

Pond, Manual

A pond for making music. Version 1.1.

Pond is a MIDI sequencer built on one idea: **drop a stone in the water and let the wave play the notes.** Every cell of the pond holds a note. When a ripple's wave front crosses a cell, that note sounds. Where you tap, what notes you've planted, and how the waves overlap, that's the composition.

1. Thirty seconds to first sound

First launch runs a short interactive intro: tap **Drop some notes** to fill the water, then it walks you, one gentle step at a time, through tapping to play, planting an emitter, painting, and the drawer. It plays once; the steps below are the same thing, any time.

1. Open Pond. The pond starts **still and empty**, dark water, waiting.
2. Open the **drawer** (slider button, top-right) and tap **Generate**. The pond fills with a sparse scatter of notes.
3. **Tap anywhere.** A wave expands from your finger; every cell it crosses plays. Sound comes from the built-in sound, no setup needed.
4. Tap with **several fingers**. Each finger drops its own wave.
5. **Hold a finger still** for half a second. You've planted an **emitter**, a spring that keeps dropping ripples on its own, in time. Hold it again to remove it. (Tapping or holding *on* an emitter's ring won't drop a stray ripple, the ring is a quiet spot, so removing one is clean.)

That's the whole instrument. Everything else shapes it.

2. Reading the pond

- **Each cell is a note.** Its colour tells you the pitch class, the palette runs from warm **peach (C)** through pink, orchid, and lavender to **sky blue (B)**. Cells brighten as their velocity rises.
- **Dark cells are silent** (a faint grey square at rest), and they **light up blue** as a wave front passes over them, so you can watch the wave travel across the pond.
- A lit cell **flashes** at the moment it plays; the moving band of lit cells *is* the wave, there's no separate ripple drawn over the grid.
- The grid is always made of perfect squares and fills the screen. The pond itself **stays put when you rotate** the iPad, like water in a tray, so every note and emitter keeps its place; only the controls swing around to the new orientation.
- The pond is **up to 32×24**. On a 12.9"/13" iPad (and in the plugin) you get the full 32×24; a narrower iPad (11"/Air/mini) shows a few rows fewer. A note or emitter on a row a given iPad doesn't show simply won't play there, so a pond made on a larger iPad may sound a little sparser on a smaller one. Generate only ever fills the rows you can see.

The **pill** in the top-left shows tempo · division · key at a glance. It fades while you play and returns when the pond goes quiet. Tap it, or the slider button top-right, to open the **drawer**, where all the controls live. The **paintbrush button** just below the drawer button opens the **paint bar**, a floating palette that docks over the bottom of the pond. It glows orange while you're editing, and the bar itself is your "you're editing now" signal.

The **pause button** (top of the three top-right buttons) freezes the pond like a sequencer's stop: waves halt in place and the sound cuts cleanly, with no hung notes. Tap it again to pick up exactly where you left off. (Inside an AUv3 host the host's own transport runs the show, so the button isn't shown there.)

3. Gestures

Gesture	In play mode	In edit mode
Tap	Drop a ripple	Paint the selected note
Drag	,	Paint continuously
Multiple fingers	One ripple per finger	Paint with each
Hold still (½ s)	Plant / remove an emitter	Open the cell editor

Edit mode is summoned by the **paintbrush button** (top-right, under the drawer button). The **paint bar** slides up over the bottom of the pond. Pick a pitch from the twelve chips, set the octave, or tap the **eraser** chip to paint silence. The chips for notes **in the current scale** keep their colour; out-of-scale notes dim to grey (still pickable), so the in-key choices stand out at a glance. Tap **Done** (or the paintbrush again) to put it away. The pond keeps playing the whole time.

The bar has a small **grab handle** on top: drag it to slide the bar to the top or bottom of the screen (it snaps to whichever edge is nearer), so you can always reach the cells it was sitting over.

Misplaced a note? Tap the same cell again, with the same note, within five seconds and it lifts back off, a quick undo without reaching for the eraser. For anything bigger, the drawer's **Undo** steps back whole edits.

4. The drawer, top to bottom

Undo and Redo

(Standalone only.) Two buttons at the very top step backward and forward through your edits, up to ten of them. An "edit" is anything that changes the pond itself: a

paint stroke (a whole drag counts as one), Generate, Clear, Transpose, planting or clearing emitters, or changing the scale, key, octave range, density, or the Physics toggles. Tempo, quantize, MIDI routing, and volume are deliberately left out, Undo is for the notes, not the transport. History is per session and starts fresh each launch.

Presets

Twenty-four slots across four pages (flip with the < > arrows or a swipe across the slots), each with a snapshot picture of its pond.

- **Tap an empty slot** → saves the current pond there.
- **Tap a filled slot** → loads it instantly (waves in flight keep rolling over the new notes, lovely for transitions).
- **Long-press a filled slot** → overwrite with the current pond, rename, or delete.

