paraphonic. What’s the Difference?

Polyphonic means every note you play gets its own full signal chain: oscillator, filter, envelope, the works. Play a C major chord on the Synthesizer

section, and each note has its own filter opening and closing independently. It’s like every singer in the choir having their own microphone and EQ.

Paraphonic means you can play multiple notes at once, but the filtering and/or envelope behavior is shared rather than fully independent. In Trident, the Brass section uses a single paraphonic filter and envelope, so chords swell and fade as one unified block of sound. It’s more like the whole choir singing into a single mic: rich and powerful, but moving together as one. The Strings section behaves differently: each note has its own attack and release envelope, but they share a simple tone-shaping filter (rather than a resonant filter) for overall brightness control.

Why it matters:

- Polyphonic - more precision and articulation (perfect for synth leads, pads, or anything where you want notes to breathe independently).
- Paraphonic - big, unified sweeps and ensemble character (great for Brass stabs or the organic shimmer of Strings where that “moving as one” vibe just feels right).

This hybrid approach is part of Trident’s charm: polyphonic freedom where it counts, paraphonic glue where it delivers vintage vibe.

Aftertouch for Expressive Control

Trident doesn’t stop at polyphony and paraphony. It also responds beautifully to aftertouch. The Synthesizer section supports **full polyphonic aftertouch**, allowing every finger to add its own independent expression for vibrato, filter sweeps, and more. The Brass and Strings sections implement a modified form of poly aftertouch for **volume and modulation**, and because they’re paraphonic, they also respond to **mono (channel) aftertouch** for filter control. The result is a responsive, performance-friendly instrument that responds organically to your touch and that feels alive under your fingertips.

Technical Assistance

Cherry Audio's unique online store and automatic updates should make the operation a smooth experience. However, if you encounter any issues or have questions, you can discuss them online at the **Cherry Audio forums**.

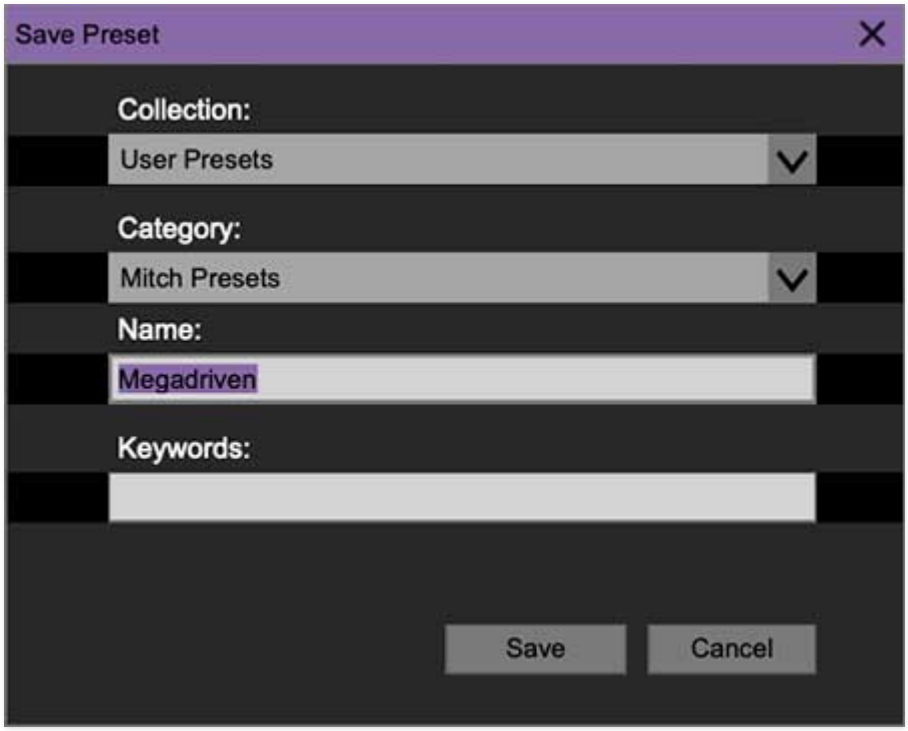
... or you can communicate directly with one of our ~~surly and grumpy~~ outgoing and friendly tech support staff at:

https://cherryaudio.kayako.com/

Top Toolbar and Preset Browser

The purple strip at the top of the Trident interface is where you'll load, save, and create sound presets. It also contains utility functions such as undo/redo, UI zoom and *Focus* controls, under-the-hood settings, and more. Let's go over them:

New - Opens a new blank patch preset. If an unsaved patch is currently open or you've modified an existing saved patch, a dialog asks if you'd like to save the patch in its current state. This greatly reduces the possibility of losing an edited unsaved patch.

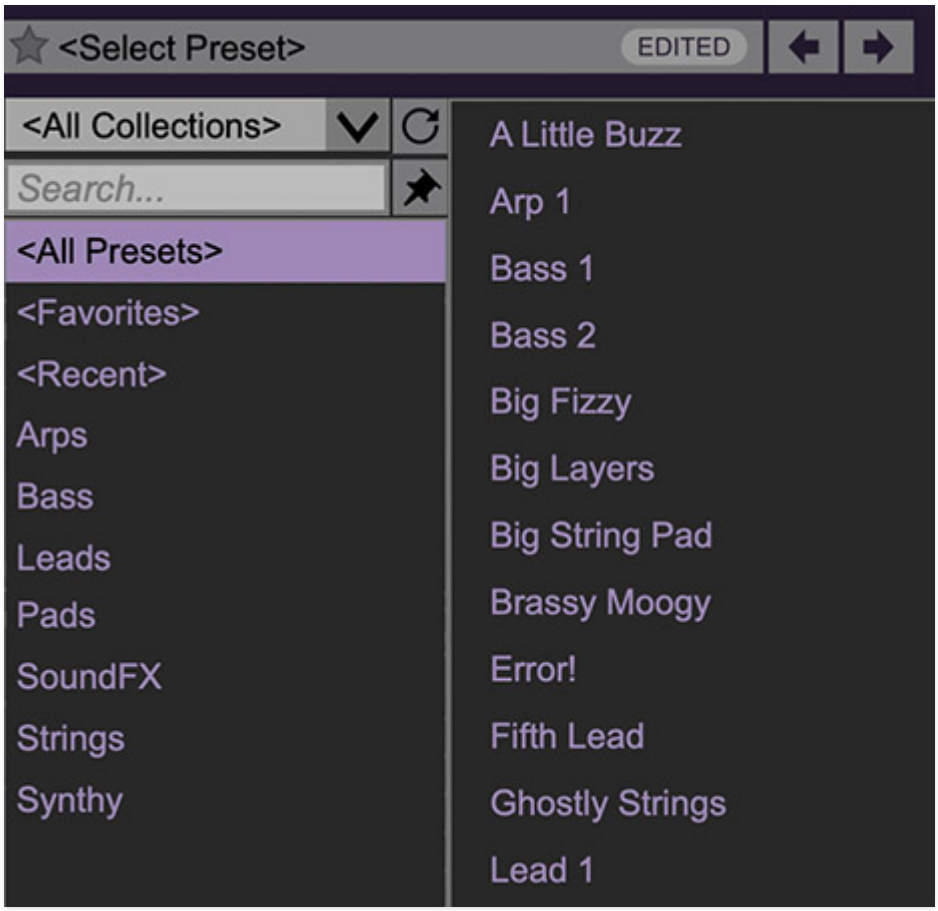


Save- Use this to save patches. There are a couple of levels of hierarchy:

- **Collection**- This is the top level of organization, and contains entire "sets" of presets. The *Trident Presets* are the main included collection. We also include a *User Presets Collection* for storing your own presets, but you're free to create your own collections. To create a new collections, click in the *Collection* text field (where it says *User Presets* above) and

type a name. User-created sounds can be freely saved to any collection; we like to keep ‘em separated for organizational purposes.

- **Categories**- Within each *Collection* are a number of sound categories. As with collections, you’re free to create as many categories as you like. To create a category, click in the *Category* text field of the *Save* dialog window and type a new category name.
- **Patch**- A patch is an individual sound. To save a patch, simply type the name in the *Name* field and click *Save*.
- **Keywords**- You can add descriptive words such as “bass,” “lead,” “spaceship,” etc., to patches to make them appear when terms are typed in the *Search* field. Use commas to separate multiple keyword entries.

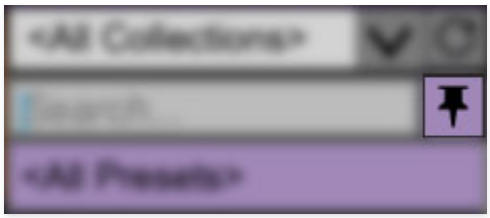


Browsing Patches- Patches can be browsed by clicking the *<Select Preset>* field. To select a preset collection, click in the area that says *<All Collections>* or on the downward-facing arrow next to it.

Clicking on the left-side categories narrows down which patches are displayed.

- **<All Presets>** will show presets from all collections and categories.

- **<Recent>** displays recently used presets.
- **Refresh** - This is the circular arrow button to the right of the downward arrow; clicking this checks the Cherry Audio server for new or updated presets.



Pin - Clicking the push-pin icon locks the patch selection list open, allowing fast and easy browsing and auditioning of patches. Click the icon again to disable pin mode. when in pin mode, the up and down arrow keys can be used to select patches.

Preset Step Back/Forward horizontal arrows- These step to the previous or next preset. macOS [⌘+left/right arrow key] or Windows [CTRL+left/right arrow key] will navigate through presets back and forth in the currently selected collection/category.

Undo/Redo circular arrows- These undo or redo the last action. It remembers many steps, so if you really mucked something up, keep on clickin'.

Settings - This is where user preferences for user interface, audio interfaces, user account, and more are configured. See the **Settings** section for full information.

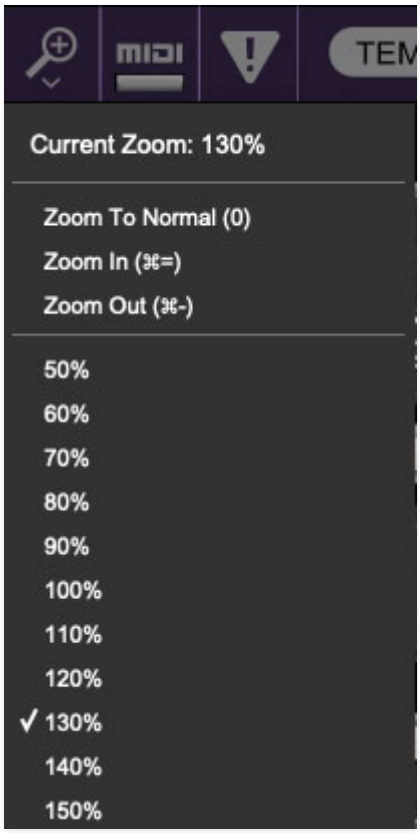
Importing Presets with drag-and-drop

Presets can be imported individually or *en masse* (as a single compressed ZIP file) simply by dragging and dropping from the desktop anywhere on the user interface.

If a single .*preset file is dragged and dropped, the sound is immediately loaded and the standard Save Preset dialog appears; this lets you save the sound to the instrument's preset browser. Note that you don't have to save the sound to preset browser; if you just want to hear and play the sound, click the Cancel button in the Save Preset dialog - the sound will still be loaded.

Compressed zip files containing multiple sounds can also be drag and dropped onto the UI. This works the same as with single sounds, but instead of the Save Preset dialog, you'll see the Import Preset Collection dialog. The

presets will be added as a new collection and available in the categories for which they were tagged.



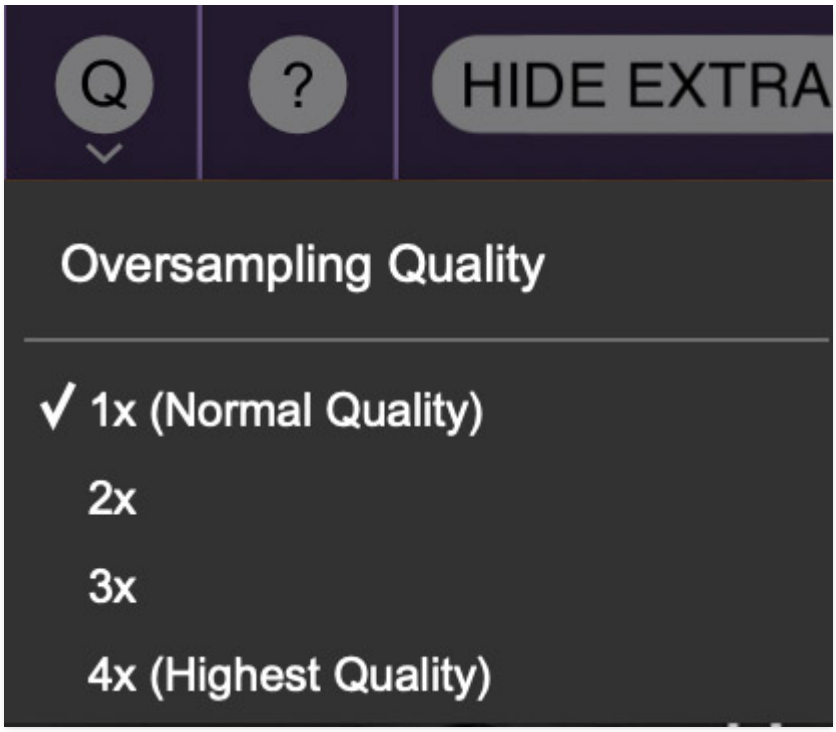
Zoom Magnifying Glass- Click to resize the *Trident* interface. Selecting *100%* returns the user interface to native size.

MIDI Tab - Opens the MIDI controllers tab for configuring internal and hardware MIDI controls. See the **MIDI Controllers Setup and MIDI Tab** section for full information.

! (MIDI Panic) - Click to send an all-notes-off message in case of, "why won't this thing stop making noise?!?" stuck-note incidents.

QWERTY Musical Typing Keyboard- Opens an onscreen keyboard allowing a standard QWERTY computer keyboard to be used for playing music notes.

For more information, see **QWERTY Musical Typing Keyboard (MTK)** section.



Q (Oversampling Quality) - The Q button sets Trident's internal oversampling rate; the higher the setting, the better audio fidelity will be, with the caveat that more computer processing power will be required.

Internal processing can be set to *1x* (same rate as the current sample rate of the host DAW or in the *Settings>Audio/MIDI* window for the standalone version) or to *2x*, *3x*, or *4x* the current sample rate. The sample rate is downsampled at the instrument output stage to match the current host sample rate.

For example, if the current DAW/instrument sample rate setting is 48 kHz, and oversampling is set to 2x, Trident's internal processing runs at 96 kHz, and is then reduced back to 48kHz at the output stage.

If the current DAW/instrument sample rate setting is 192 kHz and oversampling is set to 4x, Trident's internal processing will run at 768 kHz, and you will very briefly hear the most mind-blowing synthesizer sound quality ever experienced by mankind before your computer explodes instantaneously in a fiery, white-hot supernova blaze (or not).

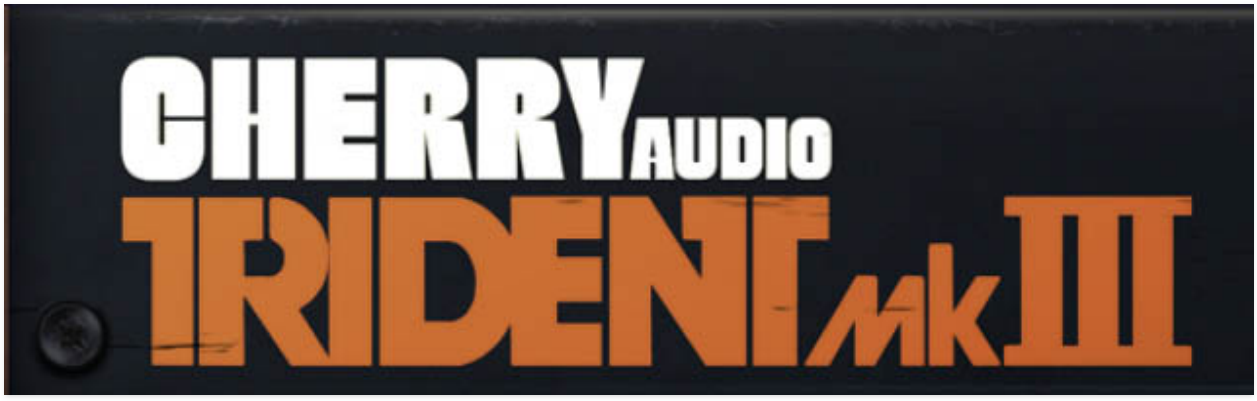
? (Help) - Clicking this launches your web browser and opens this help document. (Confusing circular logic thing there, amirightpeople?)

Hide/Show Extras - This hides the lower "tray" of the user interface that contains the keyboard and its associated controls, and the expanded effects panel. It's handy for people who are working on laptops with overlapping windows and/or very small monitors. However, this will also hide Trident's pitch and modulation wheels panel.

Focus Button

If you're using a laptop, the user interface can potentially be hard to see. With this in mind, the *Focus* button conveniently blows up Trident's view to roughly twice its normal size within the current window size. Unlike the *Zoom* "magnifying glass" function, *Focus* doesn't affect the current window size. By default, the patch panel section fills the current window, but the view can be scrolled vertically and horizontally with a mouse wheel, track pad, or Apple Mighty Mouse finger-scrolling. Or if you're the last person on earth still using a single-button mouse, scroll bars will appear at the window edges when in *Focus* mode.

Using *Focus* mode couldn't be easier - just click the *Focus* button the top menu bar. To return to standard view, click *Reset*.



TRIDENT logo - Clicking this displays “about” information, and shows the version number and current registered user ID.

Preset List Right-Click Functions

Show File - This displays the selected preset in the Mac or Windows folder containing it. This is useful for backing up or sending a preset file to another user.

Show In Original Category - Selects the preset within its category, i.e. the category will highlight in the left preset menu. The *Show In Original Category* command only displays if the preset was selected within the <*All Presets*>, <*Favorites*>, or <*Recent*> categories.

Favorites - Favorited presets will show in when the <*Favorites*> category is selected. A star will display next to the preset name. Right-click on the preset and reselect *Favorite* to un-favorite it. (Or just ghost it if you don't do the confrontation thing.)

