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[Fractaos Manual PDF](#)

Fractaos modulation ideas for distorted percussion, insane bass, and haunted pads

Fractaos is unusually deep because it's not just "oscillator + filter." You're modulating:

- the **main fractal**
- the **primitive fractal**
- the **relationship between them**
- a **primitive-derived LFO/envelope**
- a **fractal filter / texture layer**
- **spread/detune behavior**
- and in some modes, the whole voice architecture changes

That means the best sounds come from **stacked modulation with intention**, not just wiggling one CV.

First: what's worth modulating on Fractaos

From the manual, the most important modulation destinations are:

- **Morph**: blends driver/follower in a complex way, not just crossfade
- **Spread**: detune between driver/follower, or chord spacing in Drone mode
- **Texture**: resonant/filter/formant/organic detune behavior
- **Chaos / Primitive Chaos**: often the most dramatic timbral motion
- **Speed / Amount**: controls the primitive-derived modulation/LFO behavior
- **Pitch CV**: obvious, but especially powerful with unstable fractals
- **Switch combinations**:
 - **Morph switch ON alone** with others OFF = **simplified FM mode**
- **Loop/Trig** changes whether primitive motion is free-run or retriggered per note

Also note: - **Depth** and **Primitive Depth** are stepped and **not CV modulatable** - Drum/textures can only be the **main fractal** - Primitive can only be one of the **14 geometric fractals**

So your live modulation focus should be on: **Chaos, Primitive Chaos, Morph, Spread, Texture, Speed, Amount, Pitch**

General patch philosophy

For Fractaos, strong patches usually use 3 modulation layers:

1. **Fast envelope or trigger-shaped CV**
For attack, hit, snap, growl, transient
2. **Medium rhythmic modulation**
Synced LFO, envelope follower, sequencer lane, random stepped CV

3. Slow drift

Slewed random, slow LFO, pressure, aftertouch, manual moves

A great rule for this module:

- use **Chaos** for instability
 - use **Morph** for identity shift
 - use **Texture** for “produced” or “alive” quality
 - use **Spread** for width / aggression / chordal weirdness
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1. Distorted percussive sounds

Fractaos has 5 dedicated drum fractals: - Kick - Tom - Snare - HiHat - Cymbal

These are not samples; they’re real-time models. That means modulation can make them feel much more alive than static drum voices.

Best modulation targets for drums

A. Chaos CV for hit variation

This is probably the single most important drum modulation.

Patch: - send a **random stepped CV** or **sample-and-hold per trigger** - attenuate lightly - route to **F-Chaos** (main fractal chaos)

Why: - on drum fractals, Chaos changes roughness, instability, explosive character, internal detuning - even small amounts can make repeated hits feel human or violently synthetic

Use for: - snarls on snares - alternate kick dirt - varying hi-hat brightness/choke

Tip: clock a random source from the same trigger sequence driving the drum input.

B. Texture CV for crushed, resonant drum tones

Texture is not just brightness. It affects: - resonance - formant detection/application - micro-detuning - filter intensity

Patch: - envelope to **Texture CV** - medium attenuation - fast attack, short decay

Result: - each hit “barks” or resonantly tears open at onset - great for metallic snares, tearing hats, gnarly toms

If you want more destruction: - keep **Texture knob already high** - then modulate around that point with an envelope

That gives a more unstable, overdriven-feeling transient.

C. Morph CV to add tonal tail onto drums

Drum curves can morph against a geometric primitive. The manual specifically notes: - Morph can blend percussive attack with harmonic tail or note-like body - FM has no effect on drum curves, but Morph still matters

Patch: - choose a drum main fractal - choose a geometric primitive like **Mandelbrot, Rule30, Koch, Sierpinski, Dragon** - send envelope or velocity CV to **Morph**

What happens: - low Morph = drum hit - higher Morph = drum plus tonal/ringing/fractal sustain - dynamic Morph = each hit opens into a pitched or metallic tail

Great pairings: - **Kick + Fibonacci/Koch** for tuned industrial kicks - **Snare + Rule30** for digital reese-snare hybrids - **HiHat + Hilbert** for glitchy rectangular metallic hats - **Tom + Dragon** for torn membrane/bass percussion

D. Triggered primitive motion for per-hit animation

Use the switch logic:

- **Loop OFF**
- **Trig ON**

This makes primitive modulation retrigger per note/hit.

