STEREO AMBIENT REVERB

Kumo

雲 cloud

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Kumo is a stereo ambient reverb for long tails, slow blooms, and the sound that hangs in the air after the note has gone.



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Kumo, from the first sound to the last setting.

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A chord goes in. A cloud comes out.

This manual walks round the panel, then through each of Kumo's five algorithms, its movement and its footswitches. The last pages cover presets, installing and unlocking.

Welcome

Kumo is a stereo reverb for long tails, slow blooms, and the sound that hangs in the air after the note has gone. It has five algorithms, each a different kind of sky, and a modulation that moves from a faint drift to a seasick sway.

Every algorithm shares one engine: a pair of dense reverb tanks, one for each side. What changes is what feeds them. Dark adds an octave below; Rise holds the reverb back and swells it in behind each note; Dream thickens the tank and can freeze what it hears into a pad; Rain scatters the sound through ten delay taps on its way in; Light sends the tail back through an octave above, for shimmer.

Change algorithm while a tail rings and Kumo crossfades between them. The tail carries on through the change.

Five minutes with Kumo

1. Put Kumo on an audio track, or on a return with its **Mix** at 100.
2. Play something with space in it: a few chords, a plucked line. Kumo opens on Kasumi, a Dream program.
3. Turn **Decay** for the length of the tail, and **Filter** for its brightness.
4. Try each algorithm along the **Algorithm** row. Watch the name above the fifth knob change: **X** does something different in each.
5. In Dream, play a chord and click **Latch**. Kumo listens for a moment, then holds the chord as a pad you can play over. Click again to let it go.
6. Turn **Stretch** slowly while a tail rings. Everything slows, darkens and bends in pitch.

> TIP
>
> On a return, set Mix to 100 so the return carries only the tail. On a track, the first half of Mix's travel adds the tail under a full-level dry sound; at the middle both are at full level.

The panel



Kumo on Kasumi, the program it opens with.

1	**Program**	The program's number and name, with its algorithm at the right. Click it for the program menu. Notes from the preset library (Saved, Deleted) show here for a few seconds.
2	**Arrows**	The previous and next sound: the factory programs, then your own presets, then any designer banks, round and round.
3	**Tone display**	The tail's spectrum glowing over the input's, with Filter's cutoff marked. See The display.
4	**Decay display**	The tail's decay drawn from your settings, and the real tail measured along it.
5	**Algorithm** Dark, Rise, Dream, Rain, Light	The kind of sky. Each changes what feeds the reverb, and what X does.
6	**Width** Narrow, Medium, Wide	How far apart the two sides of the tail are.

7	**Decay** 0.35 s to 25 s	The tail's length, as the time it takes to fall by 60 dB. Stretch lengthens it further.
8	**Filter** 700 Hz to 13 kHz	The tail's brightness: both the damping inside the reverb and a filter on what comes out of it.
9	**Depth** 0 to about ±2.5 semitones	How far the modulation bends the tail's pitch. Chorus in the first half; seasick at the top.
10	**Mix** 0 to 100 %	Dry to wet. The dry sound stays at full level up to the middle, where the tail reaches full level; past it, the dry sound fades out.
11	**X** 0 to 100	A different control in each algorithm: the octave below, the swell time, the pad's vibrato, the diffusion, or the shimmer. Its name is shown below it.
12	**Stretch** Off to 100	Slows the reverb's own clock: longer, darker tails, and a pitch bend while you turn it.
13	**Rate** 0.05 Hz to 6 Hz	The modulation's speed. The light beside it swings with the modulation.
14	**Wave** Sine, Warp, Sink, Square, Random	The modulation's shape.
15	**Pan** Left to right	A balance on the whole output. C is the centre.
16	**Trails** On or off	With Trails on, bypassing Kumo lets the tail finish instead of cutting it.
17	**Sustain / Latch** Held, or latched in Dream	Hold it to hold the tail. In Dream it is named Latch, and freezes the sound into a pad.
18	**Bypass**	Bypasses Kumo. It is the same switch as your host's bypass button for the plugin.
19	**Key, size and finish**	The licence key; the window size; the dark or pale finish.

The five skies

Each algorithm is a different way into the same pair of reverb tanks, and gives X its own job. The program display names the algorithm, and the label under X names what X does in it.

Dark

An octave below the input joins it on the way into the reverb, for weight: a cello under a guitar, a floor under a pad. **X** sets the octave's level, and the tone display names it, Octave below, with the amount. At 0 Dark is a plain, deep reverb.