Delete - Deletes the selected preset.

Restore Factory Preset - If one of the factory (i.e. not user) patches is edited and saved, selecting this command restores the patch to its unaltered "factory" setting. This menu will be grayed-out for user bank patches.

Restore All Factory Presets From 'Trident Presets' - If any patches from the "factory" Trident bank are edited and saved, selecting this command restores *all* of them to their unaltered "factory" setting.

Restore All From Factory - If any patches from the "factory" banks are edited and saved, selecting this command restores *all* of them to their unaltered "factory" setting. At the time of writing, the Trident bank mentioned above is the only factory bank, so this function and the *Restore All Factory Presets*

Getting Started

The Trident Mk III is more than just a synthesizer. It’s three instruments living under one roof, designed to play together like a keyboard-based supergroup. At its heart, you’ll find a lush polysynth, a punchy brass machine, and a silky string section, each with its own dedicated controls.

Each of Trident’s three sections provides 16-voice polyphony. In practical terms, you can trigger 16 discrete synth voices, 16 brass voices, and 16 string voices simultaneously without note stealing. The Synthesizer section is implemented as true polyphony, with a complete signal path (including a dedicated filter) allocated per voice. The Brass and Strings, however, retain the paraphonic structure of the original hardware: multiple oscillators feed into a single shared filter and envelope stage, creating the cohesive, ensemble-like response that defines their character.

This hybrid voice architecture is central to Trident’s sonic identity. The polysynth delivers per-note precision and articulation, while the paraphonic Brass and Strings generate unified textures that swell and breathe as one. Layered together, the interaction produces a composite sound that feels broader and more dimensional than conventional polyphony alone.

On their own, each section of the Trident is powerful. Together, they’re unstoppable and form a layered, living wall of sound that can range from delicate string beds to brassy blasts to polyphonic fireworks. That’s why the Trident has always been described as “majestic.” It’s an entire orchestra living inside a synthesizer.

Below is a quick bird’s-eye view of what each section brings to the party.

Synthesizer Section

At the core of Trident lies its poly synth, its most powerful and flexible voice. It's a sound design workshop for everything from searing leads to subtle soundscapes. With two beefy oscillators per voice (sawtooth, pulse, and pulse-width modulation are on the menu), it’s capable of everything from cathedral-sized pads to sharp, biting leads. The filters are fully featured with cutoff, resonance, keyboard tracking, envelope amount so you can sculpt from smooth and mellow to screaming resonance. Add in envelope generators, a versatile LFO, and unison detune, and you’ve got all the raw, juicy analog tone you could ask for. In short, this is the “take-me-seriously” section. It's the part that reminds you why big, analog-style polyphony can still make other synths seem thin by comparison.

Brass Section

The brass section is where the Trident adds more muscle. Designed to emulate horns, but equally at home delivering bold synth stabs, it comes with its own filter, envelopes, vibrato controls, and octave switches. Want massive layered fanfares? Done. Need biting, syncopated accents to punch through a mix? Easy. You can even dial in unique behaviors with the trigger modes, including Silence Note mode, which only wakes up the brass when you play a chord thick enough to need it. Think of it as your built-in horn section. It's sometimes brassy, sometimes brash, and always attention-grabbing.

Strings Section

Ah, synth strings. Smooth, silky, and dripping with ensemble chorus. The Trident’s string machine is all about lush pads and orchestral sweeps. You get octave layering (bass, mid, and high), plus simple but musical attack and release controls. There’s also a built-in EQ to tilt the sound toward bright synth violins or darker synth cellos, and effects like vibrato, ensemble, and bowing to add character or exaggerated richness. Close your eyes and you’re halfway to Blade Runner.

Master Section

Finally, the Master controls tie everything together. Here you can balance brass and string levels, tweak their transposition and panning, set global tuning, and rein in the whole beast with a handy limiter. It’s where you blend all three sound engines into a single, performance-ready instrument.

Mix, Match, or Go Solo

One of the Trident’s secret strengths is flexibility. Sure, you can fire up all three sections at once and unleash a full orchestra that could shake rafters. But you don’t have to.

- Single Section Mode: Sometimes less is more. Need a classic analog pad? The polysynth alone will get you there. Want that unmistakable string-machine shimmer? Switch off everything else and let it shine.
- Two’s Company: Brass plus strings gives you instant symphonic rock vibes. Synth plus brass makes a killer combo for punchy leads. And synth plus strings? Think sweeping cinematic layers that fill your musical space in the best way possible.
- Full House: If you want maximum drama bring all three to the stage. Just remember: balance is everything, and the Master section makes it easy.

So keep in mind that Trident doesn’t force you into all or nothing. It adapts to your arrangement and your imagination whether you’re sculpting delicate textures or unleashing a massive wash of sound.

The Synthesizer Section

If the Trident were a rock band, the Synthesizer Section would be the lead guitarist. It's the part that can scream, soar, or just hold down a killer riff. This is the heart of the Trident’s analog soul, with two oscillators, a flexible multimode filter, snappy envelopes, and enough modulation to keep performances interesting and expressive.

The key idea here is to start with the two oscillators, shape them with a powerful filter, bring them to life with envelopes, then add some modulation for variety and expression.

Oscillators (VCO 1 and VCO 2)
The oscillators are your raw tone generators. Think of them as the paint on your sonic canvas. Each can generate classic waveforms: sawtooth for bright and buzzy textures, or pulse waves for hollow/woodwind-like tones. And because this is vintage analog at heart, pulse waves can be squeezed and stretched (pulse width modulation, or PWM) for that endlessly shifting, fat, “chorus-y” sound.

- Octave settings (16’, 8’, 4’) let you pitch each oscillator high or low. Set them apart for instant fatness.
- Detune (VCO 2 only) lets you nudge one oscillator slightly sharp or flat. Small amounts add warmth; big amounts add off-key pitch instability.
- PW/PWM is your pulse width control. At one end, you get a perfect square wave (hollow and clarinet-like); at the other, the pulse is thin and reedy, which is actually handy if you want to create clavinet-like textures or shrill leads.

- PWM Speed makes the width move automatically, creating that “two-oscillators-for-the-price-of-one” chorus effect.

Tip: Try setting VCO 1 to PWM, and VCO 2 to sawtooth, then detune VCO 2 just a hair. That’s the recipe for instant analog fatness.

Filter (VCF)

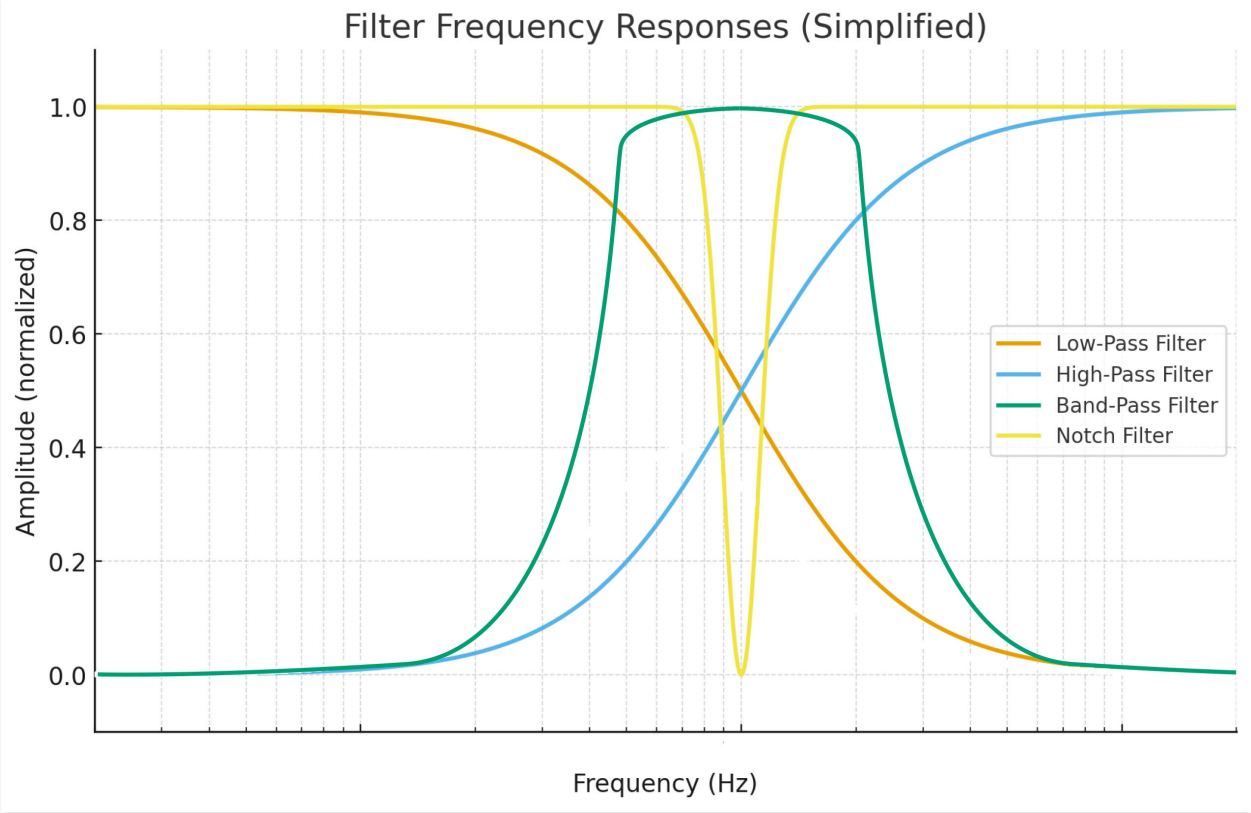
Every classic polysynth needs a great filter, and the Trident delivers. The Voltage Controlled Filter (VCF) acts like a sculptor’s chisel, carving harmonics away until you land on the tone you want. The original Trident filter was based on the SSM 2044 chip, which also appeared in the PPG Wave 2.2 and 2.3, the E-Mu Drumulator and SP-12 drum machines, the Fairlight, and other worthy instruments of the period.

- Cutoff determines how bright or dark the sound is.
- Resonance adds a peak at the cutoff point, from subtle bite to full-on whistling self-oscillation.
- Keyboard Tracking makes the filter “follow” the keyboard, so the brightness stays consistent across pitches (or not, if you want to roll off some of the high end).
- EG Intensity sets how much the envelope (see below) pushes the filter open and closed.
- Auto Damp keeps long-release sounds from turning into mush by cutting off old notes when new ones arrive.

Tip: Set Keyboard Tracking below 100% and play a scale. You’ll hear the tone subtly soften as you move up and down the keyboard and high frequencies are reduced.

Here’s a frequency graph showing the four filter types:

- **Low-Pass (blue):** lets lows through, rolls off highs.
- **High-Pass (orange):** keeps highs, removes lows.
- **Band-Pass (green):** keeps a middle band, cuts lows and highs.
- **Notch (red):** removes a narrow slice (like zapping a hum), leaves the rest intact.



Envelopes (VCF EG & VCA EG)
If oscillators are the raw notes, envelopes are the articulation that defines them. Each note you play has a shape, and these controls define it.

Both the filter and amplifier have their own ADSR envelopes (Attack, Decay, Sustain, Release), with velocity sensitivity for keyboard dynamics. Use the VCF EG to give notes bite (fast attack/decay, low sustain), and the VCA EG to control overall volume shape.

Tip: Want plucky bass? Set the VCF and VCA EGs to a fast attack, short decay, short sustain. Want a swelling pad? Long attack, high sustain, long release. Easy.

Modulation Generator (MG)
This is Trident’s version of an LFO (low frequency oscillator). Use it to add movement: vibrato, tremolo, filter sweeps, or random burbles.

- Waveforms include triangle, sawtooth, reverse sawtooth, square, and sample-and-hold (for stepped, “computer-y” effects).
- Frequency sets the speed.
- Delay waits before applying the modulation, so vibrato can creep in like a string player.

Enable switches

(Sync, Retrigger, Wheel) let you set the modulation to your playing style. The MOD section then routes that LFO where you want it: pitch, filter, or volume.

Sync
In this mode, every note you play resets the MG so modulation cycles line up perfectly across voices. Great for tempo-locked filter sweeps, synced tremolo, or pulsing effects that need to land exactly on the beat.

Retrig
In this mode, the MG resets its phase every time you hit a key. That means every new note begins its modulation from the start of the cycle. Perfect for consistent vibrato or wah-like effects where you want each note or chord to begin with the same modulation shape.

Wheel
Here, the MG's depth is controlled by the mod wheel. With the wheel down, there's no modulation; push it forward and the MG fades in smoothly. Classic for adding vibrato on sustained notes, filter sweeps in real time, or swelling modulation into solos.

Mod Section
Beneath the MG's waveform, frequency, and delay controls are three dedicated knobs labeled **VCO Level, VCF Level,** and **VCA Level.** These determine how much modulation from the MG is routed to each destination:

- **VCO Level** – Applies MG modulation to oscillator pitch. Turn it up for vibrato, trills, and other types of pitch modulation.
- **VCF Level** – Applies MG modulation to the filter cutoff. Perfect for auto-wah effects and pulsing sweeps.
- **VCA Level** – Applies MG modulation to the overall amplitude. At low settings, this produces a gentle tremolo; higher amounts create choppy, on/off stutter effects, especially when the square wave is selected as the modulation waveform.

If the Wheel switch is off, these controls are independent from the dedicated vibrato joystick in the Keyboard section, which uses its own LFO. In practice, the MG Mod section gives you constant modulation options that can run hands-free, while the joystick vibrato is performance-controlled, if you want.

Mixers & Panning
Each oscillator gets its own volume and pan. This lets you balance and spread VCO 1 and 2 across the stereo field. Pan them wide for expansive pads or centered for punchy leads.

Filter Response

Unlike many ’80s synths, the Trident’s filter isn’t stuck in low-pass land. You get four flavors: low-pass, high-pass, band-pass, and notch. It’s like having four different personalities in one filter module.

- Low-Pass Filter (LPF): Lets the low stuff through (bass, warmth) and cuts the highs (brightness, hiss). Like putting a blanket over a cymbal. You still hear the thud of the kick, but the shiny top fizz is gone.
- High-Pass Filter (HPF): Lets the highs through (sparkle, clarity) and cuts the lows (boom, rumble). Think of it as an audio broom. It sweeps out the mud and rumble down low so the sparkle and air stay clean.
- Band-Pass Filter (BPF): Carves out a sweet spot in the middle, cutting both the very low and very high frequencies. Imagine talking through a cardboard tube. It keeps only the “middle slice” of your voice and tosses out the extremes.
- Notch Filter: Does the opposite of a band-pass and removes a narrow slice of frequencies while letting the rest through. Like poking a tiny hole in your mix where an annoying whistle lives. Everything else plays on, but that one squeaky mosquito gets zapped.

Tip: Try notch filtering on a bright sawtooth pad while sweeping the cutoff slowly.It creates a gentle, fizzy, phasey motion.

Assign Modes

Poly 1, Poly 2, Mono, Unison. This sets how notes behave when you play or trigger them with the sequencer or arpeggiators.

- Poly 1 = independent releases, like plucking guitar strings.
- Poly 2 = shared release, more like an ensemble blending together.
- Mono = classic single-voice leads and basses.
- Unison = stack up to 8 voices and detune for massive “wall of sound” patches.

Note: The 2/4/6/8 switch in the Synth Assign Mode controls is only for Unison. It doesn't limit polyphony when using Poly 1 or Poly 2 modes.

Synth Mixer

Finally, the Synth Mixer adjusts the whole section’s output and toggles it on/off. Handy for balancing the three Trident engines (Synth, Brass, Strings).

- Volume = Sets the overall volume of the Synthesizer Section.

- On/Off = Enables and disables audio output of the Synthesizer section

That’s the Synth Section in a nutshell: two fat oscillators, a sculptable filter, flexible envelopes, flexible modulation, and panning for VCO 1 and VCO 2. It’s a powerful, classic polysynth all by itself. And remember, this is just one-third of the Trident. Add Brass and Strings on top, and you’re suddenly conducting an ’80s orchestra from your keyboard bench.

Tip: Layer a PWM wave with a sawtooth wave, set the filter to band-pass, and stack in Unison mode with a bit of Detune. Close your eyes and you're at a prog-rock show. Absolutely epic.

Brass Section

If the Synthesizer section is Trident's lead guitarist, the Brass section is the backing band that shows up on time and provides support. This section was designed to serve up the punch of a brass ensemble, but it's still a synth, so don't expect it to behave too politely. With a few knob twists, it can go from fanfares to fat stabs that cut through a mix.

Octave
Choose your register:

- **16'** – The classic brass range (deep, powerful).
- **8'** – One octave higher (brighter, cutting).
  And yes, you can turn them *both* on for a two-octave wall of brass.

VCF (Voltage Controlled Filter)
At the heart of the Brass section is a simple but effective filter.

- Cutoff Frequency – The “brightness” dial. Higher cutoff equals more sizzle and edge, lower equals mellow and muted.
- Resonance – Adds emphasis around the cutoff frequency. Crank this up to increase the funk factor.
- EG Intensity – How much the filter responds to the envelope (see below). Small tweaks here equal big changes in brass realism.

Envelope Generator (EG)
Unlike the synth section, the Brass envelope pulls double duty. It controls both the filter and the amplifier. In other words, this single ADSR shapes both tone and volume.

- Attack – How quickly the brass “speaks.” A fast attack is good for sharp trumpet stabs, while a slower attack is like a horn player easing in.
- Decay – How quickly the sound drops after the initial burst.
- Sustain – The level the sound hangs at while you hold a key.
- Release – How slowly (or abruptly) the note fades after you let go.
- Velocity – Makes your playing touch affect how the brass responds. Hit the keys harder and you’ll get a sharper bite.

Vibrato
Because what’s brass without a little vibrato? This section adds life and realism.

- Delay Time – How long before the vibrato kicks in.
- Speed – The pitch modulation rate.
- Intensity – The depth of pitch modulation.

Tip: Want something close to a human brass section? Dial in a small delay and moderate intensity, just like a trumpet player who settles into pitch after the first blast.

Effect Switch

A simple on/off for the vibrato effect. It's like a mute button for the trumpet player’s vibrato.