Then choose: - **Morph ON** and/or - **Chaos ON** and/or - **Spread ON**

Now each trigger restarts the primitive-shaped modulation curve.

This is huge for percussion because it creates: - identical attack contour with evolving spectral motion - “designed transient” behavior - almost like an internal modulation envelope per hit

Patch recommendation: - Drum fractal main - Primitive = **Lorenz, Hénon**, or **Rule30** - moderate **Speed** - moderate/high **Amount** - switches: **Trig ON**, **Loop OFF**, **Chaos ON**, maybe **Morph ON**

Result: - every hit blooms into internal fracture and dirt - especially good for neuro-style snares and synthetic toms

E. Pitch modulation for kick/tom aggression

The manual says Kick and Tom respond tonally to MIDI pitch.

Patch: - send a sharp downward envelope via pitch CV path externally, if available in your system chain - or sequence pitch changes rapidly over steps - combine with Chaos modulation

Since Fractaos has 1V/oct inputs per voice, one powerful move is: - send a **main pitch sequence** - mult it - send a **brief negative envelope offset** through a precision adder/mixer to create pitch drop on certain hits

This gives: - harder kick punches - rave tom drops - jungle-style tuned perc runs

Distorted percussion recipes

Recipe: industrial kick

- Main fractal: **Kick**
- Primitive: **Koch** or **Fibonacci**
- Morph: low to medium
- Texture: medium-high
- Chaos: medium
- Spread: low
- Trig ON, Loop OFF, Chaos ON

Modulate: - random CV to **F-Chaos** - short envelope to **Texture** - accent CV to **Morph**

Sound: - body stays kick-like - transient tears and tail becomes metallic/tonal - ideal through external saturation/wavefolder

Recipe: neuro snare

- Main: **Snare**
- Primitive: **Rule30** or **Dragon**
- Morph: medium
- Texture: high
- Chaos: medium-high
- Primitive Chaos: medium
- Speed: medium
- Amount: medium-high
- Trig ON, Loop OFF, Morph ON, Chaos ON

Modulate: - stepped random to **F-Chaos** - velocity/accent to **Morph** - envelope to **Texture**

Sound: - synthetic crack - noisy digital body - unstable metallic tail

Recipe: broken hat machine

- Main: **HiHat** or **Cymbal**
- Primitive: **Hilbert** or **Sierpinski**
- Texture: high
- Chaos: medium-high
- Spread: low-medium
- Speed: medium-high
- Amount: medium

Modulate: - Euclidean trigger variations - sample-and-hold to **F-Chaos** - subtle CV to **Spread** - accent envelope to **Morph**

Sound: - shifting metallic clusters - artificial open/close tone changes - beautiful when layered with analog hats

2. Crazy basslines for dubstep / DnB / neuro

This is where Fractaos looks especially dangerous.

For bass, the key features are: - **simplified FM mode** - **Chaos modulation** - **Morph sweeps** - **Texture resonance/formants** - **Spread detune** - unstable fractals like **Rule30**, **Lorenz**, **Hénon**, **Dragon**

Core bass move: simplified FM mode

Manual setup:

- **Loop OFF**
- **Trig OFF**
- **Morph ON**
- **Spread OFF**
- **Chaos OFF**

This enables simplified FM mode.

Then: - **Amount** becomes bipolar: - 0–50% = internal feedback - center = neutral - 50–100% = primitive modulates main fractal frequency

This is one of the best bass engines in the module.

