Making Sound Machines — DivSkip

- Manual PDF

Manual PDF

WMD Skorpion: using one wild wavefolder to build full-length songs

Skorpion is not just a “make sound gnarly” module. Reading the manual closely, it’s really a **wavefolder + dynamic comparator network + target sequencer + modulation source bank + stereo widener + self-patch lab**. That means it can do much more than timbral sweetening inside a loop. It can become a **section-generator**, **arrangement pivot**, and **performance instrument** for turning a cool 8-bar patch into an actual track.

Below is a practical song-focused analysis.

Why Skorpion is unusually good for song structure

A lot of Eurorack wavefolders are “set and forget” tone modules. Skorpion is different because it has:

- **8 thresholds (THLDs)** that define where folds happen
- **8 targets (TRGTs)** that act like a voltage sequencer tied to threshold activity
- **macro modulation** with attack/sustain/release behavior

- multiple **aux outputs** that can drive the rest of your system:
- `TRGTs`
- `COUNT`
- `DAC`
- `DIFF`
- `ABS(IN)`
- `G(IN>0)`
- `±G(DIR)`
- `DELAY`
- an **OUTPUT** control that morphs:
- dry → wet
- wet → wide
- **sync**, **halt**, and **dry if no thresholds** behavior

That means Skorpion can control: 1. **Timbre** 2. **Dynamics of timbral change over time** 3. **Stereo width / perceived scale** 4. **Modulation exported to other modules** 5. **Section contrast**

Those five things are exactly what's usually missing when a patch sounds cool but doesn't become a song.

Core song-making concept

Think of Skorpion as a **scene transformer**:

- same pitch sequence in
- same rhythm in
- but different **threshold maps**, **targets**, **shape feedback**, **stereo width**, and **macro envelope states**
- output feels like a new verse, chorus, breakdown, or bridge

So instead of asking:

> "How do I make a whole song from one riff?"

Ask:

> “How do I use Skorpion to create 4–6 clearly different states of the same source material?”

That is where it shines.

What Skorpion contributes in a full arrangement

1. Sectional timbre evolution

Use Skorpion to make one line evolve from: - nearly dry intro - lightly folded verse - aggressive harmonically rich chorus - halted/square-ish breakdown - wide stereo outro

Because `FOLD`, `SLOPE`, `SHIFT`, `SHAPE`, `TARGET`, `OUTPUT`, `SYNC`, and threshold behavior interact, you get much more than “more distortion.”

2. Arrangement modulation source

The bottom-row outputs are perfect for sending “what Skorpion is doing” into: - filters - VCAs - delay feedback - reverb size - sequential switches - clock dividers / logic - transposition - percussion accents

So one lead voice processed by Skorpion can also drive the movement of your drums, bass, and ambience.

3. Contrast without repatching

The sliders store threshold and target profiles. Since settings are saved, and the spring toggle exposes different contexts, Skorpion can act like a **performable timbral score**. You can build recurring section identities.

4. Stereo expansion for bigger choruses

The `OUTPUT` control and delay/wide circuitry are very useful for song form: - mono-ish verse - wider pre-chorus - big chorus - dry breakdown - wide return

This is huge for making sections read as “song sections” instead of just parameter changes.

Best roles for Skorpion in a song

A. Main lead voice transformer

Patch a VCO or complex melody through it and let Skorpion define section changes.

Best when you want: - evolving hooks - recurring motif with different emotional states - performance-oriented transitions

B. Bass enhancer that becomes a section marker

With restraint, Skorpion can make bass go from: - round and dry - clipped and articulate - folded and aggressive - asymmetrical and unstable

Use `OUTPUT SWITCH` in `FILTERS` mode to keep low end centered while widening upper harmonics.

C. Drum bus or percussion mangler

Feeding percussion into `IN`, especially with `SYNC`, `CLIP`, `DIFF`, and `COUNT` outputs, can create sections ranging from tight and punchy to metallic and chaotic.

D. Modulation hub

Even if the audio output is secondary, Skorpion can generate rich control voltages tied to audio activity. This is powerful for arrangement because audio-derived modulation feels musically coherent.

Modules that pair especially well for making songs

Skorpion becomes much more “song-capable” when paired with:

Sequencers

- melodic sequencer
- trigger sequencer
- CV recorder
- sequential switch

Use these to create recurring forms and recallable sections.