Rise

Kumo listens for each new note, holds the reverb back while it starts, and swells the tail in behind it. The note speaks clearly; the space arrives after. **X** is the swell time, from a soft 80 milliseconds to four slow seconds. The decay display marks when the swell is full, and the display's corner shows the swell as it opens.

The input runs a few milliseconds behind the listening, so the reverb has already stepped back before an attack arrives.

Dream

A denser, smoother tank, with a pad you can freeze. Click **Latch**: Kumo listens for 0.4 seconds, then holds what it heard as a pad that never fades, while the reverb carries on around it. Play over it, change chords under it; click Latch again to let it go.

X is the pad's vibrato, a 5 Hz waver that sounds as if it was always in the sound. At 0 the pad is perfectly still.

Rain

Ten delay taps, from 37 to 727 milliseconds, carry the sound into the reverb, falling and fading as they go. With Width at Medium or Wide they cross from side to side. **X** is the diffusion: high, and the taps melt into the tail; low, and you hear each drop on its own, before the reverb takes it. The decay display draws the taps where they land.

Light

The tail goes round again an octave up: shimmer. **X** sets how much, from a faint sheen to a choir above the sound. A soft limit keeps the shimmer from running away, however long the decay. The tone display names the amount, Shimmer, octave up.

ALGORITHM	WHAT X DOES	RANGE
DARK	The level of the octave below	0 to 100 %
RISE	Swell time	80 ms to 4 s

ALGORITHM	WHAT X DOES	RANGE
DREAM	Vibrato on the latched pad	Still to a 5 Hz waver
RAIN	Diffusion of the taps	Separate drops to a smooth wash
LIGHT	Shimmer level	0 to 100 %

> **LEVEL**
> Long tails don't pile up. Past about five seconds of Decay, Kumo turns its input down as the decay grows, so the level stays even, and Sustain can hold a tail without it building.

Movement, Stretch and width

Modulation

Inside the tank, the modulation bends the tail's pitch a little, so a long tail moves instead of ringing. **Depth** sets how far: it rises gently, so the first half of its travel is chorus, and the top is a bend of about two and a half semitones. **Rate** sets the speed, from one cycle every twenty seconds to six a second. **Wave** sets the shape:

Sine	A smooth, even sway.
Warp	Lurches up in pitch, then settles: a warped record.
Sink	Sags down in pitch, then recovers: a tired tape.
Square	Jumps between two pitches.
Random	Wanders to a new pitch on each cycle.

Stretch

Kumo's reverb runs on its own clock, normally 32,000 times a second. Stretch slows that clock down to about a third. Everything inside slows with it: the decay grows up to nearly three times longer, the tail darkens as the clock loses its highest frequencies, and the grain of a slow digital machine comes through. The display's corner shows the decay time as you hear it, Stretch included, and the tone display shades what the slower clock can no longer reach.

Turn Stretch while a tail rings and its pitch bends with the clock, down as you turn up, up as you turn down.

Width

Narrow	Two identical reverbs, one for each side. A stereo sound keeps its own image; a mono one stays in the middle.
Medium	Halfway: the sides begin to differ.
Wide	A different tail on each side, as wide as the room.

Pan moves the whole output, dry and wet together, from left to right. It is a balance: in the centre, nothing changes.

Kumo works in mono, mono in and stereo out, or stereo. On a mono track in a host that allows it, mono to stereo keeps Kumo's width.

Sustain, Latch and the footswitches

Sustain

Hold **Sustain** and the tail holds too: in 0.6 seconds the decay rises to four minutes, as good as endless. Let go and it returns to your Decay over 1.2 seconds, and the held sound fades as it would have. The decay display reads Held, and the corner Sustain, while you hold it.

Sustain is a parameter, so your host can automate it: draw it on for a bar to hold one chord into the next.

Latch, in Dream

In Dream the same switch is named **Latch**, and stays down when you click it. Kumo listens for 0.4 seconds, then freezes what it heard into a pad that holds until you click again. The corner reads Pad held. X sets the pad's vibrato.

The pad is separate from the reverb: the tail carries on around it, so you can play into the space over a held chord.

Bypass and Trails

Bypass takes Kumo out, and lights while it is out. It is the plugin's own bypass, so your host's bypass button and this switch are one and the same. With **Trails** on (as Kumo starts), the tail rings on after bypass and finishes its thought; with it off, bypass cuts the tail at once.

The display



Kumo on Kirameki, the Light algorithm, while it plays: the shimmer building above the input's notes.

Tone

The left half shows the sound's spectrum, from low to high. The faint blue line is what goes in; the glowing shape is the tail. A dashed line marks Filter's cutoff. In Dark and Light the heading names the added octave and its level; with Stretch up, the band the slowed clock can't reach is shaded and marked Stretch.

