ADDAC Systems — ADDAC-207 Quantizer

- Manual PDF

ADDAC207 Intuitive Quantizer User's Guide (PDF)

Using the ADDAC207 Intuitive Quantizer to Create Melodic Components

The attached manual is for the **ADDAC207 Intuitive Quantizer**, a 4-channel quantizer/keyboard/chord generator for Eurorack. Since only this module's manual is included, I'll treat the "modules used together" as:

- the **4 internal quantizer voices** of the ADDAC207,
- the **scale, keyboard, transpose, gate, and assign functions** working together,
- and how you would patch it with typical Eurorack companions like **sequencers, random CV, LFOs, envelopes, oscillators, and switches**.

What this module does musically

The ADDAC207 is best thought of as a **melodic control center**. It can:

- quantize up to **4 CV sources** to the same scale,
- generate **harmonies/chords** from a single source,
- act as a **manual keyboard**,
- output **gates** for note events,
- support **transpose** from an external CV,

- save **presets** for scales/settings,
- and even do **alternate temperaments** and microtonal-style tuning tricks.

That makes it useful for creating:

- melodies,
- basslines,
- harmonized leads,
- arpeggio-like structures,
- chord voicings,
- modal shifts,
- transposed sequences,
- and playable keyboard parts.

Core architecture relevant to melody

1. Four quantizer voices

Each voice has:

- **CV IN**
- **CV OUT**
- **GATE IN**
- **GATE OUT**

This means each voice can be:

- an independent pitch stream, or
- linked to **Voice 1 as master** when Voices 2–4 have no CV patched.

That “Voice 1 master” behavior is one of the most musically important features in the module.

Practical meaning

You can patch:

- one sequencer/random CV into **Voice 1**
- leave **Voices 2–4 unpatched at input**
- define interval offsets for Note 2/3/4

…and suddenly the module becomes a **scale-aware chord generator**.

---

2. Scale selection and note masks

You can define the active note set in two ways:

- with the **Key / accidental / major-minor controls** plus **SET KEY**
- or manually by turning individual note buttons on/off

So the ADDAC207 can function as:

- a normal key quantizer, or
- a custom scale/mode quantizer, or
- a restricted note collection generator for motifs.

Why this matters musically

A quantizer is not just a tuning aid. It shapes melodic identity.

For example:

- **major scale** gives conventional brightness
- **natural minor** gives darker tonal material
- a custom note mask like **C, D, F, G, A** creates pentatonic melodies
- a sparse note selection like **C, Eb, F#, A** creates angular, cinematic material

This module is very good for “composing with omission.”

---

3. Quantizer vs Keyboard mode

The ADDAC207 has 2 main modes:

- **Quantizer Mode**
- **Keyboard Mode**

Quantizer Mode

Incoming CV is quantized to the active note set.

This is the main mode for:

- sequencers
- random voltages
- slewed modulation
- sample-and-hold
- LFO-derived pitch lines

Keyboard Mode

The buttons become a **monophonic keyboard**.

Important detail from the manual:

- **Voice 1 plays all notes**
- **Voices 2–4 only play notes allowed by the quantizer scale**, useful for chord generation

Musical use

This makes the module perform like:

- a playable live pitch controller,
- a harmonic improvisation tool,
- a way to audition scales/chords before sequencing them.

Best musical patch strategies

Patch Strategy 1: Single melody line from random or sequencer CV

Patch

- CV source -> **IN 1**
- **OUT 1** -> oscillator 1V/oct
- **GATE OUT 1** -> envelope trigger/gate
- envelope -> VCA
- oscillator -> filter/VCA/audio path

Result

You get a pitch stream forced into the chosen scale.

Best source types

- stepped random
- sequencer row
- sample-and-hold from noise
- slow triangle/sine LFO for repeating contour melodies
- pressure/joystick CV for manual melody creation

Useful settings

- **Q.TYPE Above** for always pushing notes upward into the scale
- **Below** for grounded/downward-feeling resolution
- **Ignore** for sparse/event-style behavior when only exact scale voltages should pass meaningfully

Musical character

- Above = more rising/aspirational

- Below = more weighted/stable
- Ignore = glitchy/minimal/selective

Patch Strategy 2: One source into 4-part harmony

This is probably the most powerful melodic use.