VCAs / mixers

Essential for: - automating dry/wet blends externally - muting voices for arrangement - sidechaining modulations - fading Skorpion-derived aux outputs in and out

Clock and logic

Use Skorpion outputs like `G(IN>0)` or `±G(DIR)` with: - logic modules - clock dividers - comparators - trigger routers

This creates section-dependent rhythmic variation.

Filters

Skorpion is harmonically dense; pairing it with a filter lets you: - restrain verses - open choruses - create breakdowns by emphasizing different bands

Envelopes / function generators

Skorpion's internal macro section is great, but external envelopes can: - reshape transitions - control output VCA - sweep filter cutoff - animate `FOLD`, `SHIFT`, or `OUTPUT`

Samplers / loopers

Excellent for full-song construction: - sample a Skorpion texture - use that sample as a recurring motif - reintroduce transformed versions across the arrangement

Reverb / delay

Skorpion already adds width, but external spatial FX are crucial for section contrast: - dry verse - long reverb in bridge - feedback bloom in outro

Performance mixer

A proper mixer is where songs happen. Skorpion can create section identity, but the mixer makes it read as composition.

Important manual features that matter for songwriting

1. OUTPUT knob: dry ↔ wet ↔ wide

This is one of the most song-useful controls on the module.

- lower half: blend dry and processed
- upper half: blend processed into stereo widened version

Song use:

- **Intro:** mostly dry
- **Verse:** a little wet
- **Pre-chorus:** more wet, start widening
- **Chorus:** wide
- **Breakdown:** pull back toward dry
- **Final chorus:** full wide

This single control can act like an arrangement macro.

---

2. Macro envelope

The macro envelope controls the amplitude of internal LFOs. It can be gated from the toggle or `MACRO ENV` jack. Attack and release can be very long.

Song use:

This is ideal for **section transitions**: - long attack into chorus - long release into outro - slow morph over 16 or 32 bars - repeated swells tied to phrase boundaries

Because it globally fades internal modulation, it feels like the patch “comes alive” or “calms down” over time.

---

3. THLDs and TRGTs

These are the heart of Skorpion's compositional potential.

THLDs

Control where folds occur.

TRGTs

Define destination voltages for the vector core; essentially a threshold-driven voltage sequence.

Song use:

You can create different timbral identities by changing: - threshold distribution - target order (`SEQ` vs `TIED`) - target mode (`5V` , `CLIP` , `SLIDERs`)

This means one melody can behave like: - smooth and stable in verse - jagged and sequenced in chorus - frozen/square-like in breakdown

---

4. SHAPE sources

The `SHAPE` control can modulate slope from: - `IN` - `OUT` - `DELAY` - `COUNT` - `DIFF` - `TRGTs` - `DAC` - `DIR`

Song use:

Different shape sources can define section mood:

- `OUT` : more self-interacting, organic, "alive"
- `DIFF` : harsh, spiky, intense
- `TRGTs` : segmented, sequence-like, structured
- `COUNT` : rhythmic staircase feel

- `DELAY` : smeared, animated stereo motion

You can reserve specific shape-source choices for specific sections.

---

5. DRY IF NO THLDs

If no thresholds are active, output becomes dry signal tracking input.

Song use:

This is excellent for **safe performance modulation**. You can heavily animate `FOLD` or thresholds without risking dead sections. It helps transitions stay musical.

---

6. HALT IF TARG=0 and HALT jack

This can stop the vector core for portions of the waveform or entirely.

Song use:

This is a breakdown tool. Use it to create: - gated, square-ish static timbres - dramatic holds - rhythmic freezes - “drop” moments before chorus re-entry

At audio rate modulation it can get very aggressive.

---

7. SYNC soft/hard

Resetting at input zero crossings changes the behavior significantly.

Song use:

- **SOFT sync**: smoother, more controlled phrase sections
- **HARD sync**: more abrupt, aggressive, chorus/drop sound
- **No sync**: freer, more unstable intros/bridges

Changing sync mode between sections is underrated.

Five concrete full-song strategies

Strategy 1: One riff, four sections

This is the most direct way to turn a loop into a song.