How to use it musically

- Keep bass notes low
- Set main fractal to something stable/aggressive:
 - **Cantor**
 - **Sierpinski**
 - **Koch**
 - **Rule30**
 - **Dragon**
- Use primitive:
 - **Rössler** for smoother motion
 - **Lorenz** for wildness
 - **Hénon** for instability
 - **Mandelbrot** for brightness

Now perform **Amount** slowly or sequence it with CV.

Results: - below center = sharper, denser, feedback bass - above center = metallic fractal FM growl - near transition point = sweet spot for talking / ripping timbre shifts

Important idea: sequence or modulate **Amount** rhythmically to move between feedback bass and FM bass within a phrase.

Best modulation targets for bass

A. Morph CV for vowel/growl movement

Morph is not a simple blend; it changes how the two fractals interact.

Patch: - synced triangle LFO, envelope, or sequencer lane to **Morph** - medium attenuation - slow for evolving growl - fast per-note for talking bass

Best with: - main = **Cantor, Dragon, Rule30, Koch** - primitive = **Lorenz, Mandelbrot, Rössler**

Sound: - bass opens and mutates instead of just filtering brighter - more “resynthesis” than subtractive sweep

This is one of the strongest “dubstep vowel” controls in the module.

B. Chaos CV for tearing bass edges

Chaos can be subtle on some fractals, extreme on others.

Patch: - mod wheel / aftertouch / envelope / sequencer lane to **F-Chaos** - use small attenuation first

Best fractals for bass chaos response: - **Dragon - Rule30 - Lorenz - Hénon - Logistic - Hilbert**

Use: - slow swept Chaos for evolving movement - accented Chaos for specific aggressive notes - random Chaos for “alive” reese movement

This creates: - tearing harmonics - unstable sidebands - pseudo-formant breakups - dirt without external distortion

C. Spread CV for reese-like detune and widening

Outside Drone mode, Spread detunes driver and follower, up to +1 octave on follower.

Patch: - slow LFO or envelope to **Spread** - keep attenuation modest

Use cases: - low amount: reese phasing / beating - medium amount: ripping upper harmonic bloom - envelope modulation: bass attacks widen

then settle - audio-rate-ish external modulation is probably too much, but medium speed can be nasty

For DnB: - use low-mid Spread plus high Texture - then modulate Chaos - gives moving reese texture without relying only on filter detune

D. Texture CV for talking and ripping resonances

Texture is essential for modern bass.

Patch: - assign an envelope or synced LFO to **Texture** - sweep around medium-high settings

Why it works: - formant extraction / resonance emphasis gives vocal-like edge - combined with Morph it can produce "talking" movement - combined with Chaos it becomes savage

A very strong combo: - **Texture as the macro vocal motion** - **Morph as the internal identity shift** - **Chaos as the destruction amount**

E. Triggered modulation for note-synced bass articulation

Set: - **Loop OFF** - **Trig ON**

Then enable one or more of: - Morph - Spread - Chaos

Now every note retriggers the primitive modulation shape.

This gives consistent, designed bass articulation: - same growl contour every note - great for sequenced neuro bass - almost like a wavetable scan envelope, but stranger

Patch: - 16th-note bassline into MIDI or 1V/oct + trig - Primitive = **Lorenz** or **Hénon** - Speed = synced by ear - Amount = medium-high - Morph switch ON - Chaos switch ON

Result: - each note bites, twists, then settles - very useful for DnB "one-shot growl phrase" programming

Bass patch recipes

Recipe: talking dubstep bass

- Main: **Cantor** or **Koch**
- Primitive: **Mandelbrot** or **Rössler**
- Morph: medium
- Texture: high
- Spread: low-medium
- Chaos: low-medium
- Speed: slow-medium
- Amount: medium
- Trig ON, Loop OFF, Morph ON

Modulate: - LFO to **Morph** - envelope or second LFO to **Texture** - accent lane to **Chaos**

Sound: - vocal movement - squelchy/formant-rich opening - good for half-time wobble