Patch

- Sequencer/random CV -> **IN 1**
- Leave **IN 2–4 unpatched**
- Turn **Voice 1 Master** ON in the TRIG.R menu
- Set Note intervals:
- **NOTE 2** = 3rd
- **NOTE 3** = 5th
- **NOTE 4** = 7th
- Patch **OUT 1–4** to 4 oscillators, or 4 voices in a polyphonic patch

Result

The module derives harmonized outputs from one melodic root.

Because intervals are interpreted **according to the active scale**, the harmony is diatonic rather than fixed-chromatic.

Why this is musically strong

If you choose: - C major scale - root melody on Voice 1 - intervals 3rd / 5th / 7th

then the resulting harmony follows the scale, producing musically coherent chords.

For example: - over C you might get C–E–G–B - over D you might get D–F–A–C - over E you might get E–G–B–D

So the chord quality shifts naturally with scale degree.

Great uses

- 4-voice pads
- stacked oscillators
- chord stabs
- organ-style harmonies
- modal drones with moving tops
- generative harmony

Patch Strategy 3: Bass + lead + chord tones from one source

Instead of treating all 4 outputs equally, split their roles.

Patch idea

- **OUT 1** -> bass oscillator
- **OUT 2** -> mid voice
- **OUT 3** -> lead/pluck
- **OUT 4** -> upper shimmer/FM mod oscillator

Set intervals for 2/3/4 to create voicings like: - root / 3rd / 5th / 7th - root / 5th / octave / 10th - root / 4th / 6th / 9th

Musical benefit

One CV source becomes a complete tonal ecosystem.

This is especially effective if: - each oscillator has a different envelope length, - different filter brightness, - different stereo placement.

Patch Strategy 4: Four independent melodies in one key

Patch

- 4 independent CV sources -> **IN 1–4**
- 4 separate oscillators or voices on **OUT 1–4**
- optionally 4 different trigger streams to each **GATE IN**

Result

You get four separate melodic lines constrained to the same scale.

Great for

- contrapuntal patches
- generative ensembles
- bass / lead / arp / drone divisions
- percussion tuned to scale tones
- four sequencers made harmonically compatible

Why it works

Instead of harmonizing one source, you harmonically **unify multiple independent sources**.

This is often more interesting than strict chord following, because each line retains its own rhythm and contour.

Patch Strategy 5: Use GATE IN for rhythmically controlled melody updates

Each voice can quantize from CV changes alone, but **GATE IN** allows external timing control.

Patch

- flowing CV -> Voice IN
- trigger pattern -> corresponding **GATE IN**
- **OUT** -> oscillator pitch
- **GATE OUT** -> envelope

Result

Pitch only updates when a trigger arrives.

Why this matters

This lets you separate: - **pitch source behavior** from - **note rhythm**

So you can use: - slow random drift as pitch material - fast clocked triggers for rhythm

Or: - a sequencer CV row - irregular trigger pattern for syncopated note extraction

Musically this enables

- sampled melodic gestures
- rhythmic arp-like slicing of continuous voltages
- stable timing from unstable pitch sources

Patch Strategy 6: Manual keyboard performance with harmonized outputs

Patch

- Enter **Keyboard Mode**
- Use buttons as notes
- **OUT 1–4** to multiple oscillators/voices
- **GATE OUTS** to envelopes

Result

You play the module directly as a mini performance keyboard.

Particularly useful for

- live improvisation
- quickly testing voicings
- drone harmonies
- melodic sketching
- hands-on modal playing

Important behavior

In keyboard mode: - Voice 1 can access all notes - Voices 2–4 still respect the selected scale and interval logic

That makes it very good for **safe live harmony playing** without accidentally hitting bad chord tones.

Transposition as a musical system

The ASSIGN input is a big compositional feature.

You can assign the external CV input to several functions, especially:

- **Input Transpose**
- **Scale Transpose**
- Note 2/3/4 offsets
- Quantization type
- Gate length
- Trigger repeat
- Octave offset
- Preset change

1. Input Transpose

This adds incoming assign CV to the incoming melodic CV before quantization.

Musical effect

The melody shape is preserved, but moved up/down within scale behavior.

Good use cases

- transpose a sequence by keyboard CV
- use a second sequencer for phrase transposition
- use pressure/joystick to shift motif center
- use slow CV for evolving harmonic drift

---

2. Scale Transpose

This transposes the **scale itself**, not the incoming melody CV.

Musical effect

The same input voltage is now interpreted against a different root.

This is a very different result from input transposition.