Patch

- VCO → Skorpion `IN`
- Skorpion `OUT L/R` → mixer
- Sequencer → VCO pitch
- Envelope/VCA after Skorpion or before depending on taste
- External clock to your sequencer
- Optional filter after Skorpion

Build 4 section states

Intro

- `OUTPUT` near dry
- `FOLD` low
- `SHAPE` near noon
- `TARGET` toward `CLIP` or mild setting
- `SYNC` soft or off
- `WIDE` low

Verse

- moderate `FOLD`
- asymmetry via slight `SHIFT`
- modest `SHAPE` from `OUT`

- threshold pattern sparse
- narrow stereo

Chorus

- increase `SLOPE`
- increase `FOLD`
- `TARGET` toward `SLIDERs`
- richer TRGT values
- `SHAPE` from `TRGTs`, `COUNT`, or `DIFF`
- `OUTPUT` into wide region

Breakdown

- `HALT IF TARG=0` enabled
- some TRGT sliders at zero
- less width
- maybe `SYNC` hard
- more square/static segments

Now the same melodic line yields a full arrangement.

Strategy 2: Use Skorpion as the song's modulation brain

Instead of only using the audio output, use the aux outputs to animate the whole patch.

Very useful outputs

- `COUNT`: 0–4V staircase, each active threshold adds 0.5V
- `DAC`: weighted threshold count
- `TRGTs`: target sequencer CV
- `DIFF`: difference between target and actual vector position
- `ABS(IN)`: full-wave rectified input
- `G(IN>0)`: polarity gate
- `±G(DIR)`: direction gate

- `DELAY` : delayed stereo signal source

Example system patch

- `COUNT` → filter cutoff on pads
- `DAC` → reverb decay or send amount
- `TRGTs` → transpose a bassline or modulate oscillator FM depth
- `DIFF` → percussion VCA for metallic accents
- `G(IN>0)` → clock a switch between hi-hat patterns
- `±G(DIR)` → pan modulation or alternate drum voices

Song result

Your lead voice and the rest of the arrangement evolve together. This is how patches stop sounding like isolated loops.

Strategy 3: Verse/chorus via stereo width and harmonic density

A classic arrangement trick is: - verse = narrow and less bright - chorus = wide and harmonically rich

Skorpion is excellent for that by itself.

Patch

- Bass voice through Skorpion or lead through Skorpion
- `OUT SWITCH` to `FILTERS` mode
- `OUT L/R` to main mix

Arrangement

- **Verse:** output just below noon, mostly wet but not wide
- **Pre:** cross noon and start introducing delay-based width
- **Chorus:** 1–3 o'clock or more, wide engaged
- **Bridge:** pull width down, change shape source

- **Final chorus:** return to widest setting

This gives very obvious macro song form.

Strategy 4: Make a bridge by changing what clips to what

The `CLIP` input is very interesting: input normally clips to itself, but another signal can replace it.

Patch

- Main melody oscillator → `IN`
- Percussion loop / second oscillator / noise source → `CLIP`
- Modulate `TARGET` and/or `TRGT MOD`

Song use

For a bridge or middle section: - use a different `CLIP` source than the main voice - your lead becomes overlaid/interrupted by another rhythm or melodic contour - feels like a new harmonic environment without changing the sequencer drastically

This is excellent for: - industrial - techno - experimental - electro-acoustic transitions

---

Strategy 5: Build long-form evolving sections with Macro Env

The internal modulation system is probably the most song-specific feature in the manual.

Macro setup ideas

- slider 1: long attack, e.g. 16–64 bars

- slider 2: long release, e.g. 8–32 bars
- slider 3: threshold LFO amount moderate
- slider 4: threshold LFO rate slow
- sliders 5–8:
- FOLD = LFO
- SLOPE = ENV
- SHIFT = slow LFO
- SHAPE = ENV

Then trigger `MACRO ENV` from: - a manual gate for performance - an end-of-phrase trigger - a song sequencer section pulse

Result

A section can slowly “open up” over minutes, then collapse back. This is extremely useful for ambient, techno, kosmische, and soundtrack structures.

Specific song roles by genre

Techno

Skorpion can carry a lot of the arrangement alone.

Good uses

- acid/bassline wavefolding with increasing `SLOPE`
- percussion through `CLIP` for industrial transitions
- `COUNT` or `DAC` controlling filter or send levels
- `OUTPUT` widening for drops/returns
- `DIFF` into FM amount on another oscillator for tension

Song form

- 32-bar intro: dry/minimal

- 32-bar groove: mild folding
- 16-bar build: macro env opens SHAPE and thresholds
- drop: hard sync, wide output, high fold
- break: halt segments + reduced kick
- return: same riff, new target profile

Ambient / drone

Skorpion is more than capable of slow-form composition.