Recipe: neuro reese destroyer

- Main: **Rule30** or **Dragon**
- Primitive: **Lorenz**
- Spread: low-mid
- Texture: high
- Chaos: medium-high
- Primitive Chaos: medium
- Morph: medium-high
- Speed: medium
- Amount: medium-high
- Trig ON, Loop OFF, Chaos ON, Morph ON, maybe Spread ON

Modulate: - slow CV to **Spread** - sequencer lane to **Chaos** - envelope to **Texture** - subtle random to **Primitive Chaos**

Sound: - layered beating - internal tearing - snarling upper mids - works beautifully through external lowpass + distortion

Recipe: FM sub/growl hybrid

- Use **simplified FM mode**
- Main: **Sierpinski** or **Koch**
- Primitive: **Rössler** or **Mandelbrot**
- Amount centered then pushed above center
- Texture: medium
- Spread: low
- Pitch: low register

Modulate: - slow CV to **Amount** - envelope to **Texture** - performance control to **Chaos**

Sound: - solid sub root - moving metallic overtones - can move from clean to mutant fast

3. Haunting atmospheric pads and drones

Fractaos is built for this. The six texture fractals plus Drone mode and chord Spread are where the module becomes a real atmosphere machine.

Texture fractals: - Cloud - Storm - Aliasing - String - Ensemble - Cluster

These are only available as the main fractal, which makes sense.

Best approach for pads

Use: - **Drone mode** - slow modulation - high Texture - subtle Morph animation - chordal Spread zone - CV pitch offsets on voices if available

Drone mode changes architecture: - 8 oscillators all run continuously - Spread becomes: - unison zone - linear octave spread - predefined chords / microtunings

This is gold for pad work.

A. Drone mode + chord scanning

The upper half of Spread in Drone mode scans predefined chords and tunings.

This means Spread becomes a macro harmonic control: - unison cluster - major/minor spreads - sus/fifths - 7ths - add9/11/13 - just intonation - 7-limit - 19-TET - Bohlen-Pierce subset

Patch: - enable Drone - main fractal = **Cloud, Ensemble, Cluster, or String** - slowly modulate **Spread CV** - use a slewed random or very slow LFO

Result: - harmonic fields morph over time - chord transitions smear due to detune slew - eerie tuning systems create haunted, non-keyboard atmospheres

Best weird zones: - **Just intonation** - **7-limit flavor** - **19-TET slice** - **BP subset**

These are especially good if you want “beautiful but wrong.”

B. Slow Morph modulation on texture fractals

Even though the main fractal is a texture, the primitive remains geometric.

Patch: - main = **Cloud, Storm, String, or Cluster** - primitive = **Hilbert, Rössler, Fibonacci, or Koch** - slow LFO to **Morph** - medium-low depth

What it does: - injects a geometric skeleton into the noisy texture - creates emergence/disappearance of tonal traces - feels like spectral ghosts inside the pad

Great combinations: - **Cloud + Fibonacci** = mournful, floating harmony - **Storm + Hilbert** = broken digital weather - **String + Koch** = bowed artifact haze - **Cluster + Rössler** = unstable choral machine

C. Very slow Chaos modulation for living pads

On texture fractals, Chaos changes internal motion and can create dramatic textural shifts.

Patch: - very slow random or LFO to **F-Chaos** - tiny attenuation - optional second slow CV to **P-Chaos**

Why: - too much fast modulation can make pads feel busy - very slow Chaos changes create “breathing architecture”

This is especially effective with: - **Storm** - **Cloud** - **Ensemble** - **Cluster**

D. Primitive as free-running modulation ecosystem

Set: - **Loop ON** - **Trig OFF**

Now the primitive-derived modulation runs freely.

Then enable: - Morph and/or Chaos and/or Spread

This is ideal for pads because the motion is not tied to note events.

Patch: - Drone mode ON - Loop ON - Morph ON - Chaos ON - Speed very low - Amount medium

Result: - independent internal life - long non-repeating-seeming shifts - evolving soundscape instead of cyclic synth pad

For best results: - choose unstable primitive like **Lorenz** or **Hénon** - keep amount moderate so it feels organic rather than seasick

E. Texture modulation as spectral weather

Texture on texture fractals can get very expressive.