Why it's musically interesting

Input transpose = "move the melody" Scale transpose = "move the harmonic world under the melody"

That makes scale transpose especially useful for: - chord progressions - key changes - modal shifts - harmonic cycling in generative patches

Example use

Keep a repeating contour at Voice 1 input. Use a slow or sequenced CV into ASSIGN mapped to **Scale Transpose**. Now the contour remains similar while the harmonic context changes.

This is excellent for: - ambient - Berlin-school - generative tonal music - soundtrack work

---

Chord construction ideas using NOTE 2/3/4 intervals

The module lets you define interval relationships for Voices 2–4 relative to Voice 1.

Since these are scale-aware, you can create many musically useful textures.

Traditional tertian harmony

- Note 2 = 3rd
- Note 3 = 5th
- Note 4 = 7th

Use for: - jazz-ish chord color - lush pads - generative harmony

Open harmony

- Note 2 = 5th
- Note 3 = 8th
- Note 4 = 10th

Use for: - cinematic openness - less muddy lower registers - wide melodic stacks

Quartal-ish/modal flavor

- Note 2 = 4th
- Note 3 = 7th
- Note 4 = 9th

Use for: - suspended/modal harmony - less tonal certainty - modern ambient textures

Parallel melodic doubles

- Note 2 = 3rd
- Note 3 = 6th
- Note 4 = 8th

Use for: - folk-like doubles - contrapuntal melodic blooms - denser lead lines

---

Scale design for melody writing

The manual makes clear you can manually toggle note buttons on/off. This is where the module gets especially compositional.

1. Diatonic scales

For conventional melodic work: - major - natural minor

Good for: - tonal basslines - hooks - chord progressions - voice-leading patches

2. Pentatonic extraction

Instead of using all 7 notes, choose 5.

Good for: - fewer clashes - stronger melodies from random CV - easy layering over drones - “everything sounds good” generative patches

3. Sparse custom scales

Choose only 3–6 notes.

Good for: - motif control - minimalist patterns - gamelan-like reduction - pseudo-arpeggiation from random CV

4. Modal use with Scale Mode

The module supports scale modes like: - Ionian - Dorian - Phrygian - Lydian - Mixolydian - Aeolian - Locrian

This is useful when you want: - the same basic key center, - but different emotional color.

Examples

- **Dorian** for minor but hopeful
- **Phrygian** for dark/tension
- **Lydian** for floating/bright
- **Mixolydian** for dominant/bluesy repetition

Gate functions and melody shaping

Gate Length

Gate length can be set from very short to very long.

This directly affects articulation.

Short gate

- plucky notes
- arpeggios
- percussive basslines

Long gate

- legato envelopes
- sustained drones
- tied melodic phrases

Gate Off Condition

There’s an option to only quantize a new note when gate out is off.

Musical use

This can force phrase clarity and prevent too-fast note updates.

Good for: - monophonic synth lines - clean phrasing - reducing chatter from unstable CV sources

Trigger Repeat

If ON, re-hitting the same quantized pitch still outputs a gate.

Important use

This is excellent for: - repeated notes with fresh envelope articulation - rhythmic ostinatos - percussive lead lines

If OFF: - same pitch won’t retrigger unnecessarily

That is useful for: - smooth legato behavior - less repetitive re-firing

---

Presets as song structure tools

The module stores presets containing scale notes and many menu settings.

This means you can use presets to prepare different melodic states such as:

- verse scale
- chorus scale
- bridge mode
- alternate harmony interval set
- different gate or quantization behavior

Since ASSIGN can also be mapped to **change preset**, the module can potentially become a **song-section harmonic switcher**.

Example

Preset 1: - C major - chord tones 3rd/5th/7th

Preset 2: - A minor - open intervals 5th/8ve/10th

Preset 3: - custom pentatonic - short gates

Preset 4: - Lydian with longer gates

Then move between them in performance or by external CV assignment.

Alternate temperaments and melodic identity

The tuning menu supports several temperaments, including:

- Equal
- Just
- Bohlen-Pierce

- Pure / Well Tuned
- Exotic

For most melodic Eurorack use, you'll likely stay in **Equal**. But the others can be used intentionally.

Just temperament

Can make intervals feel more resonant and consonant around a chosen root.

Good for: - drones - root-centered ambient harmony - static harmonic fields

Bohlen-Pierce / Exotic

More experimental territory.

Good for: - alien melody systems - non-standard tonal centers - abstract generative composition

Important note from the manual: non-equal temperaments are more root-dependent, so they are best when the piece has a strong tonal center rather than constant transposition.