Trigger Modes
There are three ways to trigger the envelope:

- Normal (no switch engaged) – Only the first note you play triggers the EG. Hold it down and play more notes, and they'll sneak without retriggering.
- Multi – Every note you play retriggers the EG. Great for punchy stabs and ensemble-style parts.
- Silence Note – No brass sound at all unless you play a minimum number of keys at once. For example, set it to 4, and only four-note chords will wake up the brass. (Good for making sure your "power brass" moments only happen when you really mean it.)

Mixer

Finally, the Brass section has its own Volume knob and On/Off switch, letting you blend it against the Synthesizer and Strings sections or drop it out entirely.

- Volume = Sets the overall volume of the Synthesizer Section.
- On/Off = Enables and disables audio output of the Synthesizer section

So yes, the Brass section can impersonate a horn section (or at least a very synthy equivalent). But under the right circumstances (and with some clever sound design), it also moonlights as a growling, filter-driven synth beast. Treat it like a real horn player (give it space to breathe and don't overwork it) and it'll reward you with golden blasts of sound that will enhance the other sections of this monster synth.

Tips

- Want classic '80s-style brass stabs? Use 16' + 8', fast Attack and Decay, high Sustain, and just enough filter bite (Resonance + EG Intensity) to give it presence.
- Feeling bold? Crank the Resonance and EG Intensity. You'll discover the Brass Section can do double duty as a synth lead.

Strings Section

If the Synthesizer section is Trident’s lead guitarist and the Brass section is the reliable backing band, the Strings section is like a lush choir swelling behind them all. It’s there to add drama, depth, and an unmistakable shimmer that turns a tune into an anthem. Stack a few octaves, switch on Ensemble, and suddenly you’re in soundtrack territory. Pare it back, and it can whisper as gently as a single violin line.

Octave Range
The Trident’s Strings can cover a lot of sonic ground thanks to multiple octave switches:

- 16’ – The low, bass-heavy foundation. Think cellos and double basses.
- 8’ – Midrange fullness, where violas and violins live.
- 4’ – High and airy, like violins scaling the upper stratosphere.

You can stack all three for a massive wall of sound, or just choose one for more intimate textures.

Envelope Generator (EG)
Strings have a two-stage EG. It's simpler than the Brass and Synth sections, but well-suited for long, swelling chords, or sharp, cutting accents:

- Attack – Controls how fast the strings fade in. Set it slow for dreamy orchestral washes, or fast for sharper, keyboard-like hits.
- Release – Controls how gracefully the sound fades after you let go of the keys.Try long releases for pads that float into the distance.

Tip: A slow Attack with a long Release can create a cinematic soundtrack vibe.

Equalizer
The built-in EQ gives you quick tone-shaping power:

- High – Adds air and brilliance to the upper strings.
- Low – Adds body and warmth to the lower registers.

Together, these two knobs let you dial in anything from delicate chamber strings to full orchestral sections.

Effects Section
Here’s where the Trident Strings get more character. Three key effects turn a simple sawtooth chorus into something more orchestral:

- Bowing – Emulates the accented attack of a bow hitting strings. Adds realism for cello or violin timbres. Adjust Level for strength and Tone for character.
- Vibrato – A gentle pitch variation that makes strings feel alive. Includes Delay, Speed, and Intensity controls so you can go from subtle animation to intense effects.
- Ensemble – The secret sauce. This chorus-style effect fattens up the sound, turning one lonely violin into a lush string section. Usually left on unless you’re going for a solo string sound or using it as the foundation for a texture that you can enhance with a chain of effects.

Filter (Keyboard Balance)
A special one-knob filter designed for tone balancing:

- Turn it down to make low notes warmer and rounder.

- Turn it up to make high notes brighter and more cutting. Perfect for mimicking how string sections behave across their range.

Mixer

As with the other sections, the Strings have their own Volume knob and On/Off switch, so you can blend them with Synth and Brass or let them take the spotlight all by themselves.

- Volume – Sets the overall volume of the Strings Section.
- On/Off – Enables and disables audio output of the Strings section

Tips

- For lush pads, stack 16’ + 8’ + 4’, turn Ensemble on, and use a slow Attack and Release for instant soundtrack material.
- Want a solo violin effect? Turn off Ensemble, leave only 8’ or 4’ on, add Bowing with a fast Attack, and dial in just a touch of Vibrato.
- Need sci-fi textures? Crank the Vibrato Intensity, set the Release long, and let the filter exaggerate the highs.

Master Section

The Master Section is the producer in the control booth. It doesn’t make a sound of its own, but it decides how the whole record comes together, deciding who’s too loud, who needs to move left or right in the stereo field, and whether the mix is about to clip into crunchy distortion.

Transpose & Panning
Every band needs good balance, and here you can fine-tune how the Brass and Strings sit in the mix.

- Brass Transpose / Strings Transpose – Shift these sections up or down to hit the right register without changing your hand position on the keyboard. Great for stacking octaves or avoiding mud in the low end.
- Brass Panning / Strings Panning – Spread your ensemble across the stereo field. Maybe push the brass stage left and let the strings bathe in reverb on the right, or keep them centered for a tight, unified punch.

Tune
This knob adjusts the tuning of the entire Trident. Set it to concert pitch, and you'll be locked in with the band (or your DAW). Or, offset it to adjust the tuning to other instruments.

Volume
It sets the overall output of the Trident, adjusting all three sections together.

Limiter
The Limiter switch prevents clipping if you're pushing the Volume too hard.

Tips

- Use Transpose to layer your Brass and Strings an octave apart for symphonic hugeness.
- Experiment with Panning to create an extra-wide stereo spread. Brass left, Strings right, Synth down the middle.
- Keep the Limiter on if you're experimenting with stacked sections and effects. It'll prevent clipping and unwanted distortion.

Keyboard Controls

This part of Trident is your set of performance tools. They allow you to add real-time expressive flourishes that make a performance come alive under your fingers. These controls don’t change a sound, they control how you play it, bending, sliding, and adding vibrato in dramatic ways.

Pitch Bend

That little joystick to the left? Push it up or down to bend pitch in real time. The **Bend Amount** knob sets how far those bends go: a subtle half-step for realistic brass slides, or a wild dive-bomb for whammy-bar dramatics. When Trident is played from an external MIDI controller keyboard, this joystick is automatically mapped to your controller’s pitch wheel.

Vibrato

The second joystick works the same way, except instead of bending pitch directly, it adds vibrato modulation to the sound. The **Speed** knob controls

how fast it pulses, while **Intensity** controls how deep it digs in. At slow speeds and low intensity, it adds a soulful growl. Crank both these parameters and you're in "UFO about to lift off" territory. With an external MIDI controller, this joystick is mapped by default to the mod wheel.

Synthesizer Glide
The Synthesizer Glide knob controls how quickly the synth section glides from one note to the next (portamento). Turn it up for liquid swoops between notes. This is useful for lead lines that slither and slide. Keep it low for just a touch of legato smoothness.

Master Speed
This knob sets the overall modulation rate for Trident's Sequencer and Arpeggiators.

Sequencer/Arp Controls
The row of switches and buttons handle Trident's onboard sequencing and arpeggiation:

- **SEQ/ARP Off** – disables both functions when you want straight manual playing.
- **SEQ Start** – fires up the sequencer manually.
- **Auto Start / Stop All** – tells the sequencer and arpeggiator to automatically trigger when you play a note, and lets you kill them all instantly with one tap.

Tips

- **Bend for Natural Expression**: A small Bend Amount can make brass stabs or string lines sound more human. A large Bend Amount can simulate guitar whammy bar effects.
- **Glide as Glue**: When blending multiple sections, a bit of Glide in the synth section can make everything feel more unified and legato.

Motion Section

Trident's Motion section is like a drummer who never runs out of ideas. Not a metronomic timekeeper, but the kind of inventive percussionist who can spin the same groove a dozen different ways, improvise polyrhythms, and still keep the band locked in tight.

This section houses three powerful auto-playback engines: Arpeggiator 1, Arpeggiator 2, and the 2x16 Polyphonic Step Sequencer. Each can be routed independently to the Synthesizer, Brass, or Strings sections, which means you can set them loose in parallel, with one spitting synth arps, another chugging brass stabs, and the third weaving string ostinatos. It’s a recipe for pseudo-generative symphonies, cascading counterpoint, and grooves that practically write themselves.

Arpeggiator 1 (and 2)

Trident’s arpeggiator may look simple at first glance, but it can latch, leap, and swing its way into surprisingly complex territory. Think of it less as a utility and more as a compositional partner with a bag full of rhythmic tricks.

Select

Routes the arpeggiator to the Synth, Brass, or Strings section.

- KEYS mode: The arp plays directly from the notes you hold on the keyboard.
- SEQ mode: The arp takes its marching orders from the Polyphonic Step Sequencer instead.

The On/Off switch turn the arpeggiator on or off.

Arpeggiator Controls

- Swing – Gives your patterns a groove. At 0% it’s rigid and straight; crank it up and every other note delays slightly, creating a shuffling groove. Around 67% you’ll find a triplet feel that can turn even chords into rolling shuffles.
- Chance – Sets the probability of a note actually sounding. At 100% you hear everything; dial it down and you’ll get rests, skips, and syncopations. Random gaps can feel like instant funk.
- Feel – Adds human-like timing looseness. Push notes ahead, pull them behind, or automate it for arps that breathe instead of marching in lockstep.

Pattern

Choose how the arp serves up your notes:

- Arp – Classic up-the-ladder arpeggiation. Hold a chord and suddenly you’re in Berlin School territory.
- Leap – A Trident exclusive. Each note you hold catapults to a different octave in a tumbling three-step cycle. Add more notes and the sequence tangles into hypnotic cascades, chaotic yet composed.
- Order – Plays notes in the order you press them. A great way to play your arp like a memory recorder.
- Random – Shuffles the deck. Your held notes fire off in random order, great for electronic loops that never quite repeat.

Direction

Sets whether the pattern climbs, descends, or zig-zags back and forth (Up, Down, Down/Up, or Up/Down).

Range

Selects how far the arp will travel through octaves (1–4). But it’s not just “higher or lower” since the pattern reshapes itself depending on mode.

- In **Arp mode**, engaging the Range switch stretches the pattern across 1-4 octaves.
- In **Leap mode**, that same zigzag applies—but now each note in your held chord leaps independently through the 0 / +1 / -1 octave cycle. So holding C3–E3–G3 results in this sequence of octave gymnastics: **C3, E4, G2**, then the pattern rolls on.

Latch

Keeps the arp running after you lift your hands. Release all keys, play a new chord, and the pattern updates seamlessly. Perfect to assign to a pedal for live jamming.

Speed

Controls playback rate from 0.25 to 30 Hz. The LED in the corner flashes in time with the speed.

Sync

When engaged, locks the arp to master tempo.

- In standalone Trident, it follows the toolbar tempo.
- As a plug-in, it locks to your DAW clock. Speed control flips from Hertz to musical divisions (1/64-note triplets up to 8 beats).

Arpeggiator Tips

• Strings + Leap - instant cinema. Hold a minor seventh, set the arp to Leap with 2–3 octaves, and you’ve got an evolving pad that feels like it’s soundtracking an indie sci-fi film.

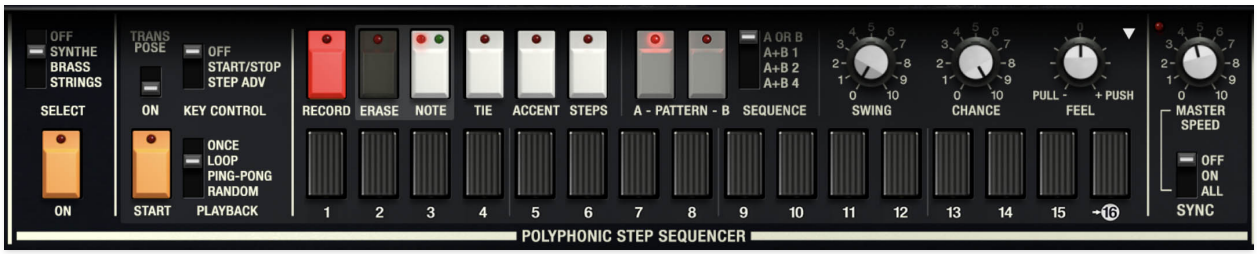
• Brass + Chance - syncopated stabs. Turn Chance down to around 40% and you’ll get brass hits that pop in unexpected places. Perfect for funk, electro, or anything that wants attitude.

• Synth + Swing - human groove box. Try Swing at 67% with a tight saw-wave patch. Suddenly your robot arpeggiator sounds like it grew up on Motown.

• Order mode - secret sequencer. Tap in a melody by pressing keys one at a time, then let the arp cycle through them in your exact order. It’s like programming a step sequence without ever touching the sequencer.

• Latch + pedal - hands-free fun. Assign Latch to a sustain pedal, kick it on, and go wild with filter sweeps while the arp keeps the groove alive.

• Random + high Range - generative chaos. Try four octaves, Random mode, low Chance then sit back and enjoy your self-playing synthetic dreamscapes.



Polyphonic Step Sequencer

If the Arpeggiator is Trident's hyper-caffeinated drummer, the Polyphonic Step Sequencer is the percussionist who also composes symphonies in his spare time. It doesn't just loop a pattern, it remembers chords, dynamics, ties, and accents, and then serves them back with machine-like precision or human-like looseness (your choice). In short, it's Trident's built-in idea machine, capable of everything from pulsing basslines to complex counterpoint.

Unlike most old-school step sequencers that only deal in single notes, Trident's is polyphonic: each step can store full chords. That means you can build entire harmonic sequences, not just riffs. Pair that with flexible playback modes, timing controls, and performance tricks, and you've got the heart of a full song section beating right inside the Motion panel.

In essence, the Polyphonic Step Sequencer is much more than just a grid of notes. It's a composer's tool.

- Program chords into steps for harmonic sequences.
- Use Transpose live to shift entire progressions with a single key.
- Combine Chance and Random playback for endless evolving textures.
- Chain A and B patterns for long-form progressions.
- Layer it with the Arpeggiator for "sequence inside an arp" complexity.

Controls Overview

Select

Routes the sequencer's output to the Synth, Brass, or Strings section. Or set to Off if you're not using it.

On
Turns the sequencer on or off.

Start
Manually launches playback.

Playback Modes
Choose how the sequence runs once you've programmed your steps:

• Once – Plays your sequence once through, then stops.

• Loop – Cycles endlessly until you tell it otherwise.

• Ping-Pong – Runs forward, then backward, repeating the cycle.

• Random – Shuffles the order of steps for a generative effect.

Tip:
Press the Spacebar on your computer keyboard to start/stop playback in the standalone version of Trident.

Key Control
Determines how the keyboard interacts with the sequencer:

• Start/Stop – Trigger sequence playback with a key press.

• Step Adv (Advance) – Each key press steps the sequencer forward one stage. Great for "manual sequencing" or syncing to unusual rhythmic ideas.

Transpose
When enabled, any notes you play on the keyboard transpose the running sequence in real time. Think of it as moving the whole pattern up or down without rewriting it.

Sync with Your DAW
When the sequencer is set to **SYNC** or **SYNC ALL**, it doesn't just run in parallel with your DAW, but is glued to it. Hit play, stop, or even jump around the timeline, and Trident's sequencer will follow in perfect lockstep. It not only starts on time but also drops in at the correct step in the pattern.

That means if you're midway through bar three of your track, the sequencer is too. It even respects advanced modes like **A+B / A OR B** and **PING-PONG**, recalculating sequence length on the fly so you're always in sync.

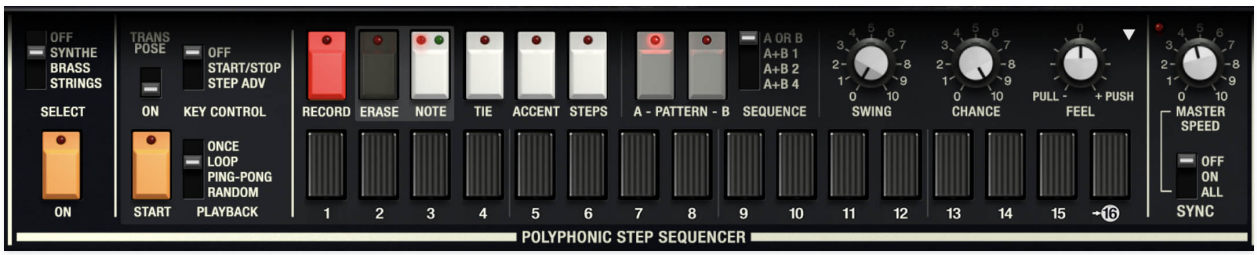
However, if you're in **KEYBOARD START/STOP** or **STEP ADV** mode, the sequencer ignores DAW transport and only responds to your playing. That's by design because all of these modes are all about hands-on control.

In Practice:

- Use **SYNC** when tracking parts into your DAW and you want every note to land exactly on the grid.
- Use **SYNC ALL** when you want all three sections sequenced together in perfect sync with your project.
- Switch to **KEYBOARD START/STOP** or **STEP ADV** when you want live, responsive interaction instead of DAW control.

Tips for Using Sequencer Modes

- Use **SYNC** when you want your sequence to behave like a drummer with perfect time. Every step lands exactly where it should in your DAW.
- **SYNC ALL** is ideal for big layered riffs. Try sequencing all three sections, then mix their patterns for huge, interlocking grooves.
- Flip to **KEYBOARD START/STOP** in a live set so sequences launch only when you say so. It’s great for call-and-response moments with the band.
- **STEP ADV** is your ticket to oddball stutters and experimental grooves. Advance steps by hand for glitchy, humanized rhythms no DAW could predict.
- Combine **PING-PONG** with SYNC to create back-and-forth motion that still stays locked to the DAW grid. This is useful for evolving arps or bass lines that never quite repeat the same way twice.
- Don’t be afraid to move your DAW playhead mid-song. The sequencer will automatically jump to the correct step in real-time. It’s like having a rhythm section that actually pays attention to the conductor.



Programming a Sequence

The row of 16 step buttons (labeled 1–16) is where input happens. Each step can contain a chord, a single note, or nothing. Here’s how you tell Trident what to do:

- Record – Arms the sequencer to capture notes you play on the keyboard into whichever step is active.