Patch: - very slow triangle LFO or envelope follower to **Texture** - keep base knob around medium-high - modulate subtly around that point

Result: - formants and resonances bloom and recede - apparent distance changes - pads go from soft wash to haunted vocal shimmer

If you have a joystick or expressive CV source: - assign one axis to **Texture** - assign the other to **Morph** or **Chaos**

That turns Fractaos into a live atmosphere instrument.

F. Per-voice pitch offsets in Drone mode

Manual says 1V/oct pitch CVs of the 4 voices and MIDI notes can still transpose individual pairs in Drone mode.

That means you can: - send slightly different pitch CVs to each voice - create drifting clusters over the global 8-oscillator drone - build pseudo-polytonal or suspended harmony

Patch ideas: - send same root pitch to all four voices - offset one voice +7 semitones - offset another +12 - add subtle slewed random to one voice only

This creates huge, filmic moving harmonic beds.

Pad recipes

Recipe: haunted choir fog

- Drone mode ON
- Main: **Ensemble** or **Cluster**
- Primitive: **Fibonacci** or **Rössler**
- Texture: high
- Morph: low-medium
- Chaos: low
- Spread: upper chord zone, try just intonation or minor 7th
- Loop ON, Morph ON, Chaos ON
- Speed: very slow
- Amount: medium

Modulate: - slow LFO to **Morph** - subtle random to **Chaos** - very slow CV to **Spread**

Sound: - spectral choir - shifting intonation - ghostly consonance/dissonance

Recipe: storm cathedral

- Drone mode ON
- Main: **Storm**
- Primitive: **Hilbert**
- Texture: high
- Chaos: medium
- Morph: low-medium
- Spread: 19-TET or BP subset
- Loop ON
- Speed: slow
- Amount: medium-high

Modulate: - slow random to **Spread** - slow envelope follower or LFO to **Texture** - subtle CV to **Primitive Chaos**

Sound: - weather, bells, broken harmonics, digital ruin - very strong for dark ambient

Recipe: broken string pad

- Main: **String**
- Primitive: **Koch** or **Fibonacci**
- Texture: medium-high
- Morph: medium
- Spread: add9/add11 in Drone mode
- Chaos: low-medium
- Loop ON, Morph ON
- Speed: slow

Modulate: - slow LFO to **Morph** - subtle random to **Spread** - aftertouch to **Chaos** if using MIDI

Sound: - fragile bowed/plucked illusion - changing harmonic skeleton - excellent with reverb

4. Specific modulation sources that pair well with Fractaos

Because Fractaos already has complex internals, it responds best to a few source types:

Best external modulation sources

- **stepped random / sample & hold**
- for Chaos and Primitive Chaos
- **short snappy envelopes**
- for Texture and Morph on drums/bass
- **slewed random**
- for pads, Spread, slow Chaos

- **sequencer modulation lanes**
- for bass phrase design
- **pressure / aftertouch / mod wheel**
- for performable Chaos/Texture movement
- **clocked LFO**
- for dubstep wobble on Morph or Texture
- **Euclidean trigger accents**
- to hit modulation VCAs before CV inputs

If you can place a **VCA on the modulation before Fractaos**, it becomes much more playable: - trigger envelope opens VCA - random CV passes through only on certain hits - gives controlled chaos instead of constant chaos

5. Best fractal choices by goal

For distorted percussion

- **Drum modes first:** Kick, Snare, Tom, HiHat, Cymbal
- primitives:
- **Rule30**
- **Dragon**
- **Hilbert**
- **Koch**
- **Lorenz**

For nasty bass

Main fractals: - **Rule30** - **Dragon** - **Cantor** - **Koch** - **Sierpinski** - **Hilbert** - **Lorenz** for unstable experimental bass