Each slot is tagged with the grid it was saved at, e.g. **Drift (32×24)**. If a preset's grid is taller than your iPad shows, its bottom rows just won't play here, the tag is your heads-up.

A preset stores the *musical* state: grid, emitters, scale and key, tempo, division, quantize, drip rate, sustain, falloff, density. It deliberately does **not** touch your setup, built-in sound on/off, volume, and MIDI-clock settings stay as you have them.

Pond also autosaves everything when you leave the app and restores it on return, so you never lose the pond you were just playing.

Tempo

- **BPM** (20–300) and **Division**, together they set the wave speed: one cell per division step. At 120 BPM and 1/16, a wave crosses eight cells per second.
- **Quantize**, the pocket switch. Off, notes sound the instant the wave touches them (pure water physics, rubato by nature). Set to ¼, ⅛, 1/16, 1/32, 1/64 or 1/128, every note instead waits for the next beat boundary: the waves stay liquid, the rhythm locks tight. The flash waits with the note, so what you see is what you hear.

MIDI

(Standalone only; inside an AUv3 host the host handles routing and clock.)

- **Send to**, choose which connected destinations receive Pond's output: a USB interface or synth, a Bluetooth or network device, or another app's input. The always-on "Pond" source still reaches other apps; this adds direct routing to the ones you tick. Output is on MIDI channel 1. (More in *Pond and MIDI* below.)
- **Sync to MIDI clock**, Pond follows external MIDI clock (gear, AUM's clock, etc.). While ticks arrive the BPM shows "· EXT" and locks; it releases automatically when the clock stops. (Tempo matches; bar phase doesn't, for phase-locked sync use the AUv3.)
- **Send MIDI clock**, Pond becomes the clock master, emitting 24 ppqn from its MIDI output, tracking every BPM change.

Emitters

- **Drip rate**, how often every emitter drops its ripple: 4 bars, 2 bars, 1 bar, $\frac{1}{2}$, or $\frac{1}{4}$ (always in time with the BPM, or the host's tempo inside a DAW).
- Up to **8 emitters**. The pulsing ring markers show where they live, and that ring is a **dead zone**: a tap on it makes no ripple, so you can hold to remove an emitter without leaving a stray wave behind.
- **Clear** removes them all at once. There's also a **quick clear-emitters button** (the slashed-circle, just under the paintbrush top-right) that appears whenever the pond has emitters, one tap clears them without opening the drawer.
- Fast rates with several emitters will use up all 32 simultaneous waves, extra taps wait for old waves to fade. That's the pond being honest about its physics.

Scale

- **Scale** (nine to choose from) and **Key**, these feed **Generate**.
- **Transpose**, shift every note already in the pond up or down right now: ± 1 semitone or ± 12 (an octave). Unlike Key (which only colours the next Generate), this re-pitches what's there. Notes pushed past the top or bottom of the range clamp and may not come back on the way down, but **Undo** has you covered if a shift goes too far.

- **Octave range**, the Low/High steppers bound every note the pond *generates*: set C3–B5 for a comfortable middle register, or go wide for drama. Generate never leaves this range. Changing it doesn't touch notes already in the pond, they keep the pitch they were given; the range only shapes the *next* Generate.
- **Generate** deals a completely fresh pond: a random scatter of in-scale notes within the octave range, independent of what was there before. This is how you fill the pond. Tap it again for another roll.
- **Density** decides how sparse that scatter is. It's a smooth, **continuous** control reaching from a whisper-sparse **0.1%** up to 40%, with the bulk of the travel down in the low single digits, because that's where the music is. It reads out to one decimal (e.g. 0.4%, 3.7%), so you can dial in exactly how busy the pond feels; a pond at 3–6% breathes, and below 1% you get just a handful of notes. (Each Generate deals a fresh ~Density% of the grid, every time, it never compounds.)
- **Clear** silences every cell (waves still travel; they just find nothing to play).

Sound

- **Falloff**, how quickly notes get quieter the farther they are from the splash point; far enough out, they fade to **silence**, so high falloff turns the pond into a spotlight around your touch. The control is gentle through most of its travel and only tightens near the top.
- **Sustain**, note length, 1–1000 ms. Short = plucks and rain; long = washes and pads.
- **Built-in sound**, Pond's own voice, a soft 32-voice pluck, with its own volume. It sits on its own at the very bottom of the drawer, set apart from the menus above. Turn it off when an external synth or DAW is making the sound.

Physics

Two toggles for how the waves behave. Both default off.

- **Wall reflections**, every wave bounces back off the pond's edges: drop near a wall and the echo sweeps back across, re-playing cells on the return trip, quieter with every extra cell of travel (the reflection's path length feeds the falloff). One tap becomes a conversation between a wave and its echoes. Costs

wave slots: each drop uses up to five of the thirty-two, so go easy on emitters while it's on.