Decay

The right half draws the tail's decay: its level, in decibels, over time. The line falls from the moment the sound stops, and the dot where it reaches −60 dB is the decay time. When you stop playing, Kumo measures the real tail and draws it falling along the line, so you can see the sound match the settings.

The display adds what each algorithm does: the swell time in Rise, the ten taps in Rain, and Held while Sustain or Latch holds the tail. The corner shows the decay as you hear it, Stretch included, and the width.



The pale finish, on Rise: the swell marked near the start of the decay.

Your controller

MIDI learn

The knobs, keys and menus on Kumo's panel can be moved by a knob or fader on your MIDI controller. Right-click it (Control-click on a Mac), choose Learn MIDI control, and move the hardware. While Kumo waits, a thin outline breathes round the control (on a knob, its value reads MOVE A CONTROL); once learned, the controller's number shows there for a moment.

Learn MIDI control	Waits for the next controller (CC) to arrive, on any channel. While it waits, the menu reads Waiting for a MIDI control… (click to stop).
Forget CC 74	Shown when the control has one: lets that controller go.
Knob	Shown when the control has one: what kind of knob it is, as learning found it (ticked). Choose another if it guessed wrong: Ordinary knob, or one of three kinds of Endless knob.
Use these for every new Kumo	Keeps the controllers learned now as the starting set for every Kumo you add from now on. Projects keep their own. Choose it with none learned to start new ones with none again.
Forget every MIDI control	Lets every learned controller go, on every control.

A controller moves one control, and a control answers one controller: learning a controller already in use moves it to the new control. Its whole travel, 0 to 127, sweeps the control's whole travel, as the mouse does; a switch turns on from the middle up, and a choice steps evenly through its choices. The moves reach your host as the mouse's do, so it writes them as automation and undo takes them back.

Controls never jump. An ordinary knob sends where it is, so when it and the control disagree (a project just opened, a new program, the mouse moved the control) the control waits until the knob reaches it, then follows; meanwhile its value reads TURN UP or TURN DOWN, with a steady outline round it. An endless knob, one that turns round and round, sends only a little up or a little down, so the control moves on from wherever it is. Learning tells the two apart from the first few turns, so turn the knob a little way after it is learned before you judge it.

The controllers learned are kept with the project; a project saved before Kumo had MIDI learn opens with none. Notes, pitch bend, aftertouch, bank select and the like are never learned.

The starting set is a small file, `%APPDATA%\Denki Digital\Kumo\midi-map.json` on Windows and `~/Library/Application Support/Denki Digital/Kumo/midi-map.json` on a Mac.

Kumo is an effect, so your controller has to be sent to it. In Live, add a MIDI track, set its MIDI To to Kumo's track and choose Kumo in the menu below, then arm the MIDI track or set it to monitor. In the standalone, tick your controller under Options, then Audio/MIDI Settings…, among its MIDI inputs. Kumo only reads the MIDI it is sent: notes pass by unheard, and its sound is the same with MIDI as without.

In Logic Pro, Kumo's Audio Unit is the audio effect it has always been, and takes no MIDI, so it has no Learn MIDI control there: move its controls with Logic's own controller assignments instead (choose a control, then Learn in Logic's Controller Assignments).

> HOSTS
>
> A knob your host has kept for itself (Live's MIDI Map) stays your host's: free it there, or learn another.

Factory programs

Fourteen starting points. The first three are the classic skies: a dream, a rain and a shimmer.