Primitives: - **Lorenz** - **Hénon** - **Rössler** - **Mandelbrot** - **Fibonacci**

For haunted pads

Main fractals: - **Cloud** - **Storm** - **String** - **Ensemble** - **Cluster**

Primitives: - **Fibonacci** - **Hilbert** - **Rössler** - **Koch** - **Lorenz**

6. Three high-value modulation strategies

Strategy 1: “accented destruction”

For drums or bass: - steady sequence to pitch/gate - accent trigger fires envelope - envelope opens VCA carrying random CV - VCA output goes to **Chaos** or **Texture**

Only accented notes get extra mutation.

This is perfect for: - dubstep bass phrase punctuation - snare fills - broken kick patterns

Strategy 2: “one macro, one damage, one drift”

Assign: - **Morph** = macro movement - **Chaos** = damage - **Spread or Texture** = slow drift

This keeps patches musical. If you modulate everything aggressively, Fractaos can become shapeless fast.

Strategy 3: “stable main, unstable primitive”

For usable madness: - pick a relatively stable main fractal - pick a more unstable primitive - use primitive motion to destabilize the sound indirectly

Examples: - Main **Koch**, Primitive **Lorenz** - Main **Sierpinski**, Primitive **Hénon**
- Main **Cloud**, Primitive **Hilbert**

This often sounds better than unstable-on-unstable.

7. Performance tips

- **Use presets for sound families**, not finished tracks
Fractaos seems ideal for storing starting points, then returning to LIVE and performing panel changes.
- In **LOAD mode**, you can align knobs to preset state and then jump back to LIVE. That's very useful for recovering a patch and then improvising from it.
- In **MULTI mode**, you can combine:
 - one LIVE bass voice
 - one preset pad voice
 - one preset snare/perc voice
 - one extra texture voice

That could make Fractaos a whole mini track-generator inside one module.

- **Drone mode Spread is a feature, not just detune**
Treat it like harmonic composition control.
 - **Texture is not just a finishing touch**
On this module it's central to signature sound design.
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8. My strongest recommendations if you want immediate results

For distorted percussion

1. Start with a **Drum fractal**
2. Set **Trig ON / Loop OFF**
3. Modulate **Chaos**
4. Add envelope modulation to **Texture**
5. Use **Morph** to add pitched/fractal tail

For dubstep / DnB bass

1. Try **simplified FM mode**
2. Sequence **Amount**, not just pitch
3. Modulate **Morph** for vowel motion
4. Add restrained **Chaos CV**
5. Use **Texture** as the formant/rip control

For haunting pads

1. Use **Drone mode**
 2. Choose **Cloud / Ensemble / Cluster / Storm**
 3. Set **Loop ON**
 4. Modulate **Spread** slowly through chord/tuning zones
 5. Add very slow **Morph + Chaos** drift
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9. Quick starter patches

A. Dubstep wobble monster

- Main: Cantor
- Primitive: Lorenz
- Texture high
- Morph medium
- Spread low
- Chaos medium
- Trig ON, Loop OFF, Morph ON, Chaos ON
- LFO to Morph
- envelope to Texture
- sequencer lane to Chaos

B. DnB reese

- Main: Rule30
- Primitive: Rössler
- Spread low-mid
- Texture high
- Chaos medium-high
- slow LFO to Spread
- random to Primitive Chaos
- lowpass and saturate externally

C. Black-metal industrial snare

- Main: Snare
- Primitive: Dragon
- Morph medium
- Texture high
- Chaos high
- triggered random to Chaos
- short envelope to Texture

D. Haunted film pad

- Drone ON
- Main: Cluster
- Primitive: Fibonacci
- Spread in Just Intonation or 7-limit
- Loop ON
- slow LFO to Morph
- slewed random to Spread
- subtle random to Chaos

If you want, I can also make you: - a **“best fractals by genre” cheat sheet** - a **CV patch plan using common modulation modules** - or **10 exact Fractaos patches** for techno, dubstep, ambient, and IDM.

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