

WaveSkanner

Windowed audio player with time-stretch, effects and MIDI sync.

01 Overview

WaveSkanner loops an audio file inside a window that you move and animate in real time. It is not a granular synth: it plays the sound as recorded, with a time-stretch that keeps pitch independent of speed.

Three elements on the waveform

■ Head (HEAD)

The point in the file around which everything happens. Orange line.

■ Window 1 (W1)

The zone actually played around the head: forward, reverse or ping-pong. Green zone.

■ Window 2 (W2)

A wider zone in which W1 can move on its own. Dashed frame.

Signal chain

The sound always goes through the effects in this order. Two sine LFOs modulate the filter cutoff and the volume.

Playback

head · W1 ·
W2

Drive

auto level

Filter

4 types ·
LFO

Tape delay

wow ·
feedback

Reverb

room →
shimmer

Output

volume ·
LFO

This manual names every control as it appears on the instrument, for example

PREVIEW or **SYNC**.

02 The instrument

One touchscreen, four encoders, four buttons.



CONTROL	FUNCTION
Screen	7-inch touchscreen (1024 × 600): waveform, settings and menus. See chapter 03.
Encoders 1 to 4	Each one sets the parameter shown right above it, depending on the current page.
PLAY	Starts or stops playback. With Shift: preview of the original.
PAGE	Goes to the next page. With Shift: previous page.
SYNC	Turns tempo sync on or off. With Shift: tap tempo.
SHIFT	Gives the other controls their second function.

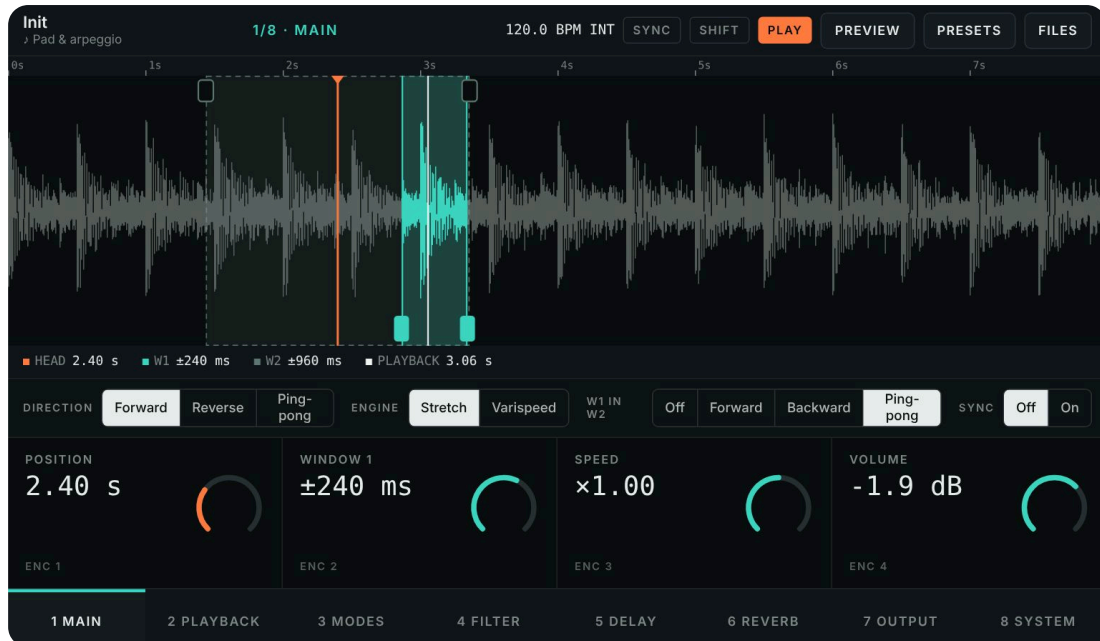
Status lights

LIGHT	MEANING
Above PLAY	On (orange) during playback.
Above SYNC	Blinks (green) on every beat when sync is on.
Above SHIFT	On (white) when Shift is active.

No push switch in the encoders. Everything is done by turning. Precision comes from acceleration and Shift (chapter 04); a double-tap on the screen resets a value.

03 The screen

Five bands, top to bottom.