- Erase – Clears the selected step.
- Note – Manually enters a note/chord into the selected step without overwriting the others.
- Tie – Extends a note across steps, creating legato lines instead of chopped staccato.
- Accent – Boosts a step's level (usually by velocity), giving your pattern punch and dynamics.
- Steps – Sets the total number of active steps (from 1–16). Want a 7-step polyrhythm against 4/4? Go for it. Quickly set the number of steps in the sequence (i.e., the sequence length) by clicking on the step number. This will constrain the sequence length to that number of steps.

You can flip between Pattern A and Pattern B for variation, or chain them (see Sequence knob).

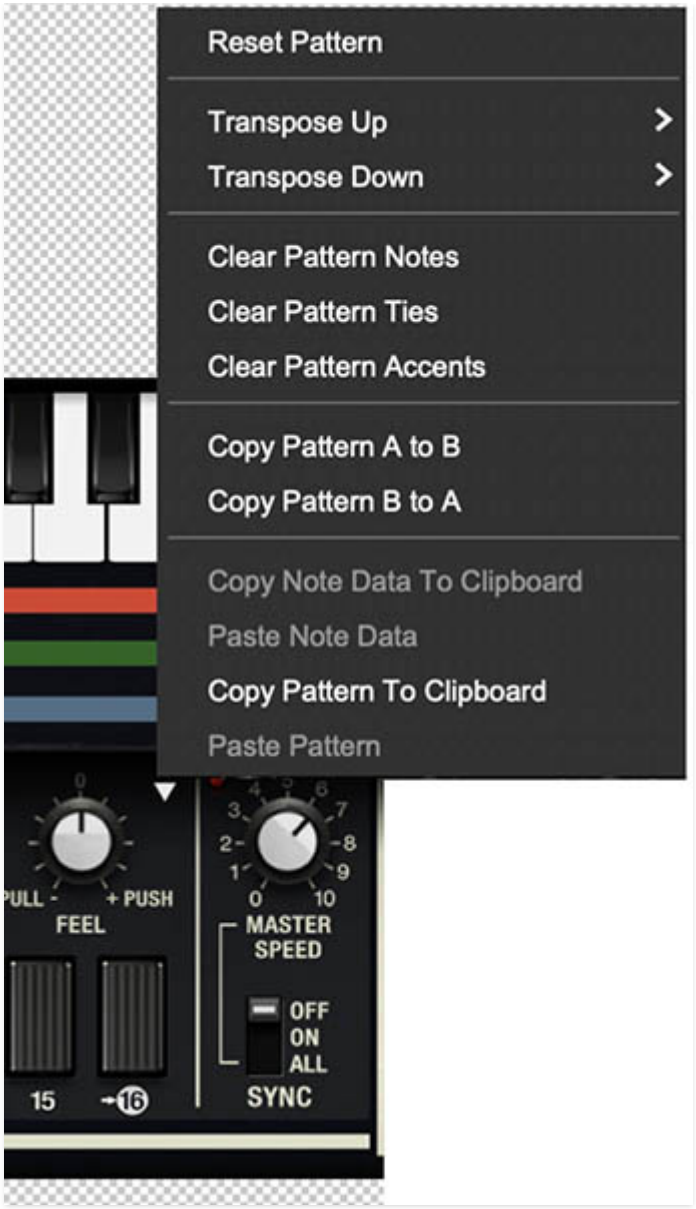
Arranging Sequences

A or B / A+B 1 / A+B 2 / A+B 4 – Selects which patterns play:

- A or B – Only one pattern at a time.
- A+B 1 – Alternate between Pattern A and B every pass.
- A+B 2 – Play Pattern A twice, then Pattern B twice.
- A+B 4 – Four repeats of A, then four of B.

Groove Controls

- Swing – Injects shuffle into the timing. Straight at 0, swung at higher settings. Dial around 67% for triplet feel.
- Chance – Sets the probability that a step will trigger. Great for adding variety — your 16-step loop never has to sound the same twice.
- Feel (Push/Pull) – Shifts notes slightly ahead or behind the beat, humanizing the sequence.
- Master Speed – Overall clock rate. The LED above flashes in tempo.
- Sync – Locks playback to Trident's global tempo (standalone) or your DAW's tempo (plug-in).



Managing Sequences

In addition to hands-on editing, the Sequencer features a dropdown menu (click the triangle in the upper-right corner of the Sequencer panel) with a set of utilities for managing your patterns quickly:

- **Reset Pattern** – Clears the current pattern and returns all steps to their default state. This creates a clean slate when you want to start over.
- **Transpose Up / Transpose Down** – Shifts the entire sequence up or down in pitch 1 semitone or 12 semitones (1 octave). Handy for re-keying a riff without re-entering every note.
- **Clear Pattern Notes** – Removes all note values from the sequence while leaving ties and accents untouched.

- **Clear Pattern Ties** – Deletes all tie information while keeping notes and accents intact.
- **Clear Pattern Accents** – Strips away all accents, leaving note and tie data in place.
- **Copy Pattern A to B / Copy Pattern B to A** – Duplicates one pattern bank into the other. Good for creating variations without starting from scratch.
- **Copy Note Data to Clipboard / Paste Note Data** – Lets you copy just the note information from one pattern and paste it into another, even across different presets or incidents of Trident.
- **Copy Pattern to Clipboard / Paste Pattern** – Copies or pastes the entire pattern (notes, ties, accents, the works) to or from the clipboard.

Together, these commands make it easy to manage multiple ideas, build variations, and keep your workflow moving fast.

Tips: Managing Sequences

- **Keep a Safety Copy:** Before experimenting, use **Copy Pattern A to B** so you've always got the original tucked away.
- **Transpose for Inspiration:** If a sequence feels stale, try **Transpose Up** or **Down** — sometimes new inspiration is just a few semitones away.
- **Selective Clearing:** Don't nuke everything if you don't have to. Clearing just **Ties** or **Accents** is a quick way to reshape a groove without reprogramming the whole line.
- **Clipboard Power:** Use the clipboard commands to move sequences between projects or duplicate ideas across presets or multiple Trident instances. It's a hidden workflow booster.
- **Variation Builder:** Copy a sequence, then strip accents or ties to create subtle variations. Alternate between them in A/B mode for evolving patterns.

Sequencer Tips

• Chords in steps - instant song sketches. Load full triads or sevenths into steps instead of single notes, and suddenly the sequencer is writing progressions while you focus on textures.

• Transpose is your friend - Record a 4-bar chord pattern, then use a single key to move the whole thing around. You'll feel like you're conducting the band with one finger.

• Steps ≠ 16 only. Set the sequence length to an odd number like 7 or 11. Against a 4/4 drum track, you'll get endlessly shifting polyrhythms that never quite repeat.

• Accent for drama. Sprinkle a few accented steps into otherwise quiet patterns and you'll create grooves with natural push and pull. Works wonders on brass stabs.

• A + B = evolution. Write Pattern A as a simple groove and Pattern B as the variation. Chain them with A+B 2 or A+B 4 to build tension and release without lifting a finger.

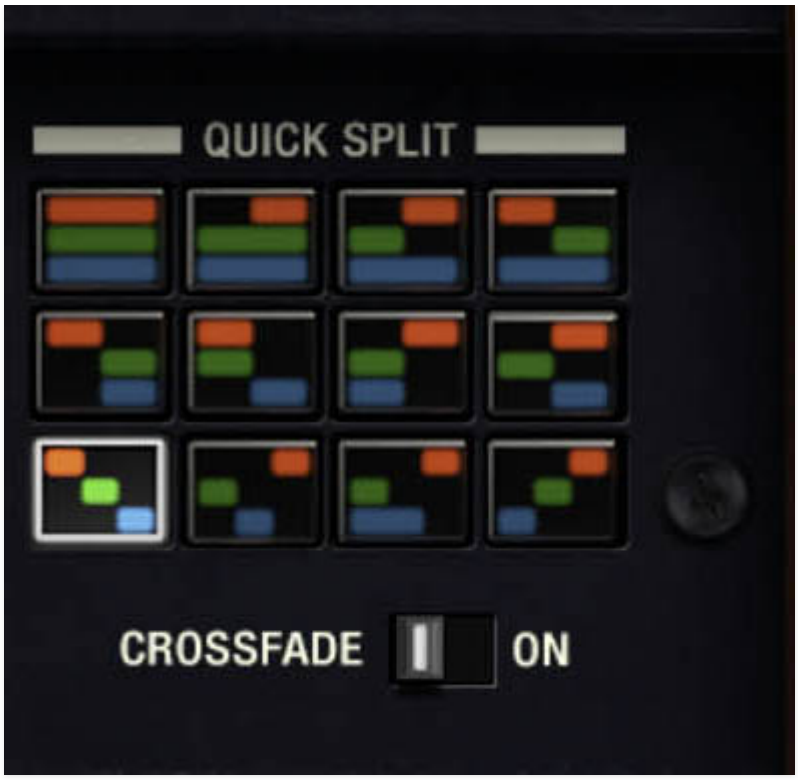
• Chance + Random = happy accidents. Let the sequencer surprise you. Strings with low Chance and Random playback create lush, evolving textures that feel more like generative ambient music than a rigid sequence.

Keyboard Splits

The Motion tab isn't just about sequencers and arpeggiators. It's also where Trident shows off its multi-instrument muscle with a flexible, musician-friendly keyboard split system. This lets you decide exactly how and where the Synthesizer (red), Brass (green), and Strings (blue) live on your keyboard.

Drag-and-Drop Zones

Underneath the on-screen keys, you'll see three color-coded zones: red for Synth, green for Brass, and blue for Strings. Click and drag their edges to resize them while watching the notes (C3, B5, etc.) update on screen. It's a quick, visual way to carve up the keyboard into dedicated regions for each section.



Quick Splits
Not in the mood to fuss with handles? The right-hand panel offers twelve “Quick Split” presets that instantly arrange all three zones into sensible starting points. Click to call one up, then adjust to taste.

Crossfade for Soft Splits
Here’s where Trident goes beyond the usual hard wall splits. Enable the *Crossfade* switch, and overlapping zones will actually blend together. Instead of an abrupt cutoff, you get a smooth transition where one section blends into the next. The size of the overlap determines how long the crossfade transition lasts. A short overlap is a subtle hand-shake, while a longer one becomes a morph between sounds. It’s far more musical, and useful for live performance or cinematic layering.

In Practice

- Put deep Synth bass down low, then crossfade into a Brass stab zone for electro-funk performances.
- Let Strings bloom above C5, overlapping into Brass for an orchestral sweep that feels seamless.
- Use Quick Splits to sketch an idea, then fine-tune the crossfade regions until your keyboard feels custom-tailored to the part at hand.

Aftertouch

Aftertouch is a performance feature found on many MIDI keyboards that lets you apply extra pressure to keys *after* they've been struck, sending a continuous control signal. It's like having an extra layer of expression under your fingertips. Dig in harder, and you can add vibrato, open a filter, increase volume, or introduce modulation, all without touching another knob or wheel.

Trident's implementation of aftertouch is flexible and section-specific:

- The **Synthesizer** section responds to **full polyphonic aftertouch**, meaning each key can transmit its own independent aftertouch data. This allows per-note expressive control. Press harder on just one note of a chord and only that note responds.
- The **Brass** and **Strings** sections use a modified form of poly aftertouch for **volume and modulation**, but because they're paraphonic, filter control responds to **channel (mono) aftertouch**, where a single aftertouch signal applied to the whole section.

The **Aftertouch panel** in the Motion tab lets you decide exactly how this expressive control is applied:

- **Volume knob** – Sets how much aftertouch affects the loudness of the selected section(s).
- **Filter knob** – Sets how much aftertouch affects filter cutoff.

- **Modulation knob** – Sets how much aftertouch controls modulation depth (such as vibrato or MG modulation).

Each of these knobs has corresponding **ON switches** for **Synth, Brass, and Strings**, allowing you to enable or disable aftertouch routing for each section independently. For example, you might route aftertouch to filter sweeps on the Brass, but only use it for volume swells on the Strings.

Finally, there's a **Sustain Pedal switch**, which enables sustain per section. When **ON** for Synth, Brass, or Strings, pressing the sustain pedal will hold notes for that section in the usual musical way (notes continue to sound until the pedal is released). This routing is independent of the aftertouch knobs above.

- **Synthesizer:** holds polyphonic notes/voices.
- **Brass (paraphonic):** holds the section's envelope while the pedal is down; it releases when the pedal is lifted and no keys are held.
- **Strings:** extends per-note AR envelopes so chords can ring under new playing.

Tip: Enable sustain for **Strings** only to let pads bloom while keeping **Synth** bass lines tight.

Aftertouch Tips

- **Bow Your Strings:** Assign aftertouch to **Strings volume** for realistic swells. Pressing harder mimics a string player digging in with the bow.
- **Expressive Brass:** Route aftertouch to the **Brass filter** for classic horn-style filter swells. Dig in and the brass section opens up just like players pushing more air.
- **Solo Spice:** Use **Synth modulation** with aftertouch to bring in vibrato on leads without touching the mod wheel. This is useful for emulating guitar-like expressiveness.
- **Multi-Dimensional Pads:** Spread aftertouch across multiple destinations (e.g., volume + filter) for pads that bloom and evolve under your fingers.
- **Dynamic Balance:** Don't overdo it. Subtle amounts of aftertouch often feel more natural and musical than cranking it to extremes.

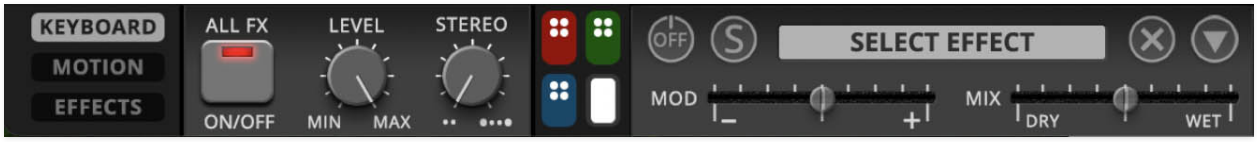
Effects

If Trident is the band, the Effects are the sound engineer with a truckload of toys, ready to push the mix into excess. Think of them less as icing on an already great sound and more as rocket fuel to launch it into new territory.

Where the original Korg Trident offered just a lone flanger (and a built-in ensemble effect for Strings), Cherry Audio's Trident piles on 17 different effects you can arrange into chains of up to five effects per section: Synthesizer, Brass, and Strings. On top of that, there's a Global effects chain that processes all three sections together. That's a whole lot of sonic firepower at your fingertips.

Each effect can be tweaked, bypassed, reordered, copied, soloed, duplicated, or saved for use in other presets. You can even modulate entire chains with a dedicated Effect Modulator.

Quick Tip: *The mini FX panel is always visible, but click the **Effects** tab at the bottom right for the full parameter view and deeper editing. Alternatively double-click the effects "footer" (the part with the always-visible mod and mix controls) to toggle the view from mini to full.*



Quick Controls (Always Available)
Even if you're in Keyboard View, the most essential FX controls are always within reach, sitting neatly under the chain:

- **All FX On/Off** – Instantly bypasses the entire chain.
- **Level** – Adjusts the overall level of the chain.
- **Stereo** – Widens (or narrows) the stereo field after processing.

Section Selectors (Color-Coded)
At the bottom of the panel you'll see four colored squares. These pick which section's effects chain you're editing:

- **Red** – Synthesizer
- **Green** – Brass
- **Blue** – Strings
- **Gray** – Global (affects all three sections)

Click the color, build your chain, and get creative. Each section's chain is fully independent, so yes, you can have phasers on Strings, tape echo on Brass, and distortion on the Synthesizer, all at once.

Per-Effect Controls
Each effect block in a chain has its own set of mini-controls:

- **On/Off** – Toggle the effect.
- **Solo** – Bypass all other effects to hear just this one.
- **Remove** (X) – Delete the effect from the chain.
- **Menu** – Copy, paste, duplicate, move, or save.
- **Modulation Amount** – From the Effect Modulator.
- **Wet/Dry Mix** – Blend processed vs. dry signal.

The Effect Modulator

Sometimes you may want to wobble a delay time or a phaser sweep for extra movement or touch of weirdness. Enter the **Effect Modulator**. It's a dedicated LFO just for the effects. It can target one parameter per effect, across the whole chain if you wish.

Controls include:

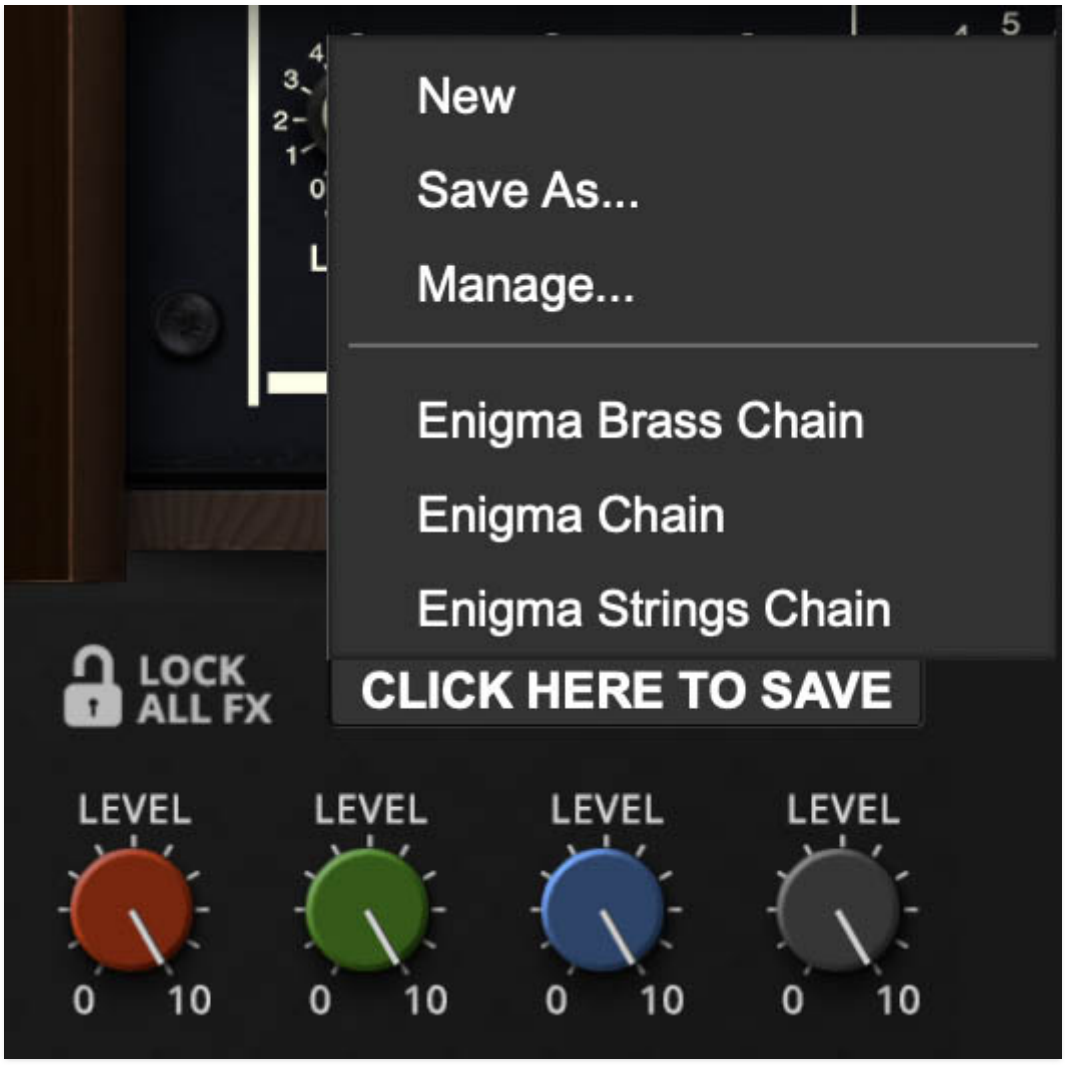
- **Speed** – 0.01 Hz to 20 Hz, or tempo-syncable from 1/64T to 8 beats. LED above flashes in time.
- **Waveform** – Ramp, sawtooth, triangle, sine, square, or random.
- **Delay** – Fade-in time for modulation (0–5000 ms).
- **Sync** – Locks modulation speed to host tempo.
- **Mod Wheel** – Lets your MIDI Mod Wheel scale the modulation depth in real time.
- **Key Reset** – Restarts the waveform with each key press.