- **Wave interference**, turns ripples into *real* waves. Overlapping waves **add** where their crests meet and **cancel** where a crest meets a trough, just like rings from two stones in a real pond. A lone wave plays at a comfortable mid-level; reinforcing waves push a note **louder** (all the way to full velocity when several stack up), and cancelling waves push it **softer** (down to a whisper). It takes a lot of interference to reach either extreme. The grey ripples show the wave itself; on top, **blue** marks where waves reinforce and **yellow** where they cancel, so you can see the dynamics as well as hear them. Beautiful with two or three emitters, or a flurry of taps. (*Per-cell velocities you painted aren't used while this is on, interference is the dynamic.*)

About

- At the very bottom of the drawer: Pond's **version** and a **User Manual** button that opens this guide in the app, your reference for anything the menus don't explain.

Painting moved out of the drawer. Editing now lives on the pond itself: tap the **paintbrush button** (top-right) to bring up the paint bar, pitch chips, octave, and an eraser chip for silence (see *Gestures* above). Long-press any cell to open its editor, in place, for exact note / velocity / on-off control.

5. Pond and MIDI

Pond speaks MIDI everywhere:

- **Standalone**, it publishes a CoreMIDI source named **"Pond"** that any app or hardware can subscribe to (it stays alive in the background). Notes go out on **MIDI channel 1** with a computed velocity; note-offs follow after the sustain

time. (Per-cell channels and multi-channel routing are planned for a later version.)

- **Send to devices**, open the drawer's MIDI section and use the **Send to** dropdown to pick any connected MIDI destinations (a USB interface, a class-compliant USB synth like a Digitone, a Eurorack bridge like the Shuttle Control, or another app's input). Pond sends its notes, and its clock, if "Send MIDI clock" is on, straight to the ones you tick. You can pick several at once. The list updates as you plug things in, and your choice is remembered. The **"Pond"** app port above is always published too, so app-to-app routing keeps working alongside any devices you select.
- **MIDI clock** flows in or out, see the MIDI section.

Pond as an AUv3 plugin

Inside AUM, Logic, Cubasis and friends, Pond loads as an **Audio Unit MIDI processor** ("naturarum: Pond"), the full pond UI in a plugin window. The plugin window is **freely resizable**: the whole pond scales to fit whatever size and shape you give it (square cells, centred), so it never crops or spills, resize it as small or large as you like.

In **AUM**: add a **MIDI channel** → load Pond in its slot (under *Audio Unit MIDI Processor*) → on your synth's node, open its MIDI input panel and enable **the MIDI channel containing Pond** (it's listed by the channel's name, not "Pond"). Done, Pond plays your synth.

In a host, Pond **follows the host tempo** automatically (the BPM readout shows "·HOST") and quantize boundaries land on the host's actual beats. Your session saves Pond's entire state, and the host's own **user-preset menu** works too.

6. Recipes

- **Generative chill:** Pentatonic Major, Generate at ~4% density, one emitter at 1 bar, quantize $\frac{1}{8}$, sustain ~400 ms. Walk away. It plays better than it has any right to.
 - **Polyrhythmic web:** two emitters far apart, drip rate $\frac{1}{2}$, quantize $\frac{1}{16}$, high falloff. The interference pattern is the rhythm.
 - **Performance surface:** no emitters, quantize off, short sustain, a denser Generate (~15%). Pure hand-drumming on water.
 - **Patch DJ:** fill a page of preset slots with contrasting ponds and jump between them live, waves in flight survive the swap and rake across the incoming notes.
 - **Echo chamber:** reflections on, quantize $\frac{1}{8}$, ONE tap near a corner, high falloff. The wave and its four echoes answer each other in decaying phrases, Pond's version of a delay pedal.
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7. If something's quiet

- **Fresh install?** The pond starts empty on purpose, Generate or paint some notes first.
- **Nothing moving?** Check the **pause** button (top-right) isn't showing a ► play glyph, tap it to resume.
- **No sound, standalone?** Check the Built-in sound toggle (bottom of the drawer), then the iPad mute switch / volume.
- **No sound from the AU?** It makes no sound by itself, it sends MIDI. Check the routing recipe in section 5.
- **USB / hardware synth silent?** Pond only sends to devices you pick: open the drawer's **Send to** dropdown (MIDI section) and tick your device. If it isn't listed, reseal the cable, the list refreshes on its own when the connection changes.

- **Pond missing from the host's plugin list?** Force-quit the host and reopen; after an update, reboot the iPad if needed (iOS can be slow to register fresh plugins).
 - **Clock sync says "Waiting..."?** Pond ignores its own clock output by design, make sure another device or app is actually sending clock to the iPad.
 - **Taps not making waves?** If several emitters are dripping fast, all 32 wave slots may be busy, clear an emitter or slow the drip.
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Pond keeps its engine's name, `ripple`, in its source code, because the app is the pond, and ripples are what it makes.