01 Kasumi
Dream. Mist: a soft, wide tail, ready to latch a pad.

02 Shigure
Rain. A passing shower: taps falling into a medium tail.

03 Kirameki
Light. A glint: shimmer over a long, bright tail.

04 Undertow
Dark. A long, dark tail with the octave below well up, sagging on Sink.

05 Slow Bloom
Rise. Each note speaks, then the space opens behind it.

06 Warped Tape
Dream, stretched a little. Deep Warp modulation, like a worn tape.

07 Glass Choir
Light. A very long, bright tail with the shimmer high.

08 Drip Feed
Rain with the diffusion right down: separate drops, wandering at random.

09 Deep Water
Dark and heavily stretched. Long, low and a long way down.

10 Seasick
Dream on a Square wave at full sway. Medium width.

11 Oboro
Dream at full Stretch: a hazy moon, soft edges, no centre.

12 Small Room
Rain, short and narrow, fully diffused: a small, close space.

13 Bowed Swells
Rise with a long swell, sagging on Sink, mostly wet. Notes become bowed.

14 Vinyl Halo
Light, a little stretched, on Warp: a shimmer that wobbles like a record.

Ways to start

PADS AND CHORDS	Kasumi, then Latch a chord and play over it. Or Glass Choir for air above them.
GUITAR AND PIANO	Slow Bloom, or Bowed Swells for a sound with no attack.
DRUMS AND PERCUSSION	Small Room for a close space; Shigure or Drip Feed for echoes that fall.
BASS AND LOW SOUNDS	Lower Filter, keep Width at Narrow or Medium, and keep Dark's octave modest.
SOUND DESIGN	Oboro and Deep Water, then turn Stretch while the tail rings.

Programs and your presets

Kumo keeps two kinds of sound: the factory programs it ships with, which never change, and your own presets, which are plain text files you can keep, copy and share.

Click the program name at the top of the panel to open the program menu. The arrows step through the sounds in turn: the factory programs, then your own, then any designer banks.

The program menu

Factory programs	Listed first. Choosing one replaces the current sound; your changes to it are kept with the project until you choose another.
User	Your own presets, grouped by the category you gave them.
Designer	Banks of presets from other sound designers, if you have added any. They load like your own, but can't be overwritten: save a changed one under a new name.
Save	Saves the current sound over your own preset of the same name. Only offered while one of your own is loaded.
Save As...	Saves the current sound as a new preset, with a name, a category and an author.
Rename...	Renames your own preset, and its file with it.
Delete...	Deletes your own preset. Its file goes, so this can't be undone.
Import Preset...	Adds a preset file someone has sent you to your own.
Export Preset...	Saves a copy of your own preset wherever you choose, ready to send.
Open Preset Folder	Shows the folder in File Explorer, or in the Finder on a Mac.

Where they live

Your presets are in `Documents/Denki Digital/Kumo/Presets`, one `.txt` file each, in your Documents folder on Windows and on a Mac alike. Designer banks go beside them, in `Documents/Denki Digital/Kumo/Banks`, one folder per bank. The files are readable text, so a preset can be sent in an email as easily as attached. Back the folder up with your music.

Your host saves the whole sound with every project as well, so a project always opens as you left it, whether or not the preset is still in the folder.

Installing and unlocking

Installing on Windows

1. **Close your music software.** Windows can't replace a plugin that is in use.
2. Run `Kumo-1.1.0-Windows.exe`. Windows asks whether to allow it to make changes; the publisher should read Denki Digital Limited. If it says Unknown publisher, don't run it, and write to **hello@denkidigital.com**.
3. **If Windows shows "Windows protected your PC",** choose More info, check the publisher, then Run anyway. Windows says this about new releases while it learns to recognise them.
4. **Choose what to install.** The VST3 plugin always installs; the standalone application is ticked too.
5. **Open your music software.** Kumo is under Denki Digital, listed as Kumo Reverb. If it isn't there, ask your host to rescan its plugins.

PLUGIN	`C:\Program Files\Common Files\VST3\Kumo.vst3`
STANDALONE	`C:\Program Files\Denki Digital\Kumo`, and in the Start menu under Denki Digital
THIS MANUAL	`Kumo Manual.pdf` beside the standalone, and in the Start menu under Denki Digital Manuals
YOUR PRESETS	`Documents/Denki Digital/Kumo`
LICENCES	`Documents/Denki Digital/Licences`

Installing on a Mac

Kumo runs on macOS 12 or later, Apple silicon or Intel.

1. **Close your music software.**
2. Open `Kumo-1.1.0-Mac.pkg`. It is signed by Denki Digital Limited and notarised by Apple, so it opens without a warning. If your Mac says it can't check it for malicious software, don't open it, and write to **hello@denkidigital.com**.
3. **Agree to the licence, and choose what to install.** The VST3 plugin, the Audio Unit and the standalone application are all ticked; Customise leaves any out. Your Mac asks for your password, as it does for any plugin installed for everyone on the computer.
4. **Open your music software.** Kumo is under Denki Digital, listed as Kumo Reverb: Logic Pro and GarageBand find the Audio Unit as they start, and other hosts may need to rescan their plugins.

VST3 PLUGIN	`/Library/Audio/Plug-Ins/VST3/Kumo.vst3`
AUDIO UNIT	`/Library/Audio/Plug-Ins/Components/Kumo.component`
STANDALONE	`/Applications/Denki Digital/Kumo/Kumo.app`
THIS MANUAL	`Kumo Manual.pdf` beside the standalone, whichever parts you install, and on www.denkidigital.com, from Kumo's page
YOUR PRESETS	`Documents/Denki Digital/Kumo`
LICENCES	`Documents/Denki Digital/Licences`

Unlocking

Your licence comes with your order, in the email and on the order page: a few lines of text that begin Denki Digital licence and end with a signature. It carries your name, and nothing in it needs the internet: no account and no activation, now or later.