Managing Effects Chains

Building and wrangling effects and effect chains straightforward. Use the Effects menu dropdown (the triangle) to save and move effects and chains.

- **Add an Effect** – In the Effects View, select a section (Synth, Brass, Strings, Global). Click the *Select Effect* dropdown to pick your effect, then tweak away.
- **Delete an Effect** – Click the “X” next to its name.
- **Save a Chain** – Display the Full Effects view → Use the *Click Here To Save* dropdown menu → Save As. Name it, reuse later.
- **Recall a Chain** – Load from the same dropdown.
- **Solo an Effect** – Hit the “S” button; all others mute.
- **Reorder** – Drag the effect by its top “grip” edge to rearrange.
- **Numerical Edit** – Double-click a knob/slider, type a value, press Enter.
- **Copy Effect to Another Section** – Click the triangle dropdown → Copy To → pick section.

- **Copy or Move Entire Chain** – Click the triangle dropdown → Copy/Move Effect Chain To → pick section.
- **Duplicate an Effect** – Click the triangle dropdown → Duplicate (places a copy right next to it).
- **Align Effects** – Click the triangle dropdown → Align All Effects to automatically shift all effects to the left, closing any empty slots in between.
- **Lock All FX** – Click the padlock icon to keep the current effects chain in place when switching presets. Any new preset you load will use your locked chain instead of its own, making it easy to carry your favorite effect setup from sound to sound.



Practical Tips

- Don’t overlook the **Global chain**. A touch of reverb or EQ here can glue all three sections together.

- The **Effect Modulator + Mod Wheel** combo is excellent for live performance. Map it, and suddenly your phaser swoops in only when you push the wheel.
- Try saving a few **favorite chains** and re-using them across presets. Treat them like your personal pedalboards.
- Extreme stereo widening can be fun in headphones, but keep an ear on mono compatibility if you’re making tracks.

The Effects

There are 17 effects in total to add potency to any Trident sound. Whether you’re after subtle polish, full-throttle grit, or spacey atmospheres, these effects add even more character to any patch.

Digital Delay

Delay pedals and tape echoes have been a keyboardist's sidekick for decades. The Digital Delay offers three classic flavors:

- **Digital** – Clean, pristine repeats that would've cost a fortune back in the '70s.
- **Tape** – Warm, saturated echoes without the hassle of splicing worn-out loops.

- **Ping Pong** – Echoes that bounce between left and right for instant stereo drama.

Controls:

- **Delay Time** – Sets the gap between repeats (1 ms to 2000 ms). With Sync on, times follow the beat (1/64T to 8 bars). Can be modulated.
- **Feedback** – Controls how many repeats you get. Low values = slapback echo; high values = infinite runaway.
- **Spread** – Adjusts the stereo width of the delayed signal.
- **Damp** – Softens repeats by filtering highs, making echoes darker and rounder.
- **Mod Rate / Mod Depth** – Adds modulation to delay time. Subtle settings = chorus shimmer; extreme = pitch warbles and glitching.

Tip: Try Digital mode with high feedback and a little modulation depth for a psychedelic wash that hovers on the edge of chaos.

Tape Echo

Few effects are as iconic as tape echo. Originally created with loops of magnetic tape and multiple playback heads, these machines defined the sound of countless dub records, psychedelic jams, and experimental soundscapes. Trident's **Tape Echo** captures all that vintage character without the headaches of demagnetizing heads or replacing tape loops.

Controls:

- **Mode Selector** – Chooses which playback heads are active. Each mode offers different rhythmic subdivisions and textures, from simple single repeats to multi-head cascades.
- **Repeat Rate** – Sets the delay time. Lower values = slower, spaced-out repeats; higher values = rapid-fire echoes. With **Sync** engaged, rates lock to host tempo. Modulation can be applied here for even more vintage spaciness and psychedelic vibes.
- **Intensity** – Controls feedback (how much of the echo feeds back into itself). Low settings = quick fadeouts; higher values = dense, self-oscillating repeats and greater sonic mayhem.
- **Heads Indicators (1–3)** – Lights show which tape heads are active for the selected mode.

Practical Tip:
For classic dub-style echo, select multiple heads with **Intensity** cranked high, then ride the **Repeat Rate** knob during playback for wild pitch sweeps. For more subtle use, stick to a single head and moderate intensity to add depth without overwhelming the mix.

Digital Reverb

Back in the ’70s, reverb meant spring tanks or giant plates welded into studio walls. Digital reverbs were exotic, studio-only beasts. Trident gives you a compact, modern reverb with three classic models:

- **Room** – Tight, natural ambience.
- **Hall** – Expansive, lush decay.
- **Plate** – Smooth, metallic sheen.

Controls:

- **Predelay** – Time before the reverb kicks in (0–150 ms). Longer predelays create a sense of bigger space.
- **Decay** – Length of the reverb tail, from short and snappy to cavernous. Modulation target.
- **Highpass / Lowpass Filters** – Shape the tone of the reverb by trimming boomy lows or harsh highs.
- **Mod Routing Switch** – Chooses whether modulation affects Predelay or Decay.

Tip: Use a short Room reverb on Strings to glue them into a mix, or a long Plate on Brass for cinematic grandeur.

Galactic Reverb

When you need more than a room, hall, or plate to launch your sound into the stratosphere, reach for **Galactic Reverb**. Designed for cavernous, cosmic spaces, it excels at ambient washes, cinematic swells, or simply making your synth sound like it has left the building (and maybe the planet).

Controls:

- **Predelay** – Sets the time before the reverb begins (0–150 ms). Short settings keep things tight; longer values create separation between the dry attack and the wash of reverb. Can be modulated.
- **Decay Time** – Determines how long the reverb tail lingers. Dial it short for manageable ambience, or long for infinite, space-drifting sustain.
- **High Freq** – Adjusts the tonal brightness of the reverb by shaping the high-frequency response. Higher settings yield shimmering, airy tails; lower settings make the reverb darker.
- **Low Freq** – Sets how much low end is preserved in the reverb. Keep it up for a massive, bass-heavy wash, or pull it back to avoid muddiness.
- **Damp Amount** – Controls the damping of reflections over time. Higher values cause the reverb tail to lose brightness as it decays, simulating natural absorption in real spaces.

Tip:
For lush pads, combine a long **Decay Time** with a rolled-back **Low Freq** and moderate **Damp Amount** to create a deep but clear ambient space. On leads, try adding a touch of **Predelay** so the note speaks clearly before the reverb bloom takes over.

Spring Reverb

Spring reverb is one of the most distinctive ambience effects in music history. From surf guitar twang to vintage organs to early synths patched through amps, its metallic, splashy character has a charm all its own. Trident's **Spring Reverb** recreates the sound of physical springs housed in tanks, complete with extra controls that let you shape it far beyond the originals.

Controls:

- **Drive** – Pushes the input signal into the springs. Higher settings increase saturation and grit, adding vintage bite to the reverb.
- **Predelay** – Sets the time gap before the reverb begins (0–150 ms). Useful for keeping the dry attack clear before the spring kicks in.
- **Decay** – Adjusts how long the spring vibrations last. Low values yield short, splashy bursts; higher settings give longer, ringing tails.
- **Highpass / Lowpass** – Filters that trim unwanted lows or highs from the reverb signal. Use them to tame muddiness or harsh metallic overtones.
- **Tension** – Simulates the tightness of the springs. Looser = wobblier, more boingy character. Tighter = more controlled, refined response.

Tip:
For vintage organ vibes, set **Decay** short and **Tension** loose to get that splashy, percussive spring burst. For a more modern twist, roll back the **Lowpass**, tighten the **Tension**, and add a touch of **Drive** for a darker, thicker ambience.

Distortion & EQ

Sometimes clean just won't cut it. Distortion adds grit, attitude, and warmth. Trident's Distortion offers four modes:

- **Tube** – Smooth overdrive like a cranked guitar amp.
- **Fuzz** – Aggressive, buzzy saturation modeled after germanium fuzz pedals.
- **Sat** – Tape-style saturation for warmth and compression.

- **EQ** – A standalone 3-band equalizer without added drive.

Controls:

- **Drive** – Amount of gain/saturation (active in Tube, Fuzz, and Sat modes).
- **Level** – Output volume to balance the effect.
- **Bass / Middle / Treble** – ±15 dB gain for tone shaping.
- **Mid Band Frequency** – Selects which frequencies the Middle control boosts/cuts.
- **Modulation Target** – In Tube, Fuzz, and Sat modes, Drive is modulatable. In EQ mode, the Mid Band frequency can be modulated.

Tip: A touch of tape saturation can add body to Strings or Brass without sounding distorted. Crank Fuzz on the Synth section, though, and you’re in snarling lead territory.

Dual Phaser

Phase shifters were everywhere in the ’70s, and the legendary Mu-Tron Bi-Phase set the standard. Trident’s Dual Phaser brings that same rich, sweeping character times two.

Each phaser has its own controls, but you can sync them together or let them run wild independently.

Controls (per phaser):

- **Speed** – Sweep rate (0.01 Hz–8 Hz, or tempo-synced from 1/64T to 8 beats).
- **Depth** – Intensity of the phasing effect.
- **Stages** – Number of filters in the phaser circuit. More stages = deeper, more pronounced sweeps.
  - Phaser 1: 4 or 8 stages.
  - Phaser 2: 6 or 12 stages.
- **Resonance** – Emphasizes the notches for sharper, more hollow tones.
- **Mix** – Balances between Phaser 1 and Phaser 2. Can be modulated.
- **Sync** - the **Sync switch** determines whether the two phaser stages run free and independent or whether one is locked to (synchronized with) the other:
  - **Off** (unsynced):
    Each phaser has its own LFO running freely. This means they can drift in and out of alignment, creating evolving, swirling movement and complex stereo textures.
  - **On** (synced):
    The second phaser's sweep is locked to the first. Instead of moving independently, both phasers cycle together, so you get a more unified, rhythmic phase motion. This setting is tighter and more predictable, useful when you want a consistent pulse or groove.

Tip: Try syncing both phasers at different stage settings (e.g., 4 vs. 12) for complex, evolving sweeps.

Flanger & Chorus

These two modulation effects use short delays to create movement and depth. Flanging mixes dry and very short-delayed signals for a sweeping “jet plane” comb-filter sound. Chorus uses slightly longer delays to thicken tones, simulating multiple instruments playing together.

Flanger Controls:

- **Speed** – LFO rate of the sweep (0.01 Hz–8 Hz, or tempo-synced).

- **Depth** – Amount of sweep applied.
- **Delay** – Sets the base delay time (1–13 ms). Shorter = brighter notches.
- **Resonance** – Boosts the notches, producing the classic jet-flange effect.

Chorus Controls:

- **Speed** – LFO rate of the sweep (0.01 Hz–8 Hz, or tempo-synced).
- **Depth** – Amount of sweep applied.
- **Waveform** – Shape of the LFO (sine, triangle, saw, ramp). Each yields a different flavor of movement.

Shared Control:

- **Mix** – Balances Flanger and Chorus. Can be modulated.

Tip: Use a slow, shallow chorus on Brass to add width without getting in the way, or crank up flanging on a lead synth for unapologetic ’70s sci-fi drama.

Envelope Filter

The Envelope Filter is a triggered modulation effect. Every time you play a key, it generates a filter sweep. Unlike a traditional envelope follower that reacts to signal volume, this one gives you consistent, predictable sweeps. Great for auto-wah effects, synth zaps, and funky textures.

Envelope Section:

- **Shape** – Pick an envelope contour (ramp, triangle, square, etc.). Shapes determine how the filter cutoff moves over time. Square acts more like an

LFO.

- **Length** – Duration of the envelope sweep. Short = snappy; long = slow evolving.
- **Envelope Amount** – Sets how far the filter cutoff moves in response to the envelope.

Filter Section:

- **Cutoff** – Base frequency of the filter. The envelope adds/subtracts from this point.
- **2-Pole / 4-Pole** – Choose slope steepness: 2-pole = smoother; 4-pole = sharper.
- **Resonance** – Boosts frequencies at the cutoff, making sweeps more dramatic.
- **Drive** – Adds gain before the filter for extra grit and presence.

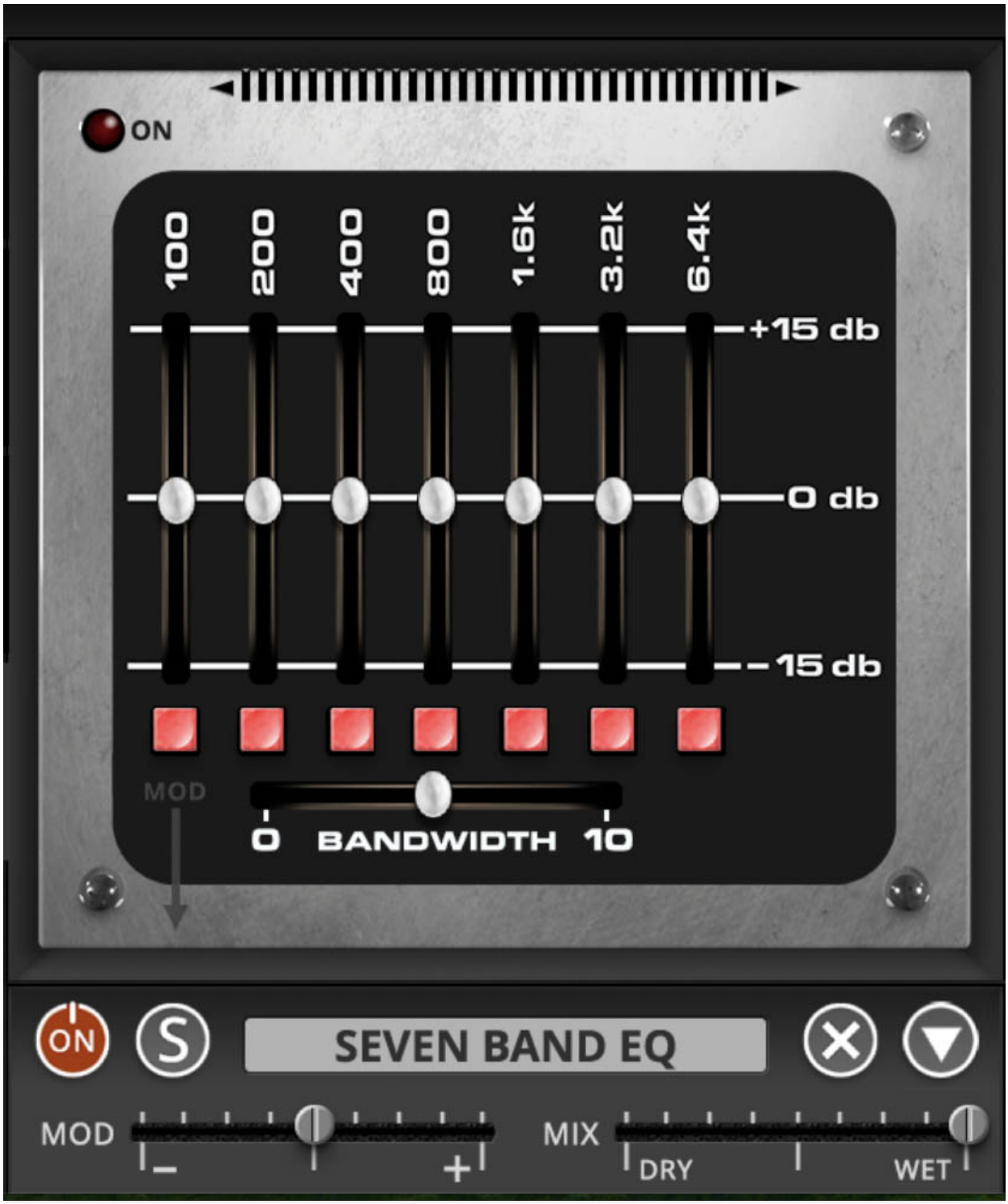
Other Controls:

- **Gain (Trimmer)** – Balances the output level.
- **MOD Slider** – Adjusts how much modulation is applied.
- **MIX Slider** – Balances dry vs. processed.

Tip: Set a long ramp-up shape with high resonance on Strings for dramatic sweeps that bloom with each note, or go short and snappy on Synth for funky auto-wah leads.