Good uses

- slow `MACRO ENV`
- sparse thresholds, equalized thresholds on/off
- `SHAPE` from `DELAY` or `OUT`
- `TRGTs` output to modulate reverb or filter banks
- `ABS(IN)` and `DIFF` for subtle motion elsewhere

Song form

- establish clean tone
- gradually animate threshold motion
- widen output over long time
- introduce asymmetry via `SHIFT`
- bridge through alternate `CLIP`
- resolve back to dry-ish center

IDM / experimental

This module was born for this.

Good uses

- switch `TARGET ORDER` between `SEQ` and `TIED`
- use `HALT IF TARG=0`

- self-patch `DIFF`, `COUNT`, `TRGTs`
- feed rhythmic signals into `CLIP`
- use `G(IN>0)` or `±G(DIR)` as pseudo-rhythm generators

Song form

- repeat motif
- mutate by target order
- bridge with halt or hard sync
- recontextualize same sequence with different threshold maps
- make returns feel earned by pulling back to a simpler state

---

Pop / melodic electronic

Skorpion can still work, but with restraint.

Good uses

- use as controlled harmonic sweetener
- automate `OUTPUT` for chorus size
- use `FILTERS` mode to preserve center low end
- keep `SHIFT` moderate
- use `TRGTs` for subtle phrase variation rather than chaos

Song form

- intro: nearly dry pluck
- verse: slight fold
- pre-chorus: shape starts moving
- chorus: wider, richer harmonics
- post-chorus hook: use `DELAY` output separately
- bridge: more asymmetry or alternate clip source
- final chorus: widest and brightest

Self-patching ideas that help with arrangement

Skorpion's outputs make it especially suitable for self-patching. These often create section-changing behavior.

1. `COUNT` → `SHAPE CV`

More active thresholds create more shape modulation. - section effect: density grows with fold complexity

2. `TRGTs` → `SHIFT CV`

Each threshold-crossing state changes symmetry. - section effect: verse/chorus phrasing becomes more vocal-like

3. `DIFF` → `FOLD CV`

Aggressive unstable feedback. - section effect: use only for builds or climaxes

4. `ABS(IN)` → external filter cutoff

Amplitude-following brightness. - section effect: makes part sit forward without extra envelopes

5. `±G(DIR)` → switch between two effects sends

- up direction sends to delay
- down direction sends to reverb
- section effect: moving stereo phrases and responsive ambience

6. `DELAY` output → another voice's FM or wavefolder input

- section effect: chorus-like interdependence across voices

Building an actual full song: practical templates

Template 1: "Single-voice song"

Great when you want to compose with minimal modules.

Modules

- 1 oscillator
- 1 sequencer
- 1 envelope
- 1 VCA
- Skorpion
- reverb
- mixer

Structure

1. **Intro**
   Dry or near-dry oscillator through Skorpion, low fold.
2. **Verse**
   Add moderate fold, slight shift asymmetry.
3. **Pre-chorus**
   Bring in Macro Env, slowly increase threshold motion.
4. **Chorus**
   Wider output, higher slope, shape from `OUT` or `TRGTs`.
5. **Breakdown**
   Lower wet, enable halting behavior with zero targets.

6. **Final chorus**
   Return to widest, richest state.
7. **Outro**
   Long Macro Env release, pull output toward dry.

This works because the timbral arc itself becomes the song.

Template 2: “Skorpion-centered trio”

A classic full arrangement with bass, lead, and drums.

Modules

- Bass voice
- Lead voice
- Drum system
- master sequencer
- Skorpion
- filter
- mixer with sends
- delay/reverb

Patch

- Lead voice → Skorpion
- `COUNT` → bass filter cutoff
- `TRGTs` → drum accent CV or percussion pitch
- `DIFF` → FX send level
- `G(IN>0)` → trigger logic for percussion variation
- `OUT L/R` → stereo mix

Why this works

Now the lead timbre drives bass articulation and drum movement. That creates “arranged coherence,” which is often missing in modular jams.

Template 3: “Bass through Skorpion, melody elsewhere”

Useful if you want stronger section contrast while keeping lead stable.

Patch

- Bass oscillator/filter/VCA → Skorpion
- Melody voice straight to mixer
- `DAC` or `COUNT` from Skorpion → melody filter or FM index
- `DELAY` out → send FX or sidechain modulation destination

Song result

The bass becomes the emotional engine of the arrangement: - dry/tight verse bass - distorted chorus bass - halted breakdown bass - wide harmonic final section

Meanwhile the melody provides continuity.

Template 4: “Skorpion as bridge machine”

Sometimes a patch already has a great verse and chorus, but no bridge.