1. **Copy all of it,** from Denki Digital licence to the end of the signature line. Then click the small key at the panel's right-hand edge and choose Paste licence from the clipboard.
2. **Or keep it as a file:** paste it into a plain text file (ending `.txt` or `.denkilicence`) and drop that onto the panel, or choose Load licence file... from the same key.
3. **That's all.** The key's menu now reads Licensed to your name, and every instrument the licence covers unlocks at once, in every open project.

Before it is unlocked, Kumo works fully, with no time limit, and rests for two seconds once a minute: the sound fades out and back. A small Demo notice on the panel says so, with Buy and Load licence; its cross closes it until the panel is next opened. The key's menu also shows the licences folder, and the notices for the fonts and code inside.

The window

The window-size control, the square of corner marks at the panel's right-hand edge, sets the window's size, from 60 % to 160 % of its natural size, with Fit to screen for the largest that fits. You can also drag the window's corner. The size is kept with your project, and the window never opens bigger than the screen it is on. In the standalone application, Full screen in the same menu, or the F11 key (Control-Cmd-F on a Mac), fills the whole screen with the panel; the same key or Esc brings the window back.

Below it, the half-filled circle switches Kumo between its dark finish and a pale one. Kumo remembers your choice for the next time it opens, and each project keeps its own.

On a Mac: where this manual says Ctrl, press Cmd; where it says Alt, press Option; and a right-click is a Control-click, or a two-finger click on a trackpad.

Ableton Live on Windows: if the window looks soft, right-click the title of Kumo's device in Live's Device View, untick Auto-Scale Plug-In Window, then open the window again. Kumo scales itself to your screen and stays sharp at any size; Live's auto-scaling stretches a smaller picture instead.

Updating and moving

Run a newer installer over the old one; your presets, licence and projects are left as they are. On a new computer, Windows or Mac, install, then copy `Documents/Denki Digital` across: your licences and presets come with it. To uninstall on Windows, open Windows Settings, then Apps, then Installed apps, and choose Kumo. On a Mac, drag the plugin files and the standalone's folder, where the table above shows them, to the Bin. Either way, your files in Documents stay where they are.

The full guide, with each host's rescan menu, is at **www.denkidigital.com/support/install**.

拾壱 KUMO

Technical

TYPE	Stereo ambient reverb
ALGORITHMS	Dark, Rise, Dream, Rain, Light
CONTROLS	Decay (0.35 to 25 s), Filter (700 Hz to 13 kHz), Depth, Mix, X, Stretch, Rate (0.05 to 6 Hz), Wave, Pan, Width, Sustain, Trails
FACTORY PROGRAMS	14
CHANNELS	Mono, mono to stereo, stereo
MIDI	Controllers (CC) on any channel, for MIDI learn on the panel's controls: in the VST3 plugin and the standalone; the Audio Unit takes none
FORMAT	VST3 plugin and standalone application; on a Mac also an Audio Unit
SYSTEM	Windows 10 or 11, 64-bit; or macOS 12 or later, Apple silicon or Intel
VERSION	1.1.0

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Notices

Kumo is © 2026 Denki Digital Limited. Its sounds, programs, panel and this manual are the studio's own.

Using Kumo is governed by Denki Digital's end-user licence agreement, which the installer shows before it installs, and which is at **www.denkidigital.com/licence**. In short: use it on any of your own computers, for any music; what you make with it is yours; keep your licence file to yourself; every update is free.

Its panel is set in Rajdhani and Inter, both under the SIL Open Font License 1.1, and it carries code from the open-source projects listed in its notices: choose Third-party notices… from the key's menu, or open `THIRD-PARTY-NOTICES.txt` in the `Licences` folder beside the standalone.

VST is a trademark of Steinberg Media Technologies GmbH, registered in Europe and other countries. Windows is a trademark of the Microsoft group of companies. Apple, Mac, macOS, Finder, Logic Pro, MainStage and GarageBand are trademarks of Apple Inc., registered in the U.S. and other countries. Other names of music software in this manual belong to their owners and are used only to say what Kumo works with.

雲

電 DENKI DIGITAL

Inspired by Tokyo. Built in Aberdeen.

東京に着想を得て、アバディーンで作る。

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