Tip 2: Filters on Filters

You don’t have to trigger the Envelope Filter with an envelope at all. Just leave the sensitivity low and it becomes a fixed filter instead. This essentially gives you an extra paraphonic filter that you can apply to the Synthesizer, Brass, or Strings individually, or drop in the global FX chain for the whole mix. Stack it with the section’s built-in filters, and the multiple filters line up in series to carve out shifting bands of tone. This technique is an excellent way to shape formant-like textures, focus a patch more narrowly, or take Trident into realms that its hardware predecessor never imagined.



Seven Band EQ

Equalization is one of the most fundamental tools in shaping sound, and Trident's **Seven Band EQ** makes it straightforward and musical. Modeled after classic graphic equalizers, this effect lets you boost or cut seven key frequency ranges to sculpt tone, tame problem areas, or bring out character in any sound.

Controls:

- **Frequency Bands (100, 200, 400, 800, 1.6k, 3.2k, 6.4k Hz)** – Each vertical slider boosts or cuts its band by up to ±15 dB. Push up to emphasize, pull down to reduce.
  - **100 Hz** – Sub-bass and low-end weight.
  - **200 Hz** – Warmth or muddiness.
  - **400 Hz** – Body and thickness (or boxiness if overdone).
  - **800 Hz** – Midrange punch.
  - **1.6 kHz** – Presence and edge.
  - **3.2 kHz** – Clarity and attack.
  - **6.4 kHz** – Brightness and air.
- **Bandwidth** – Adjusts how wide or narrow each band's effect is. Lower values = broader, smoother curves. Higher values = tighter, more surgical adjustments.

As with all other effects in Trident, the **Seven Band EQ** can be modulated — opening the door to rhythmic tone-shaping or evolving filter-like sweeps across multiple bands.

Tip:
Use gentle boosts or cuts across a few bands for natural tone shaping. For example, trimming a little **200 Hz** mud while boosting **3.2 kHz** clarity on Brass. Or crank up **100 Hz** and **6.4 kHz** together to give synth basses both thump and sparkle.

Ring Modulator

Ring modulation is the sound of science fiction ray guns, metallic clangs, and otherworldly textures. By multiplying your signal with an internal oscillator, it creates sum and difference frequencies that often sound inharmonic, robotic, or downright alien. Trident's **Ring Modulator** gives you full control over how wild (or subtle) things get.

Controls:

- **Gain** – Adjusts the input level sent into the modulator. Higher gain means a stronger, more pronounced effect.
- **Range (High/Low)** – Switches the oscillator's frequency range. Low is better for tremolo-like modulation; High ventures into bell tones and metallic territory.
- **Freq** – Sets the frequency of the carrier oscillator. Lower settings = slow, throbbing tremolo. Higher = clangorous sidebands.
- **Wave** – Selects the oscillator's waveform: sine for smooth, or square for harsher, edgier modulation.
- **Rate** – Controls oscillator speed when in Low range (essentially tremolo rate). Syncs to tempo when **Sync** is enabled.
- **Amount** – Sets the depth of modulation, from subtle shimmer to total signal disintegration.
- **Drive** – Adds gain and harmonic grit after the modulation stage, thickening or dirtying up the output.

Tip:
For classic sci-fi "flying saucer" tones, set **Range** to High, pick a sine wave, and crank **Freq** into the audio range. For more musical use, try Low range with Rate synced to tempo and it becomes a tempo-locked tremolo that adds groove without going completely alien.

Lushverb

If you want your sounds to swim in ambience, **Lushverb** is your go-to. As the name suggests, it’s built for wide, dreamy reverberation that can be subtle and supportive or massive and enveloping. With tone-shaping filters and built-in modulation, it excels at everything from natural roominess to lavish, evolving textures.

Where **Galactic Reverb** reaches for infinite, cosmic expanses, **Lushverb** focuses on silky smoothness and animated depth. It's the kind of reverb that flatters synths, vocals, and pads by wrapping them in a liquid halo.

Controls:

- **Predelay** – Time before the reverb kicks in. Short = immediate wash; longer = clearer separation between dry sound and reverb bloom.

- **Early Reflections** – Shapes the very first echoes you hear when a sound bounces off walls. Low settings keep things tight and intimate, like you're in a smaller space. Higher values push those reflections further forward, adding presence, punch, and a sense of real room before the tail blooms. Great for adding dimension without always using longer decay times.
- **Decay** – Sets the length of the reverb tail, from short ambience to cavernous sustain. Can be modulated.
- **Highpass / Lowpass** – Trim low-end rumble or high-end fizz in the reverb signal to keep mixes clean.
- **Damp** – Determines how much brightness is lost over time. Higher values = tails that darken as they fade.
- **Mod Rate / Mod Depth** – Add movement to the reverb tail by modulating its delay lines. Subtle settings = gentle shimmer; extreme settings = chorus-like animation.
- **Sync** – Locks modulation to host tempo for rhythmic effects.
- **Mod Switch (Predelay/Decay)** – Chooses whether modulation applies to the Predelay or Decay parameter.

Tip:
For ambient pads, set a long **Decay**, roll off some lows with the **Highpass**, and add a touch of **Mod Depth** for evolving shimmer. For tighter mixes, use shorter **Predelay** and keep **Decay** moderate, adding just enough **Damp** to sit naturally under the dry sound.

Lo-Fi

Sometimes perfection is the enemy of vibe. **Lo-Fi** is designed to rough up your sound with the kinds of imperfections that make old recordings feel warm and gritty. From dusty vinyl crackle to wobbly tape warble, this effect can take Trident's pristine tones and throw them straight into the basement of a 1970s record store.

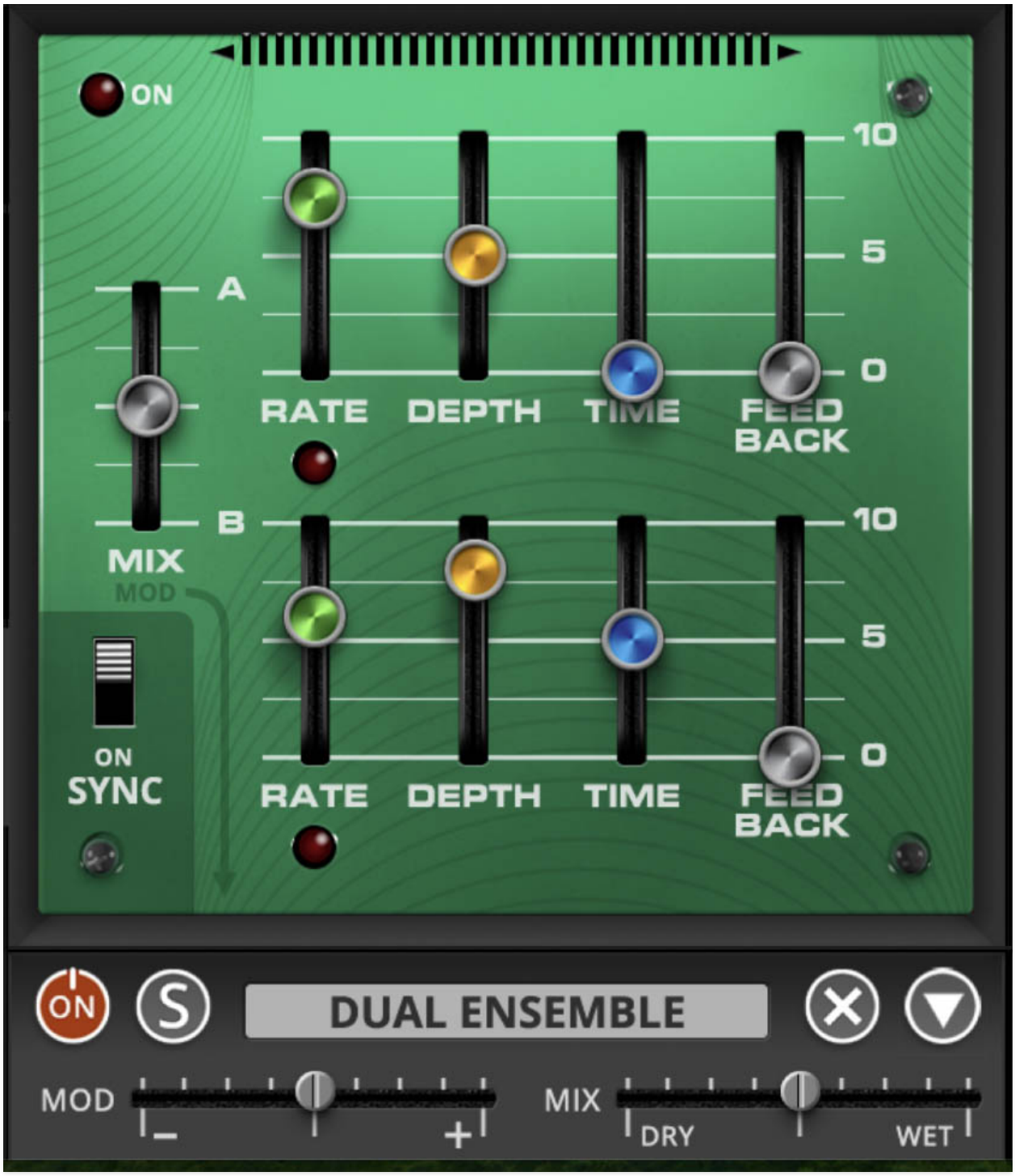
Controls:

- **Vinyl** – Adds record-like crackle and pops. Higher settings = more frequent, louder artifacts.
- **Wow** – Simulates the slow pitch drift of a warped record or stretched tape.
- **Flutter** – Adds faster, jittery pitch variations, like a worn cassette transport.

- **Hiss** – Introduces broadband noise, reminiscent of tape or cheap electronics.
- **Hum** – Injects mains hum into the signal, with a switch for **50 Hz / 60 Hz** to match regional power noise flavors.
- **Random (center knob)** – Introduces unpredictable fluctuations across the effect parameters, enhancing the chaotic, analog feel.
- **Noise Gate** – To help keep the grit under control, Lo-Fi includes a **Gate**. Think of it as an automatic volume control. It lets your instrument through when you're playing, and slams the door shut when things go quiet, keeping hiss, hum, and crackle from hanging around between notes.
  - **Enable Button**: Switches the gate on and off.
  - **ATT (Attack)**: How quickly the gate opens when you play a note. A fast attack gives you sharp, immediate entrances; a slower attack eases the noise in more gently.
  - **REL (Release)**: How quickly the gate closes after the sound drops below the threshold. A short release cuts noise instantly. A longer release lets things fade more naturally.

  Gate Tip: When using long-decay sounds (especially with reverb or delay), you might hear "chatter," that sputtering, open-close-open stutter as the gate struggles to decide whether the tail is loud enough to keep. If that happens, try increasing the **Release** for smoother fades, or dial back your effect tails slightly. A touch of balance here makes the difference between vintage character and sounding like a broken speaker.

Lo-Fi Tip:
For subtle retro flavor, add a touch of **Wow** and **Hiss** to synth pads. For full-on grit, crank **Vinyl** and **Hum** and let the **Random** knob do its thing. It's great for lo-fi hip-hop or downtempo textures that need a worn, nostalgic character.



Dual Ensemble

The lush, swirling sound of ensemble effects is a hallmark of vintage string machines and poly synths. The original Korg Trident only offered an ensemble circuit hardwired to the Strings section. Trident's **Dual Ensemble** goes far beyond that limitation, giving you two fully independent ensemble units you can use on any section, or blend together for everything from subtle shimmer to deep, swirling motion.

Controls (for each Ensemble A & B):

- **Rate** – Sets the speed of the modulation (how fast the pitch/phase shifts). Slow = gentle drift; fast = warbly motion.
- **Depth** – Controls how far the pitch is detuned by the modulation. Low = subtle thickening; high = seasick wobble.
- **Time** – Adjusts the base delay time of the effect. Longer times = looser, more chorus-like feel; shorter times = tighter, phase-like coloration.
- **Feedback** – Feeds the delayed signal back into itself for resonance and more pronounced movement.

Shared Control:

- **Mix** – Balances between Ensemble A and Ensemble B. Use it to layer two different modulation speeds and depths for a rich, evolving chorus.

Tip:
For classic string-machine shimmer, set both ensembles with slow **Rates** and low **Depths**, then balance them with the **Mix** slider. For a more psychedelic wash, give one ensemble a slow, deep drift and the other a faster, shallower variation. The interaction creates a lush, animated stereo field.

Note: If you're torn between **Dual Ensemble** and **Chorus/Flanger**, think of it this way: Ensemble excels at smooth, swirling textures with a vintage string-machine flavor, while Chorus/Flanger covers more dramatic sweeps, jet whooshes, and thicker doubling effects.

Dual Delay

Why settle for one echo when you can have two? Trident's **Dual Delay** lets you run two independent delay lines side by side for everything from tight rhythmic interplay to wide, spacious echoes. Each delay has its own controls, and you can sync them to tempo, run them free, or send them bouncing across the stereo field in ping-pong mode.

Controls (per Delay Line 1 & 2):

- **Time** – Sets the delay length. With **Sync** engaged, times lock to tempo divisions; in **Free Run** they're adjustable in milliseconds.
- **Feedback** – Determines how many repeats occur. Low = quick slapback; high = long echoes or self-oscillation.
- **Damp** – Applies high-frequency damping to the repeats, making them darker and more natural as they fade.

Shared Controls:

- **Mix (1/2)** – Balances between Delay 1 and Delay 2.
- **Sync/Free Run Switch** – Toggles between tempo-synced and free-running time modes.
- **Spread** – Adjusts stereo spacing of the delays. Low = centered echoes; high = wide, panned echoes.
- **Ping-Pong** – Sends repeats alternating left and right for a classic stereo bounce.

Tip:
For rhythmic complexity, set Delay 1 to dotted eighths and Delay 2 to quarters, then spread them wide for instant "U2-style" echo textures. For ambient sound design, keep both delays long, add plenty of **Damp**, and engage **Ping-Pong** for endless stereo wash.

Note: If you're wondering whether to reach for **Dual Delay** or **Digital Delay**, here's the difference: Digital Delay is quick and straightforward, with classic single-line flavors (digital, ping-pong). Dual Delay offers more flexibility, stereo interplay, and rhythmic layering. This is great when you want echoes to become part of the composition.

Compressor

Compression is a powerful tool for shaping the dynamics of your synths. It can make basses hit harder, leads sit firmly in a mix, and pads feel more even and controlled. Trident’s Compressor keeps things simple, with just the essential controls you need to add punch, presence, or smoothness to your patches. It operates with a fixed threshold of –12 dB and built-in auto makeup gain, ensuring consistent levels without extra balancing work, making it very plug-and-play. Dial in Attack and Release to taste, push the Input until you like what you hear, and you’re good. There's no need to trouble with gain staging or threshold hunting.

Controls:

- **Ratio (slider at top)** – Sets how much the signal is reduced once it passes the threshold. Lower ratios (4:1) = gentle smoothing. Higher ratios (12:1, 20:1) = firm control.

- **Input** – Adjusts how much signal is pushed into the compressor. More input = more compression.
- **Output** – Balances the overall level after compression so the processed signal matches or exceeds the bypassed sound.
- **Attack** – Controls how quickly the compressor reacts, measured in milliseconds (ms). Fast = tight and snappy; slow = allows more of the transient bite through.
- **Release** – Sets how quickly the compressor recovers, measured in milliseconds (ms). Fast = punchier feel; slow = smoother, sustained leveling.
- **VU Meter** – Shows how much gain reduction is being applied, so you can see the effect as well as hear it.
- **Auto Makeup Gain** – One common side effect of compression is that the overall signal level can drop as peaks are reduced. Normally you'd compensate for this with an Output (or Makeup Gain) control, nudging the level back up by ear. Trident's Compressor saves you that step by including built-in auto makeup gain that you can switch on or off. With it on, as you increase compression, it automatically boosts the signal so your processed sound stays roughly as loud as the uncompressed version. The benefit is that you can focus on shaping punch and dynamics without constantly juggling output levels, making the Compressor faster and more intuitive to use.

Compressor Specs:

- Input: -20dB to +20dB
- Output: -20dB to +20dB
- Attack: .1ms to 200ms
- Release: 5ms to 3000ms
- Detector HP: 100Hz
- Threshold: -12dB
- Soft Knee (-3dB below threshold)

Tip:
For synth bass, use a medium **Attack** and fast **Release** to keep the low end solid without losing punch. On pads, slower **Attack** and **Release** settings

even out the dynamics, giving you a warm, flowing texture that sits perfectly under leads and arpeggios.

BBD Flanger

Flanging is all about mixing a signal with a very short, modulated delay, creating swooshing comb-filter effects. The Flanger effect was one of the most treasured parts of the original Trident, but was limited in that it could only be assigned to one section at a time. The **BBD Flanger** replicates the

original Trident Flanger and nails the character of vintage bucket-brigade analog units, known for their warm, slightly gritty sound compared to pristine digital models. This makes it ideal for thickening synths, adding movement to pads, or creating the classic jet plane sweep.

Controls:

- **Speed** – Sets the LFO rate that modulates the delay time. Slow = gradual sweeps; fast = rapid, shimmering motion.
- **Intensity** – Adjusts how much the LFO affects the delay time. Subtle settings = gentle movement; higher = deeper sweeps.
- **Manual** – Manually offsets the flanger's delay time. Use it to set the starting point of the sweep or to park the flanger for static comb-filter tones.
- **Feedback** – Feeds part of the output back into the input. Low = smooth, subtle flange. High = resonant, metallic sweeps with that signature jet-like sound.
- **Sync** – Locks the modulation rate to host tempo for time-synced sweeps.

Tip:
For classic "jet whoosh" effects, set **Feedback** high, **Speed** slow, and **Intensity** deep. For subtler chorus-like thickening, keep **Intensity** low, **Manual** slightly offset, and just a touch of **Feedback**.

Note: If you're deciding between **BBD Flanger** and **Flanger/Chorus**, here's the distinction: BBD Flanger delivers darker, warmer, more organic sweeps. This is perfect for vintage-style movement. Flanger/Chorus offers cleaner, brighter modulation and the flexibility to switch into chorus mode.

