

SOUND MACHINE v10

User Manual — Working Copy

March 29, 2026 build

Single-file browser music workstation

This draft explains what Sound Machine does, how to use each section, and the most practical workflows for making loops, tracks, stems, and shareable sketches.

1. What Sound Machine is

Sound Machine is a browser-based music workstation for fast sketching, live play, loop building, and quick export. It combines an FM synth, arpeggiator, Melody Grid, drum machine, bass sequencer, arrangement banks, mixer, visualizer, recording, project save/load, share links, MIDI input, and multiple export options in one file.

Best uses at a glance

Use case	How Sound Machine helps
Idea sketching	Start from a synth patch or song starter, then shape a loop in seconds.
Background music	Build short beds for videos, games, streams, menus, and ambient scenes.
Beat making	Layer drums, bass, and Melody Grid notes inside one tempo-synced workspace.
Retro / chiptune flavor	Use square-wave style patches and premium chiptune/gameboy drum kits.
Live performance toy	Play notes from Q–P, a MIDI keyboard, the canvas, or the arpeggiator.
Arrangement sketching	Store sections in Banks A–D and chain them into a simple song form.
Export tool	Render WAV, OGG, stems, or MIDI when PRO is unlocked.

2. Quick start

Fastest first sound

1. Open the file in a browser and press **START** to initialize the audio engine.
2. Choose a Song Starter from the **PRESET** menu for a ready-made groove, or choose a Synth Patch for sound design only.
3. Press **Space** to start or stop transport after the page has focus.
4. Tap **Q** through **P** on the keyboard to play notes, or click the canvas to trigger notes from the current scale.

Important

Recording and export need the machine to be started first.

The bass channel strip becomes active after audio initialization.

Arpeggiator and Melody Grid are mutually exclusive playback modes.

Three easy ways to begin

If you want...	Do this	Good for
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Instant loop	Load a Song Starter preset.	Fast demos, content music, inspiration
Custom synth sound	Load a Synth Patch and tweak oscillator / filter / FX.	Sound design, leads, pads, plucks
Structured section writing	Open Arrangement, save patterns to banks, then build a chain.	Intro/verse/drop sketches

3. Interface map

The screen is split between a visualizer canvas on top and the control surface along the bottom.

Area	Main controls	Why it matters
Top bar	Master volume, theme, viz mode, share, record, project load/save, exports, PRO, MIDI, fullscreen, START	Global transport, utility, and output tools
Preset row	Song Starters, Synth Patches, save/delete user presets, tap tempo, undo/redo, mono/poly, distortion	Fast setup and global mode switching
Oscillator panel	Carrier/modulator waveforms, FM depth, harmonicity, LFO rate/depth, distortion amount	Primary synth character
Envelope panel	Attack, decay, sustain, release, ADSR display	Shape of each note
Filter / FX panel	Cutoff, resonance, reverb, delay	Tone color and space
Arpeggiator panel	On/off, BPM, pattern, scale, key, octave	Hands-free melodic motion
XY Pad	X = cutoff, Y = depth	Quick expressive control
Melody Grid	Note entry, editing, transforms, scale snap	Sequenced melody writing
Keyboard panel	Q–P note mapping display	Visual guide for typing notes
Mixer row	Per-channel volume, pan, mute, solo	Balance synth, drums, and bass
Bass panel	16-step bass sequencer, note/oct selectors, bass FX, patterns	Low-end groove layer
Arrangement panel	Banks A–D, copy, clear, chain list, chain playback	Simple song sections
Drum panel	Drum grid, kits, patterns, per-voice	Rhythm engine

levels, drum FX, random/swing

4. Ways to make sound

A. Play it live

- Press Q W E R T Y U I O P to play chromatic notes from the current root note.
- Press Space to start or stop playback.
- Connect a MIDI controller to trigger note-on messages directly.
- Click on the visualizer canvas to fire notes from the current scale based on distance from center.
- Touching the canvas on mobile triggers the same click behavior.

B. Use the arpeggiator

- Turn ARP on and choose UP, DN, U/D, or RND mode.
- Set scale, key, octave, and BPM from the Arpeggiator panel.
- Use this mode when you want immediate melodic motion without drawing notes.

C. Use the Melody Grid

The Melody Grid is the detailed melodic sequencer. In this build it is a PRO feature.

- Click a cell to place a note.
- Click an existing note or its visible tail to erase it.
- Drag horizontally on the same row to extend duration.
- Shift-click an existing note to cycle velocity.
- Alt-click an existing note to cycle playback chance: 100%, 50%, 25%, then back to 100%.
- Right-click an existing note to cycle velocity.
- Use SCALE to dim non-scale rows and lock note entry to scale-friendly positions.