Strong real-world melodic patch examples

Example 1: Generative ambient chord cloud

Patch

- Smooth random CV -> IN 1
- Clock divider trigger -> GATE IN 1
- Voice 1 Master ON

- Note 2 = 3rd
- Note 3 = 5th
- Note 4 = 7th
- OUT 1–4 -> four oscillators or four voices
- Slow envelopes from GATE OUTs
- Long gate length
- Major or Dorian scale

Result

A slow-moving harmonized cloud with coherent tonal motion.

Example 2: Bassline plus harmonized lead

Patch

- Sequencer CV -> IN 1
- Trigger pattern -> GATE IN 1
- OUT 1 -> bass oscillator
- OUT 2/3/4 -> stacked lead oscillators
- Use different octaves externally at oscillators or via octave offseting elsewhere

Result

The bassline drives the harmony while upper voices bloom into chords.

Example 3: Four coordinated but independent melodic voices

Patch

- 4 sequencer lanes / random sources -> IN 1–4
- Same key and scale across all voices

- Different trigger streams into GATE IN 1–4
- OUTs to 4 sound sources

Result

A small ensemble that remains harmonically unified.

This is especially effective for: - modular “string quartet” style patches - tuned percussion ensembles - minimal music phasing systems

---

Example 4: Live playable harmonic controller

Patch

- Keyboard mode
- OUT 1–4 to four oscillators/voices
- GATE OUTs to envelopes
- Set Note 2/3/4 intervals
- Use presets for different harmonic environments

Result

Hands-on chord melody performance from the panel itself.

Example 5: Harmonic progression engine with scale transpose

Patch

- Repeating melodic sequencer into IN 1
- ASSIGN input mapped to **Scale Transpose**
- Slow stepped CV sequence into ASSIGN
- Voice 1 Master ON with chord intervals set

Result

The melodic contour stays recognizable while the underlying harmonic key changes.

This is one of the best uses in the module for creating actual “progressions” in generative music.

Best supporting modules to pair with the ADDAC207

Even though they’re not in the attached manual, this quantizer pairs especially well with:

Sequencers

For intentional melodic structure: - step sequencers - CV sequencers - Cartesian sequencers - Turing/random-loop sequencers

Random voltage sources

For generative melody: - stepped random - sample & hold - fluctuating random - chaos CV

Clocks and trigger generators

To control note timing through GATE IN.

Oscillators

Especially multiple oscillators, since the ADDAC207 shines as a chord source.

Envelopes and VCAs

Because GATE OUT gives you note articulation.

Switches/sequential switches

For alternating melodic sources into one voice or redistributing outputs.

Mixers and precision adders

For layering additional transposition and interval structure.

Joysticks, touch controllers, keyboards

Excellent with ASSIGN transpose functions and keyboard mode.

Important practical observations from the manual

Voice 1 as master is central

If inputs 2–4 are unpatched and master behavior is active, the module becomes much more than a quantizer — it becomes a **scale-aware harmony engine**.

Trigger repeat changes phrasing dramatically

This matters a lot if you want repeated notes to retrigger envelopes.

Reaction time can be adjusted

This is mostly UX-related, but helpful if you perform in keyboard mode and want to avoid accidental menu entry.

Fine tuning is per voice

Very useful when driving multiple oscillators in stacked harmony patches.

Presets do not store everything

Fine tunings and some global settings are in main memory, not preset memory.

Best musical roles for this module

The ADDAC207 is especially strong as:

- a **master melodic quantizer** for a whole patch
- a **chord generator** from one CV line
- a **4-part harmony distributor**
- a **modal/generative melody shaper**
- a **manual playable keyboard quantizer**
- a **transpose/progression engine**

It is less just a utility and more a **compositional module**.

Bottom line

If you use the ADDAC207 well, it can provide nearly all pitch organization for a modular patch:

- one source becomes a melody,
- one melody becomes a chord,
- multiple CVs become a coherent ensemble,
- external CV can transpose notes or entire harmonic spaces,
- and presets can organize different musical sections.

The strongest melodic workflows are:

1. **single CV -> harmonized multi-voice outputs**
2. **multiple CV streams -> shared scale coherence**
3. **assign CV -> transposition or scale movement**
4. **keyboard mode -> direct melodic/harmonic performance**

If you want, I can also turn this into: - a **“patch cookbook” with 10 concrete patches**, - a **cheat sheet for live performance**, or - a **signal flow diagram** for using the ADDAC207 in a melodic Eurorack system.