MIDI Controllers Setup and the MIDI Tab

Assigning Internal and External Hardware Controls

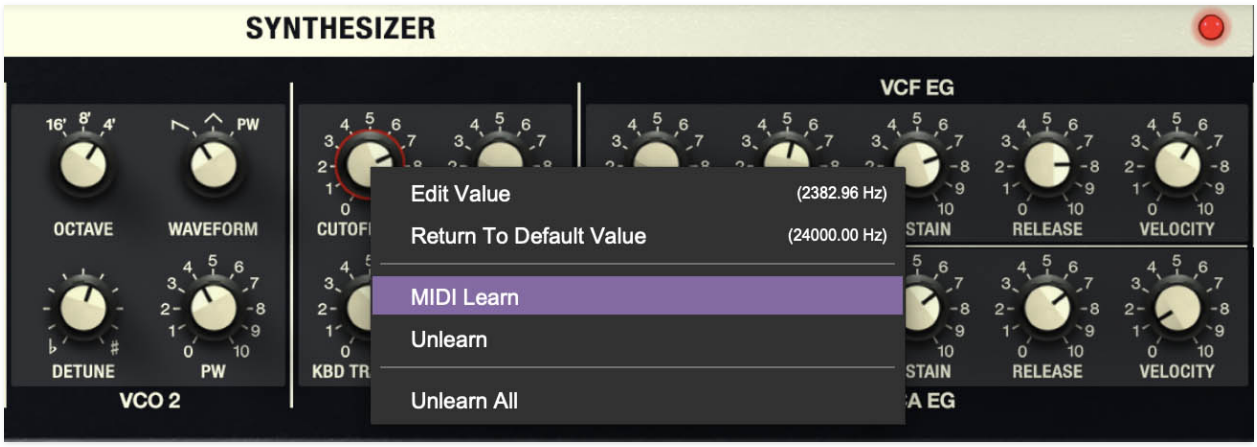
Assigning internal and external hardware controls adds a whole new dimension of control and musicality to patches, and it's really easy to do. The **MIDI Tab** is where all controller assignments can be viewed and tweaked, and we'll go through all of its parameters and functions. We recommend reading this whole section to best take advantage of Trident's full array of MIDI control assignment possibilities.

First, though, we'll give you a quick look at how to assign an external hardware controller to a Trident control using MIDI Learn, so you can get started with basic MIDI control while you're learning the fancy stuff.

Quick and easy controller assignment

In this example, we'll assign a hardware slider/knob control to the *Cutoff* parameter in the Synthesizer section.

Begin by right-clicking on the *Cutoff* knob and selecting *MIDI Learn,* as shown here:



A transparent purple overlay appears over the slider, indicating that it's in MIDI Learn mode:


SYNTHESIZER
PW
FORM
W
Edit Value
(5.07 Hz)
Return To Default Value
(24000.00 Hz)
MIDI Learn
Unlearn
Unlearn All
KBD TRACKING
EG INTENSITY
VCF
ATTACK
DECAY

Now move the desired hardware control device. The purple overlay disappears and the hardware control will move the onscreen knob. If you have second thoughts (or accidentally put the wrong control into learn mode), learn mode can be aborted by right-clicking and selecting *Stop Learning*.

If you later decide you don't like that mapping, right-click the control and select *Unlearn*.

When in MIDI Learn mode, any already-assigned controller numbers will show in squares. These indicate the MIDI continuous controller number for the assigned hardware control (these are also displayed in the MIDI Tab at left).

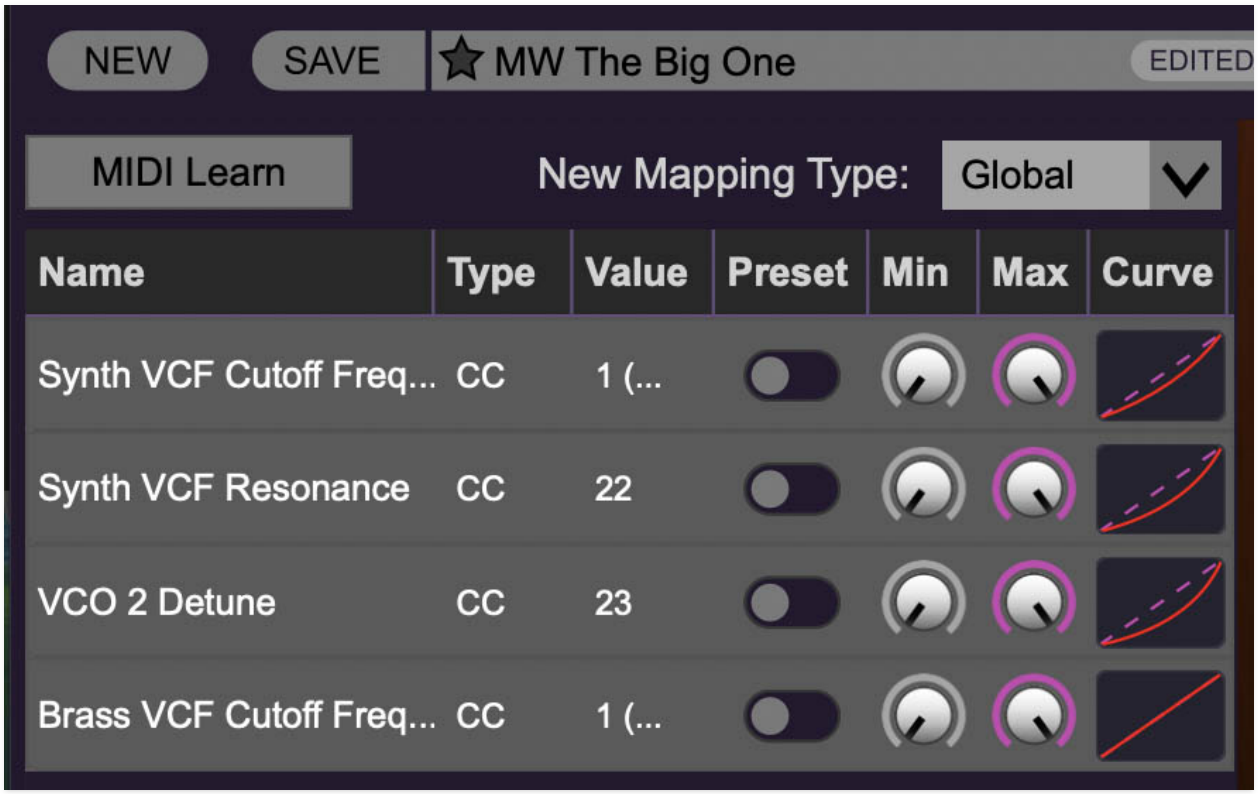
Once a MIDI controller has been assigned, in addition to real-time control of a Trident parameter, you'll also be able to record and play back controller data from a DAW.

The MIDI Tab

This is command central for all MIDI controller assignments. Here you'll be able to see information about all currently assigned controllers and adjust control ranges.

To view or hide the MIDI Tab, click the *MIDI* button in the purple top toolbar:

Here's what a typical set of assignments in the MIDI Tab might look like. Let's take a tour around the MIDI Tab:



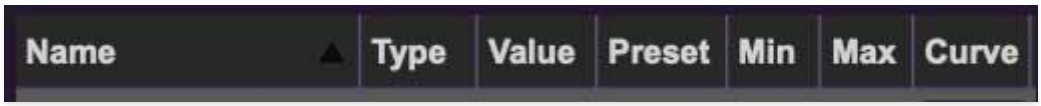
MIDI Learn button- This is almost exactly the same as enabling MIDI Learn mode by right-clicking a control. Click the *MIDI Learn* button to enter learn mode (all controls turn purple). Unlike right-clicking on specific knobs, where Trident automatically exits controller assignment mode, clicking the *MIDI Learn* knob "stays on" to enable assignment of multiple hardware controls. This is handy for quickly assigning a bunch of sliders or the buttons of a grid-style controller.

To assign multiple controls, click *MIDI Learn*, click an on-screen control, move the desired hardware knob or slider, continue clicking and assigning on-screen controllers until all desired controls are assigned, then click *Stop Learning* to exit learn mode.

Remember that a single hardware knob/slider/button isn't limited to controlling just one parameter - a single hardware controller can simultaneously operate as many controls as you'd like.

New Mapping Type- This popup menu selects whether newly assigned MIDI mappings will be global (affects all sounds and doesn't change when different presets are selected) or saved with individual presets.

MIDI Tab Columns



Name- Displays the name of the parameter being controlled.

Type- There are five possible types of controller automation in Trident:

- **Note**- Notes played on a MIDI keyboard controller, expressed as C-1 to G9
- **CC (MIDI Continuous Controller)**- The standard 128 MIDI controller numbers as defined in the MIDI spec. More specifically, these are the controllers transmitted by hardware knob and slider controls. MIDI CC’s can be used to control parameters in real-time or recorded and played back within DAW software.
- **MMC (MIDI Machine Control)**- The MIDI control protocol for tape machine-style transport controls. Back in the dark ages, this was used to control old TASCAM and Fostex reel-to-reel monsters, but it's useful if your MIDI controller has tape-style transport control buttons.
- **Aftertouch**- Some keyboard controllers transmit controller data when keys are pressed and released as they're held down. The vast majority of keyboard controllers with aftertouch transmit "mono" aftertouch only; in other words, aftertouch data is the sum of all keys to one single data stream. Trident responds to mono aftertouch as well as poly aftertouch, provided your USB/MIDI controller is poly AT capable.
- **Key**- This allows keys of the computer QWERTY keyboard to act as button controls for Trident's onscreen controls.

Value- Displays the specific automation controller. In the case of a *Note* this would show a MIDI note number (C-1 to G9, for a MIDI CC, this would be the MIDI CC controller number, etc. Clicking on the value opens a pop-up menu where all values are displayed and can be selected.

Preset- This slider works in conjunction with the *New Mapping Type* menu. In the left position (gray background), the MIDI mapping is global (affects all sounds and doesn't change when different presets are selected), in the right position (lavender background), the MIDI mapping is saved with, and only affects the current sound preset.

The *Preset* switch is super nifty, because it means MIDI mappings can easily be set to global or per-preset status at any time. (A lot of folks asked us for this feature.)

Min- Sets a limit on the lowest value any automation control can set a mapped controller to. This actually recalibrates the range of the automation controller to the remaining parameter range.

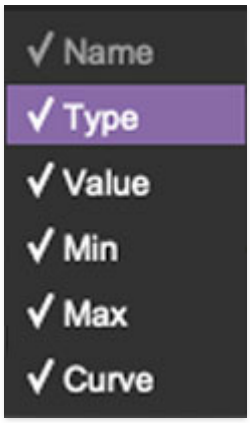
Max- Sets a limit on the highest value any automation control can set a mapped controller to. This actually recalibrates the range of the automation controller to the remaining parameter range.

Not only can parameter ranges be limited via the the *Min* and *Max* knobs, mapped control destinations can be *inverted* – just set the *Min* knob value higher than the *Max* knob value.

Limiting and inverting parameter ranges with the *Min/Max* controls is particularly useful when setting up a single hardware control to operate multiple parameters. Combined with the *Curve* control, these capabilities let you create powerful and finely tuned "macro" control combinations, all activated from one MIDI control.

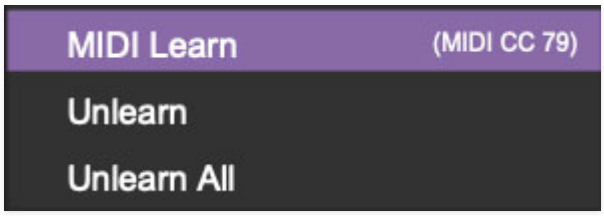
Curve- These allow the customization of how incoming MIDI CC controls affect the movement of Trident's onscreen controls, ranging from exponential to linear to logarithmic curves.

MIDI Tab Column Configuration Right-Click Menus
Right-clicking anywhere in the top row (*Name*, *Type*, *Value*, etc.) displays the **Column Configuration Menu**:



Checking/unchecking these allows you to hide or display each column. This has no effect on control assignments, it just cleans up the view when you don't need to see certain things.

Right-clicking on an assigned parameter opens this pop-up menu:



It offers the following operations:

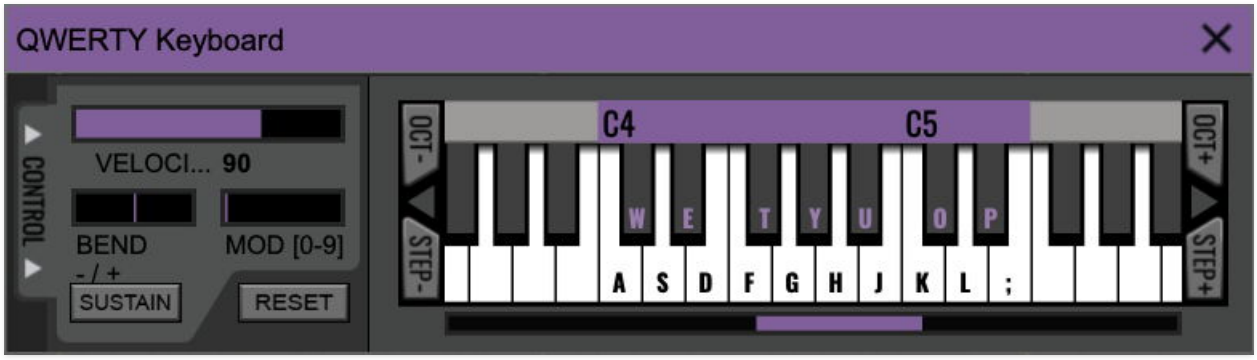
MIDI Learn- This is used to change the controller assigned to a particular parameter.

Unlearn- Deletes the selected automation parameter.

Unlearn All- Deletes all controller assignments for the patch. Trident will display a warning dialog prior to deletion in order to thwart potential unlearn-related disasters.

QWERTY Musical Typing Keyboard (MTK)

Trident can be played by clicking its onscreen keyboard with a mouse or trackpad, but if you don't have a MIDI keyboard attached to your computer, there's a better way - your computer's QWERTY computer keyboard can be used to play notes. We call this the **Musical Typing Keyboard** (**MTK**). Following is a list of MTK keyboard modifiers and functions:



Opening and Closing the MTK - Click the the circular keyboard icon in the top toolbar. To close the MTK, click the keyboard icon in the top toolbar, or click the *X* in the top right corner.

Play Notes- To trigger notes, press the corresponding computer keyboard key or mouse click the onscreen keys.

Adjust Currently Visible MTK Range- Slide the purple scroll bar horizontally to adjust the currently visible keyboard range.

Adjust Overall Visible Keyboard Range- Clicking and dragging the right edge of the MTK window allows the overall size of the window to be adjusted. This lets you view more or less of the onscreen keyboard. Note that the MTK window's borders cannot exceed the overall outside dimensions of the Trident window.

Shift Range Up/Down Octave- Click the *OCT-* and *OCT+* buttons at the top left and right of the onscreen MTK. The current range is displayed above the keyboard.

Shift Range Up/Down Semitone- Click the *STEP-* and *STEP+* buttons at the bottom left and right of the onscreen MTK. The current range is displayed above the keyboard.

Hide/View Controllers- Clicking *CONTROL* at the far left hides and displays velocity, bender, mod, and sustain control parameters. Hiding the control view makes more space available for the keyboard.

Pitch Bend- To pitch a note or notes, press the + or - computer keyboard keys while playing a note. Bend depth is determined by the setting of the *Pitch Bend* slider above the keyboard in Trident's UI. Notes can also be pitchbent by clicking the mouse in the *Bend* area.

Mod Wheel- To add mod wheel modulation, press the number keys from *0-9* (above the character keys) while playing a note. The modulation amount will vary from none (*0*) to full modulation (*9*). Note that modulation will "stick" at the selected number; to disable modulation, click the *0* key. Mod can also be engaged by clicking the mouse in the mod bar area.

Sustain- The *Sustain* button mimics the functionality of a standard sustain pedal. Click the [TAB] key to engage sustain, or [SHIFT]+[TAB] to lock it. The *Sustain* button can also be engaged by mouse clicking it.

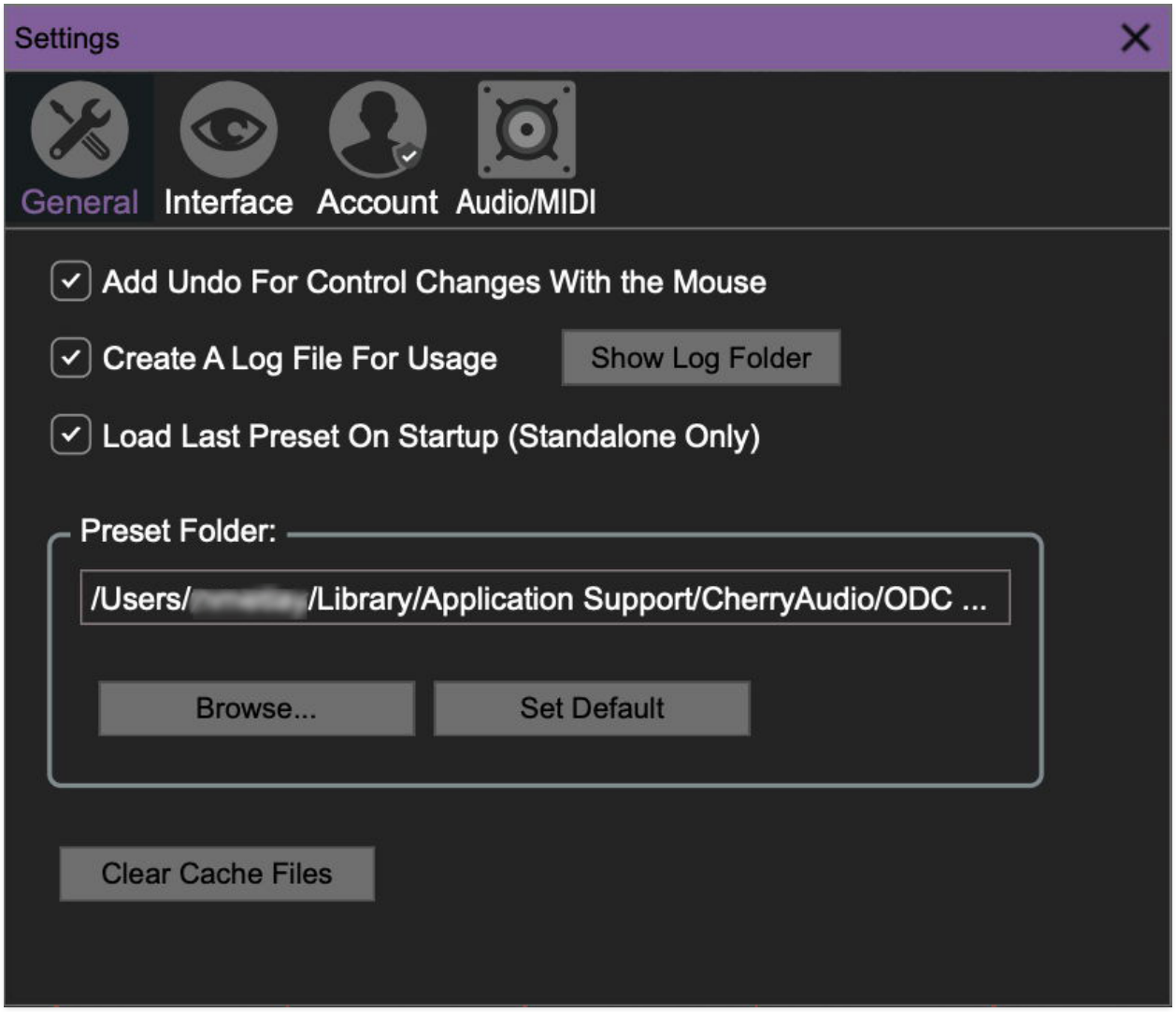
Reset- Initializes all MTK parameters including keyboard range and control parameters.