D. Add drums

- Open the Drum Machine panel and toggle DRUMS on.
- Click cells in the 16-step grid for kick, snare, hats, clap, and tom.
- Use PATTERNS to load a ready-made groove.
- Use RANDOM for quick inspiration and SWING to add shuffle to odd 16th notes.
- Adjust per-voice levels beside the grid.
- Shape the bus with drum volume, reverb, delay, delay feedback, distortion, and cutoff.

E. Add bass

- Open the Bass Line panel and toggle BASS on.
- Turn individual steps on or off.
- Pick the note and octave for each step.
- Choose SAW, SQR, TRI, or SIN wave shape.
- Use RANDOM or load a bass pattern for faster results.
- Shape the bass with volume, cutoff, resonance, distortion, glide, and delay.

5. Presets and starter workflows

The preset menu has two distinct roles.

Preset type	What it changes	Examples
Song Starters	Synth settings, tempo, drums, bass, and Melody Grid data when included	Chill Lo-fi Beat, Retro Adventure, Dark Ambient, Chiptune Boss
Synth Patches	Synth settings only	Blade Runner, Crystal Bell, Acid Squelch, Techno Stab
User Presets	Saved copies of your current synth control state	Any custom patch you save yourself

Suggested workflows

- For a fast content cue: load a Song Starter, mute one layer you do not need, then export a 4-bar WAV.
- For sound design: load a Synth Patch, dial in oscillator/filter/FX, save a user preset, and keep writing later.
- For beat-first writing: randomize drums, randomize bass, then build the melody last.
- For arrangement-first writing: create a strong Bank A, duplicate or copy it into another bank, edit the variation, then chain them.

6. Synth controls

The synth is an FM voice with mono and poly modes plus master-side delay, distortion, reverb, filtering, and LFO movement.

Control group	What it does	When to use it
Oscillator / Modulation	Wave shapes, FM depth, harmonicity	Change timbre quickly: soft pads, buzzy leads, metallic bells
Envelope	Attack, decay, sustain, release	Make plucks, stabs, swells, drones
Filter / FX	Cutoff, resonance, reverb, delay	Brighten, darken, widen, or smear the synth
LFO	Rate and depth	Add wobble, pulse, animated motion
MONO / POLY	Switch between single voice and 6-note polyphony	MONO for bass/lead feel; POLY for chords and pads
DIST toggle + Dist amount	Turn synth distortion on or off and set amount	Aggression, grit, saturation

7. Melody Grid guide

The Melody Grid covers two octaves of note rows and 16 time steps. It stores note objects, not just on/off switches, so each note can carry velocity, duration, chance, and ratchet data.

- Use CLEAR to wipe the whole grid.
- Use ◀ and ▶ to shift the whole pattern left or right.
- Use ▼ and ▲ to transpose all rows down or up.

- Use RND to generate a scale-aware starting phrase.
- Use REV to reverse the grid.
- Use VAR to mutate the current pattern into a close variation.
- Use DUP to copy the current pattern into the next arrangement bank.
- During playback, the current step is highlighted across the grid.

Editing gestures

Click empty cell: place note

Click note or note tail: erase

Drag right on same row: extend duration

Shift-click note: cycle velocity

Alt-click note: cycle chance

Right-click note: cycle velocity

Scale Snap: dim and disable out-of-scale rows

8. Drum machine guide

The drum engine has six voices: kick, snare, closed hat, open hat, clap, and tom.

- 808 is the base kit in the current build.
- Premium kits are labeled PRO in the kit menu.
- Pattern presets let you jump into styles like Four on Floor, Hip Hop, Trap, DnB, House, Techno, Lo-Fi, and more.
- Randomize can generate usable starter beats very quickly.
- Swing adds a small delay to odd 16th notes for bounce.
- Drum mute/solo is available from the mixer row.

9. Bass line guide

The bass line is a 16-step monosynth sequencer with per-step note and octave choice.

- Bass note values follow the current key only if you choose them that way; they are not forced.
- Use presets like Octave Pulse, Walking, Acid, Sub Bass, House, and DnB as quick templates.
- Glide is useful for acid and legato bass motion.
- The bass mixer channel is enabled after the audio engine is initialized.

10. Arrangement and section building

Arrangement is built around Banks A–D plus a chain list.