Bridge recipe

- change `TARGET ORDER` from `SEQ` to `TIED` or vice versa
- feed a new signal into `CLIP`
- switch `SHAPE SOURCE` to `DIFF` or `DELAY`
- reduce `OUTPUT` width temporarily
- engage `HALT IF TARG=0`
- use macro env to slowly restore previous state

This gives a middle section that feels related but distinct.

How to avoid “cool modular loop syndrome” with Skorpion

1. Assign one parameter per section identity

Do not wiggle everything at once. Decide: - verse = target mode - chorus = width - breakdown = halt - bridge = clip source - outro = macro release

Section meaning becomes clearer.

2. Use recurrence

A full song needs return. If chorus 1 used: - `TARGET` toward sliders - `OUTPUT` wide - `SHAPE` from `OUT`

then chorus 2 should recall that, even if bigger.

3. Exploit dry/wet contrast

People underestimate how musical it is to simply reduce processing. A dry return after complexity feels like composition, not just less modulation.

4. Let Skorpion modulate other voices

This is one of the biggest takeaways from the manual. The aux outs are not extras; they are your arrangement glue.

5. Use long times

Macro attack/release up to 600 seconds is enormous. That’s an invitation to think in phrases, sections, and movements, not just bar loops.

A few especially strong patch ideas for songwriting

Patch idea: Chorus opener

- lead voice → Skorpion
- Macro Env triggered every 16 bars
- FOLD LFO enabled
- SHAPE ENV enabled
- OUTPUT CV from a slow rising envelope
- `FILTERS` mode on output switch

Effect: each chorus blooms wider and brighter while lows stay centered.

Patch idea: Breakdown freeze

- some TRGT sliders set to zero
- `HALT IF TARG=0` enabled
- lower `OUTPUT` toward wet but not wide
- `SYNC` hard
- `DIFF` → external LPG or VCA for clicks/textures

Effect: waveform stalls in certain segments, making a rigid broken shape perfect for a stripped-down breakdown.

Patch idea: Bass-to-lead handoff

- bass through Skorpion in verse
- `TRGTs` output modulates a second oscillator's timbre
- in chorus, mute bass processing down and raise second oscillator
- both are linked because the lead inherits the bass's threshold-driven motion

Effect: continuity across sections without repetition.

Patch idea: Skorpion-generated percussion accents

- percussive audio to `IN`
- `G(IN>0)` and `COUNT` used for logic/comparator-triggered accents
- `DIFF` to strike resonant filter ping or LPG
- `OUT L/R` lightly mixed under drums

Effect: the drum bus generates related percussion events, creating arranged fills and transitions.

Limitations and how to work around them

Limitation: easy to get lost in complexity

Skorpion can do so much that sections may blur together.

Workaround

Use a notebook or patch sheet: - Intro settings - Verse settings - Chorus settings - Bridge settings

Treat it like recallable performance composition.

Limitation: can overpower a mix

It produces lots of harmonics and width.

Workaround

- use `OUTPUT SWITCH` in `FILTERS` mode
- keep bass centered
- use external EQ/filter
- automate dry/wet rather than leaving it full

Limitation: modulation can become constant motion

Too much internal LFO activity can flatten the arrangement because everything is always “active.”

Workaround

Use `MACRO ENV` strategically so modulation appears only in selected sections.

Best overall mindset

The big compositional lesson from this manual is:

Don’t use Skorpion only as a sound enhancer. Use it as a section designer and modulation narrator.

If you do that, it can help solve one of the hardest Eurorack problems: making a patch tell a story over several minutes.

A strong approach is:

- choose one core riff or motif
- route it through Skorpion
- define 4–5 recognizable Skorpion “states”
- export Skorpion aux CVs to move the rest of your system
- use OUTPUT width and Macro Env for transitions
- return to earlier states for song-level repetition

That turns “cool loop” into “full-length piece.”

Quick song-building checklist with Skorpion

Use Skorpion for:

- **intro/chorus width contrast**
- **verse/chorus timbral contrast**
- **bridge via alternate CLIP source**
- **breakdowns via HALT / zero targets**
- **builds via Macro Env**
- **arrangement glue via COUNT / DAC / TRGTs / DIFF**
- **returns via saved threshold/target identities**

Pair with:

- sequencer
- VCAs
- filter
- effects
- logic/switching
- mixer
- sampler/recorder if you want structure beyond live patching

---

If you want, I can also turn this into: 1. a **10-patch cookbook for full-song composition with Skorpion**, or
2. a **section-by-section techno / ambient / IDM patch plan**.