1. **Top bar.** Preset name (a star appears as soon as it is modified), loaded sound, page, tempo and its source (INT or MIDI), **SYNC** **SHIFT** **PLAY** indicators, then **PREVIEW** **PRESETS** **FILES**.
2. **Waveform.** The whole file with the head (orange), W1 (green), W2 (dashed), the current play position (white) and, during preview, the original position (yellow). Below: HEAD, W1, W2 and PLAYBACK in time.
3. **Mode row, by touch.** DIRECTION, ENGINE, W1 IN W2 and SYNC. On the FILTER page: FILTER TYPE. On the SYSTEM page: clock status and MIDI START/STOP.
4. **Four tiles**, one per encoder, right above it: name, value and position ring. For cutoff and volume, the ring follows the LFO; a dot keeps the set value.
5. **Tabs** for the 8 pages: one touch jumps straight to a page.

Touch gestures

GESTURE	EFFECT
Touch or drag on the waveform	Places the play head.
Drag a solid handle (bottom)	Sets the width of W1.
Drag a hollow handle (top)	Sets the width of W2.
Drag vertically on a tile	Changes its value, like the encoder.
Touch a selector tile	Steps to the next choice (Direction, Engine...).
Double-tap a tile	Restores the default value.

04 Encoders and shortcuts

The encoders adapt to rotation speed. Turned slowly, each detent makes a small, precise step; turned quickly, steps up to 25 times larger sweep the whole range in one gesture.

Slow rotation

10 detents → 1 % of the range

Fast rotation

10 detents → about 21 % of the range

Measured on the Position parameter.

Special steps

- **Pitch:** whole semitones. With Shift: hundredths of a semitone.
- **Tempo:** 0.1 BPM, accelerated when turned fast. With Shift: 0.01 BPM.
- **Selectors** (Direction, Reverb type, divisions...): one choice every two detents.

All shortcuts

CONTROL	EFFECT
Turn an encoder	Adjust with acceleration.
SHIFT + turn	Extra-fine adjustment. The FINE badge appears in the tiles.
PLAY	Starts or stops playback. During a preview: stops the preview and restarts playback.
SHIFT + PLAY	Preview of the original, from start to end.
PAGE	Next page.
SHIFT + PAGE	Previous page.
SYNC	Turns tempo sync on or off.
SHIFT + SYNC	Tap tempo.
Double-tap a tile	Default value of the parameter.

05 The 8 pages

The PAGE button or the tabs change the page. Basic rule: a parameter and its modulation are always on the same page.

1 MAIN performance			
ENC 1 Position	ENC 2 Window 1	ENC 3 Speed / Pass	ENC 4 Volume
2 PLAYBACK windows			
ENC 1 Window 2	ENC 2 Pitch	ENC 3 W1 motion	ENC 4 W1 move rate / cycle
3 MODES playback modes			
ENC 1 Direction	ENC 2 Sweep	ENC 3 Engine	ENC 4 Back & forth
4 FILTER + type by touch			
ENC 1 Cutoff	ENC 2 Reso	ENC 3 Cutoff LFO rate	ENC 4 Cutoff LFO depth
5 DELAY tape delay			
ENC 1 Delay time	ENC 2 Feedback	ENC 3 Wow	ENC 4 Delay mix
6 REVERB room → shimmer			
ENC 1 Reverb type	ENC 2 Size	ENC 3 Shimmer	ENC 4 Reverb mix
7 OUTPUT output			
ENC 1 Drive	ENC 2 Volume	ENC 3 Volume LFO rate	ENC 4 Volume LFO depth
8 SYSTEM sync			
ENC 1 MIDI start/stop	ENC 2 Sync	ENC 3 Tempo	ENC 4 Sync offset

With sync on, speed settings become musical divisions: Speed becomes Pass, W1 move rate becomes W1 move cycle, and both LFO rates also switch to divisions (chapter 07).

06 Parameters in detail

Playback · pages 1 to 3

Position	Places the head in the file.
Window 1 · 2	Half-width of W1 and W2, from a few ms to All (the whole file). $W2 \geq W1$. Near an edge, the windows slide inward.
Speed	From $\times 0$ (frozen sound) to $\times 4$. With sync: Pass, the duration of one pass through W1.
Pitch	-24 to $+24$ semitones, independent of speed in Stretch.
W1 motion	Off, Forward, Backward (cycle with a jump) or Ping-pong.
W1 move rate	Speed of W1's motion in Hz; with sync, W1 move cycle.
Direction	Playback inside W1: Forward, Reverse or Ping-pong.
Sweep	Smooth rounds off direction changes; Hard makes them sharp.
Engine	Stretch: independent pitch. Varispeed: speed and pitch linked, like tape.
Back & forth	Smooth or Hard for W1's back-and-forth inside W2.