5. Build a pattern in the live workspace.
6. Click another bank or use DUP / COPY so the current state is saved into a bank snapshot.

7. Edit the next bank into a variation.
8. Use + to add banks to the chain.
9. Use CHAIN to cycle through sections, one bar per slot.
10. Export a normal loop or export the full chain when prompted during WAV export.

Arrangement action	What it does
Switch bank	Saves current state, then loads the selected bank if it has data.
COPY	Duplicates the current bank into another bank.
CLR BANK	Clears Melody Grid, drums, and bass in the current bank.
+ / -	Add or remove bank letters from the chain.
CHAIN	Starts or stops automatic section playback.
Click chain slot while CHAIN is running	Jump to that section immediately.

11. Recording, saving, sharing, and exporting

Recording

- REC starts recording the machine output to a file.
- While recording, the REC button becomes a pause/resume control.
- The square stop button ends the recording.
- Paused recording mutes the output path so silence is not recorded during the pause.

Project save/load

- PROJ saves the current project state as a JSON file.
- LOAD restores a saved project from JSON.
- Project state includes synth parameters, Melody Grid, drums, bass, arrangement chain, and mixer settings.

Share link

- SHARE copies a URL hash containing the current synth parameter state.
- This is best for patch sharing and lightweight setup sharing, not full projects.

Exports

Export	What it produces	Notes
WAV PRO	Offline-rendered audio file	Can export a fixed bar count, or the whole arrangement chain if present
OGG PRO	Compressed audio export	Falls back to WAV if the browser cannot encode OGG
STEMS PRO	Separate WAV downloads for active instrument groups	Useful for remixing or external mixing
MIDI PRO	Standard MIDI file	Includes tempo track and note data for

12. Mixer and visualizer

- Master VOL changes overall level before the limiter.
- The mixer row lets you set synth, drums, and bass volume and pan.
- M and S buttons provide mute and solo per channel.
- Theme changes the visual color palette.
- Visualization modes are RADIAL, BARS, WAVEFORM, PARTICLES, SPECTRUM, LISSAJOUS, and TUNNEL.
- Fullscreen expands the experience for live play or visual display.

13. Free vs. PRO in this build

The current build visually labels premium features so the locked parts feel intentional instead of surprising.

Always available	PRO-labeled in this build
Visualizer and theme switching	Melody Grid editing and sequencing
Song Starters and factory synth patches	WAV export
Tap tempo	OGG export
Drum and bass sequencing basics	Stems export
Project save/load	MIDI export
User synth presets	Chain export
Keyboard and MIDI note play	Premium drum kits

14. Mobile and touch notes

- The mobile CSS makes controls taller, Melody Grid cells larger, and the XY pad taller on narrow screens.
- Canvas touch maps to click behavior.
- The interface is usable on phones, but it still works best in landscape orientation with enough vertical space.

15. Practical recipes

Make a game menu loop

11. Load Dark Ambient or Cinematic Bed.
12. Lower drums or mute them completely.
13. Use Arrangement banks for two subtle variations.
14. Export 4 or 8 bars as WAV.

Make a retro boss loop

15. Load Chiptune Boss.
16. Switch to a premium retro drum kit if PRO is unlocked.
17. Duplicate the pattern to a second bank and raise energy with VAR or transpose.
18. Export the full chain.

Make a beat for social content

19. Start with Chill Lo-fi Beat or Trap Minimal.
20. Use the mixer to simplify the arrangement.
21. Record a live pass with keyboard notes over the loop, or export stems for external mixing.

Design a synth patch

22. Pick a factory synth patch as a base.
23. Adjust oscillator, modulation, envelope, filter, and FX.
24. Save it as a user preset and share the parameter URL.

16. Troubleshooting

Issue	Likely fix
No sound	Press START first so the audio engine initializes, then check master volume and transport state.
Bass controls look disabled	Initialize audio with START; the bass channel strip is enabled when the bass synth is created.
Export says to start first	WAV, OGG, and stems need the audio engine initialized. Press START once.
A feature says PRO	Unlock PRO to use Melody Grid editing, premium kits, and export tools.
MIDI status shows --	Make sure the browser supports Web MIDI and that a controller is connected.
Melody Grid does not play	Turn Melody Grid ON and note that it disables the arpeggiator while active.
Chain does nothing	Add at least one bank to the chain before pressing CHAIN.

Working-copy note

This manual is written from the current March 29, 2026 almost-final HTML build.

It is meant to be edited as the product changes.

Good next revisions would be screenshots, a one-page quick start, and a dedicated PRO feature appendix.