Settings

Clicking the **Settings** gear opens a window with multiple tabs for configuring various "under-the-hood" settings. These are mostly set-and-forget kind of parameters - all the stuff you'll want to tweak will be on the main display, as it should be!

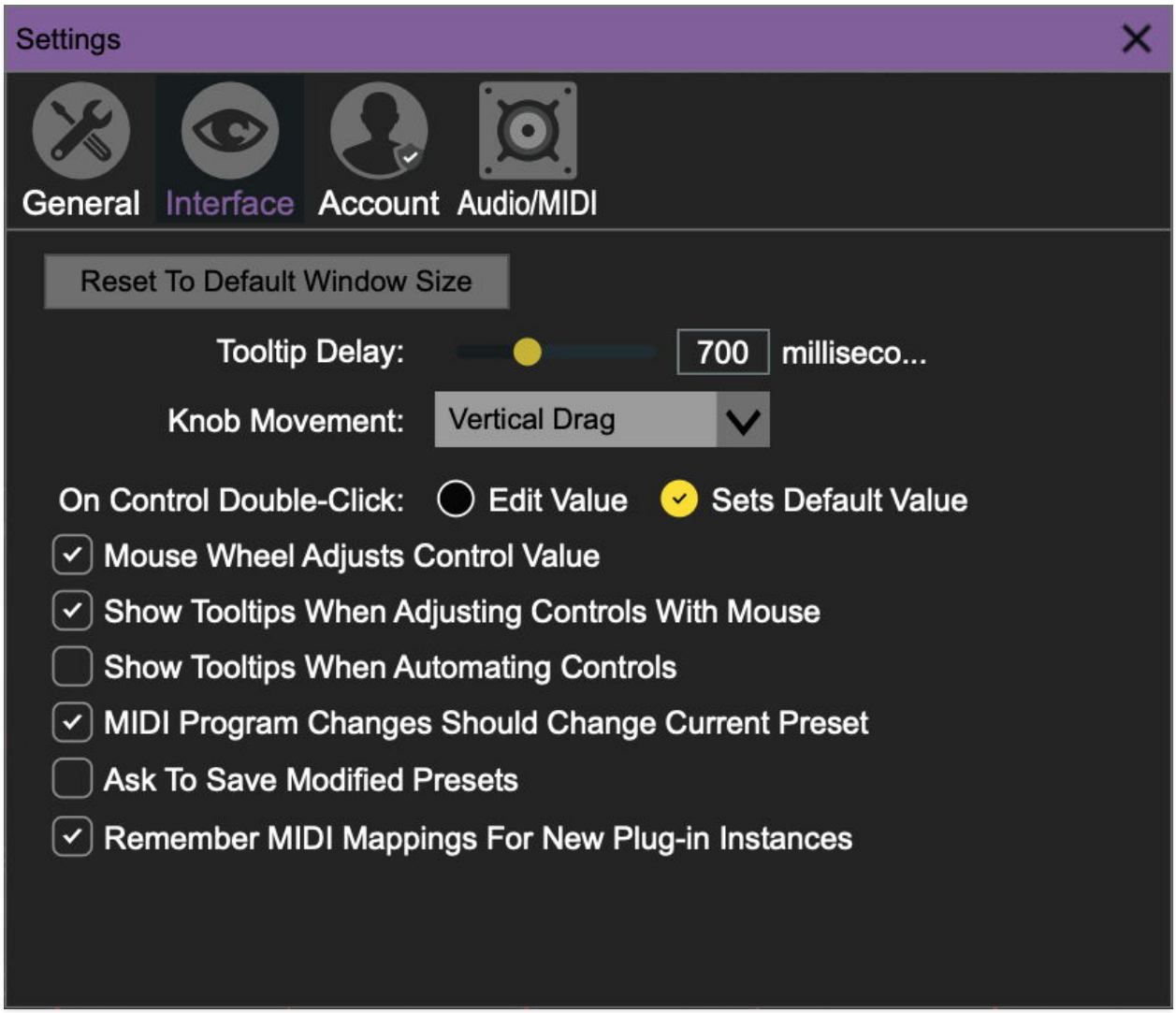
The Settings tabs are: General, Interface, Account, and (on the standalone version of Trident) Audio/MIDI.

General



- **Add Undo For Control Changes With the Mouse**- Enabling this allows undo of knob/slider/button adjustments. You'll want this on if you want the ability to undo all aspects of patch editing and programming.
- **Create A Log File For Usage-** This creates a text doc of all of Trident's internal and routines during use. It is mainly intended for our tech staff should you experience any issues. Clicking *Show Log Folder* opens the folder containing Trident log file docs.
- **Load Last Preset On Startup (Standalone Only)**- Automatically loads the last preset used when Trident standalone version is started.
- **Preset Folder-** Displays the current location of Trident's sound presets. This can be changed by clicking and typing in the field.
  - **Browse...** - Displays the current location of preset folder in the file manager.
  - **Set Default-** Sets the current displayed *Preset Folder* path as the default location
- **Clear Cache Files-** Deletes all log files, temporary sounds, and the image cache.

Interface



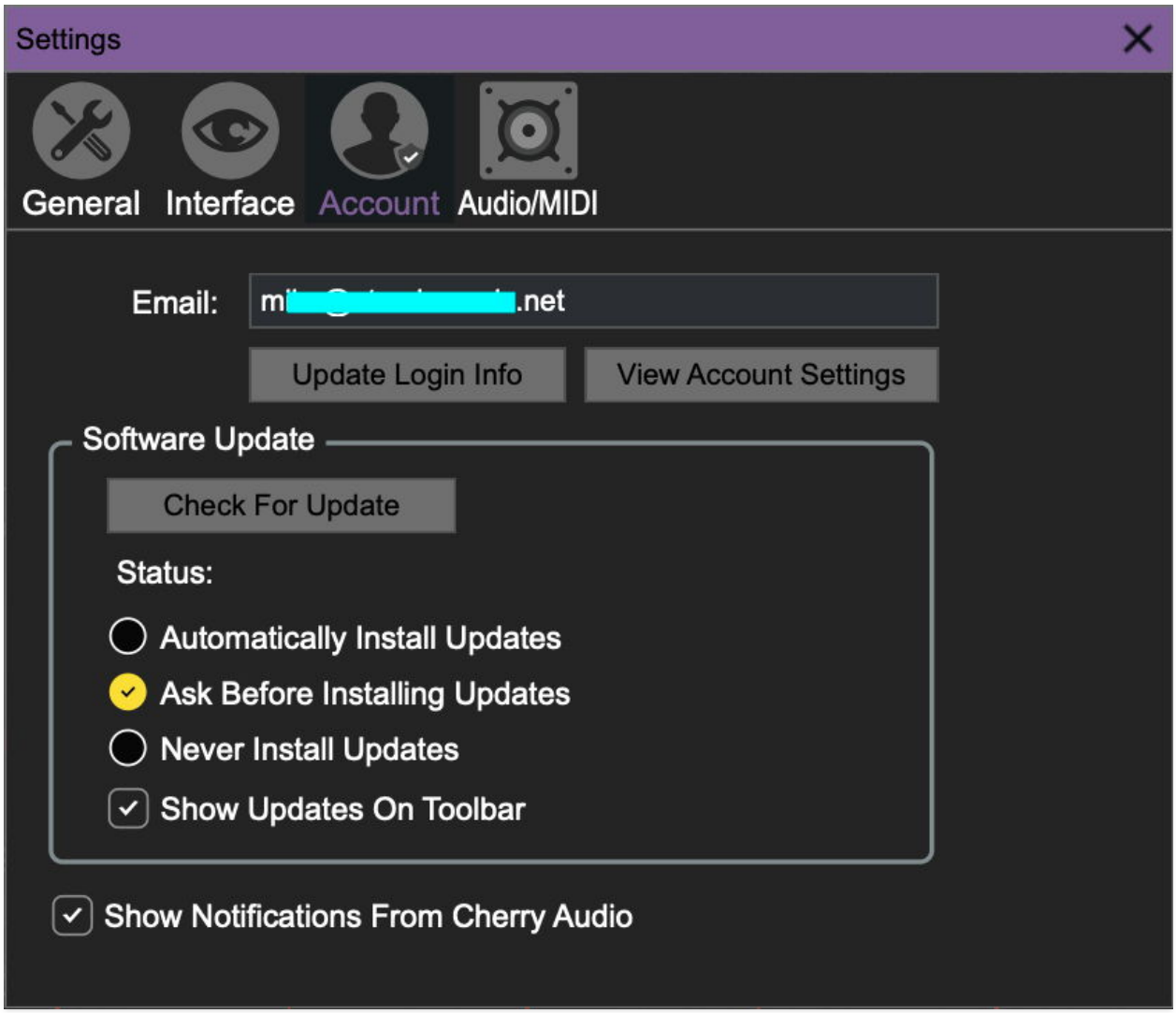
Allows customization of Trident's user interface settings.

- **Reset To Default Window Size-** Resets the Trident workspace to default size. Use this to reset the window size if the window somehow becomes too large for your display and can't be resized (pretty sure we fixed that bug a while back though!).
- **Tooltip Delay-** Tooltips are those informative bits of text that pop up when hovering over a control (go ahead and try it, we'll wait...). The *Tooltip Delay* setting defines how long you must hover before the tooltip pops up.
- **Knob Movement-** Defines how mouse movements relate to turning onscreen knobs. It defaults to *Vertical Drag*, but can be changed to *Horizontal Drag*, or *Rotary Drag* if you're one those folks that cut their teeth on the *Steinberg Model E* VST back in 2000.
- **On Control Double-Click**- Defines what happens when the mouse is double-clicked on a control. If *Edit Value* is selected, an exact number can

be entered by typing the number and hitting [ENTER] or [RETURN]. If *Sets Default Value* is selected, double-clicking a control resets it to its default value.

- **Mouse Wheel Adjusts Control Value-** Enabling this lets you adjust knob, slider, and switch values by moving the mouse wheel. This works great with a standard mouse wheel, but you'll want to disable it if you're using an Apple Magic Mouse (which will move the control AND scroll the window).
- **Show Tooltips When Adjusting Controls With Mouse-** Displays parameter tooltips/values when the mouse is hovered over a control or as a control is moved with mouse clicked.
- **Show Tooltips When Automating Controls-** Displays parameter tooltips/values next to controls any time a control is changed, i.e. if a control is moved via an assigned MIDI controller or a *Perform* panel knob, etc.
- **MIDI Program Changes Should Change Current Preset-** Allows MIDI program change messages to change Trident patches.
- **Ask To Save Modified Presets-** This opens a dialog window asking if you'd like to save changes if a patch has been edited and a new patch is selected. If you're the type that likes to click through presets and tweak a control here and there, it can be annoying to have a window pop-up asking if you'd like to save every time you switch presets - if you're that person, keep this turned off.
- **Remember MIDI Mappings For New Plug-in Instances**- When enabled, Trident remembers all global MIDI Tab controller settings.

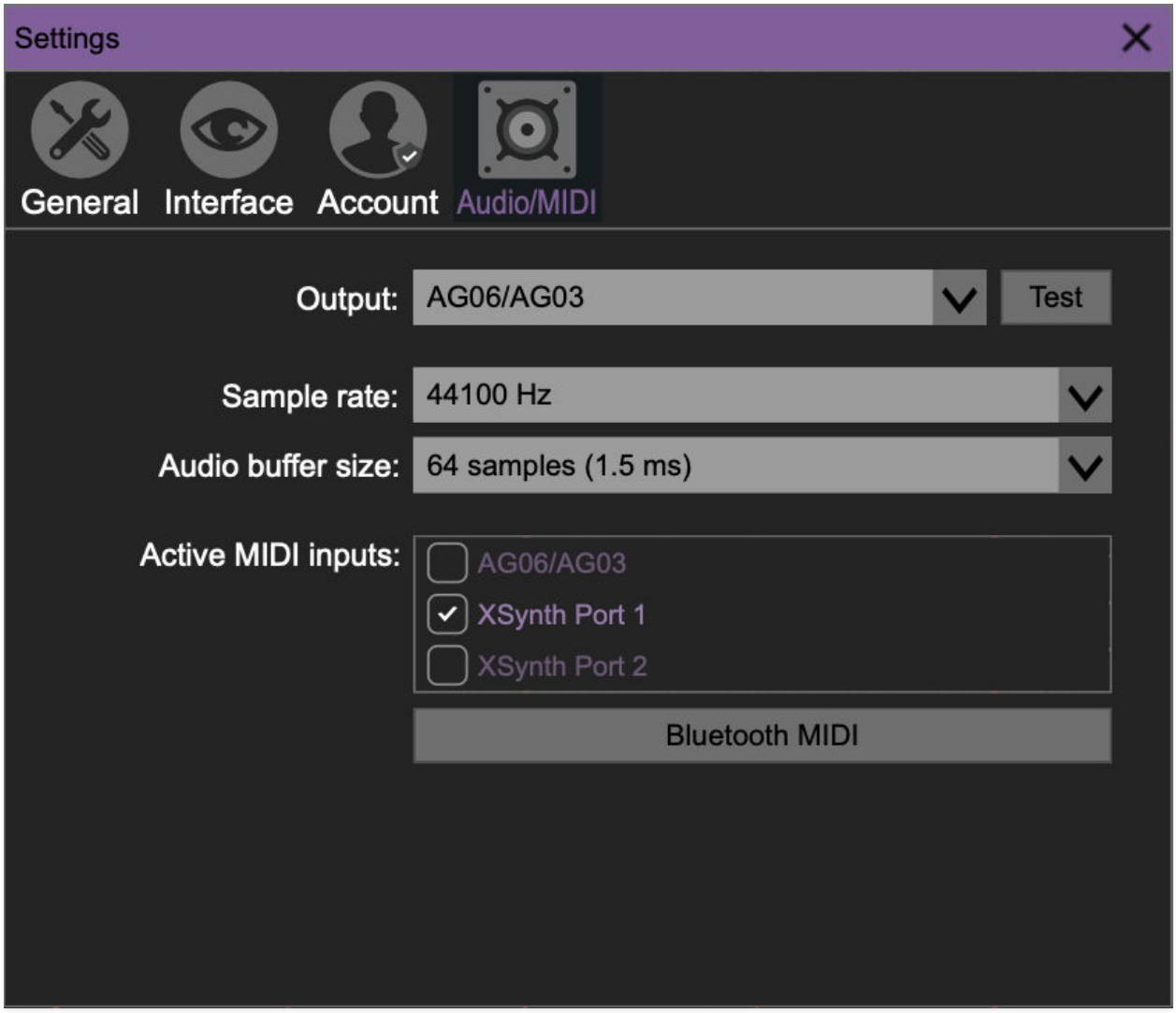
Account



Settings for your personal login information and account.

- **Email**- Displays the email address of the current login.
- **Update Login Info**- No, this isn't where you sign up to keep informed of news and tour dates for jazz/rock fusion superstar, and monumental Odyssey player, Herbie Hancock. (That would be **here**.) Clicking this opens the same email and password login screen you'll see when initially launching Trident.
- **View Account Settings-** This takes you to the Cherry Audio website, where you can login and verify your settings or make changes. This won't work on a computer that's not connected to the Internet. (If it does, consult your local exorcist *immediately*.)
- **Software Update-** Here's where you can manually check for an update, and set up how much Trident does on its own to keep you updated.
- **Show Notifications From Cherry Audio-** Because hey, we love you, and sometimes just reaching out is the right thing to do.

Audio/MIDI



These are settings for audio and MIDI hardware input and output.

This tab is only visible in the standalone version of Trident.

- **Output**- Use this drop-down menu to choose a physical audio output source. This defaults to *Built-In Line Output*, i.e. your computer's onboard system audio, but you'll get better fidelity with an external professional audio interface. The biggest audible difference is usually reduced background noise or hum, but external audio hardware also offers greater flexibility in terms of number of inputs and outputs and built-in mic or low-level instruments pres (i.e. electric guitars). The *Test* button will produce a sine wave when clicked; this will help with troubleshooting. In other words, "Why can't I hear anything? Aargh!"
- **Sample Rate-** This sets the global sample rate. Lower sample rates offer better performance, but if you have a fast computer, high sample rates

may offer slightly improved fidelity – or at the very least, they'll give you something to argue about on audio online forums rather than writing and playing music.

- **Audio Buffer Size**- As with any digital audio app, this defines performance vs. note latency, and will largely depend upon computer CPU speed. A professional external audio interface will almost always exhibit better performance than “built-in” system audio. Lower settings will result in less latency (in the form of faster response to notes played), but will increase the chances of audio dropouts or crackling noises.
- **Active MIDI Inputs**- Enable MIDI input sources, i.e. MIDI/USB keyboards, pad controls, MIDI knob/fader control surfaces, etc. Check boxes to enable one or more devices. **If a MIDI/USB controller isn't working in standalone mode, make sure the appropriate box is checked here.** (We put this tip all the way at the end of this manual, to make it extra challenging to figure out why things aren't working. You're welcome!)