Effects · pages 4 to 7

Filter type	Low-pass, High-pass, Band-pass, Notch.
Cutoff · Reso	Cutoff from 40 Hz to 18 kHz, resonance. 12 dB filter.
Cutoff LFO	Sine from 0.02 to 20 Hz, depth up to ± 4 octaves.
Delay time	From 20 ms to 2 s.
Feedback · Wow	Echo feedback; tape-style instability.
Reverb type	Room, Plate, Hall, Shimmer (octave up in the loop).
Size · Shimmer	Reverb size; shimmer intensity.
Mix	Delay and reverb amount.
Drive	Saturation, level compensated automatically.
Volume LFO	Tremolo; at 100 %, the volume dips down to silence.

Good to know. In High-pass with the cutoff all the way up, almost everything is cut: lower the cutoff to hear the sound again. In Varispeed with sync on, the division sets the speed, so pitch follows.

07 Sync and MIDI clock

With **SYNC** on, playback inside W1, W1's motion inside W2 and both LFOs lock to the tempo and always land on the bar, even while you turn the encoders.

Where the tempo comes from

1. **Internal:** Tempo encoder (SYSTEM page), from 40 to 240 BPM.
2. **Tap tempo:** **SHIFT** + **SYNC**, or touch the Tempo tile, at least two taps.
3. **MIDI clock:** as soon as it arrives, it takes over. The top bar shows BPM MIDI.

SYSTEM page

- **MIDI start/stop:** Follow obeys Start, Stop and Continue; Ignore keeps only the tempo.
- **Sync:** same as the SYNC button.
- **Tempo:** internal tempo.
- **Sync offset:** latency compensation, 0 to 200 ms. The engine plays ahead by this amount so the sound comes out together with your other gear.

Musical divisions

From 16 bars to 1/32, with dotted values (1/4., 1/8.) and triplets (1/4T, 1/8T). In Ping-pong, each way lasts one division.

Setting Sync offset. Fine-tune it by ear with a loop next to a drum machine. Tempo, Sync offset and MIDI start/stop are not saved in presets.

08 Sounds and files

Loading a sound

1. Touch **FILES**.
2. Touch a name to load it, or **IMPORT A FILE...**. The ► button auditions a sound without loading it.

WAV, MP3, OGG and FLAC, mono or stereo. Recommended: WAV 16 or 24-bit, 44.1 or 48 kHz.

Previewing the original

SHIFT + **PLAY**, or **PREVIEW**, plays the sound as is, from start to end, with no windows or effects. Playback stops, the PREVIEW button turns yellow and a yellow cursor follows the original on the waveform. Only one mode runs at a time: playback, preview or stop.

Touching the waveform moves the head without interrupting the preview. To stop: the same control, or **PLAY**, which restarts playback.

Built-in sounds

Pad & arpeggio · FM bells · Drum loop · Synth voice · Spoken voice · High spoken voice · Whispers · Choir · Drone · Bass riff. The voices are synthesized: the rhythm and intonation of a sentence, without real words.

09 Presets

40 factory presets in two groups, FACTORY and VOICES, plus your own. A selection:

PRESET	SOUND	IDEA
Slow ice	FM bells	Very slow playback, +12 semitones, shimmer, slow tremolo
Worn tape	Drum loop	Varispeed in reverse, heavy wow, echo
Sweep	Synth voice	Ping-pong inside W1, W1 cycling forward
Freeze	Drone	Speed 0, W1 drifting inside W2
Rust	Bass riff	Drive, modulated resonant filter, short loop
AM radio · Telephone	Spoken voices	Band-pass, light saturation
Megaphone · Robot	Spoken voices	Heavy saturation, echo; very short feedback delay
Celestial choir	Choir	Slow playback, shimmer
Frozen choir	Choir	Speed 0, W1 drifting, large hall
Glass harp	FM bells	Slow, +7 semitones, shimmer
Dub echo	Drum loop	Band-pass, long tape echo with heavy feedback
Acid wobble	Bass riff	Resonant filter swept by the LFO, drive
Lo-fi beat	Drum loop	Varispeed, saturation, dark filter, wow
Whisper cloud	Whispers	Short moving window, shimmer, long echo

Saving a preset

1. Touch **PRESETS**.
2. Type a name in New preset name.
3. Leave Include sound ticked to keep the sound with the preset.
4. Touch **SAVE**: it appears under USER PRESETS.

Good to know

- A star next to the name means the preset was modified.
- Tempo, volume, Sync offset and MIDI start/stop are not saved in presets.