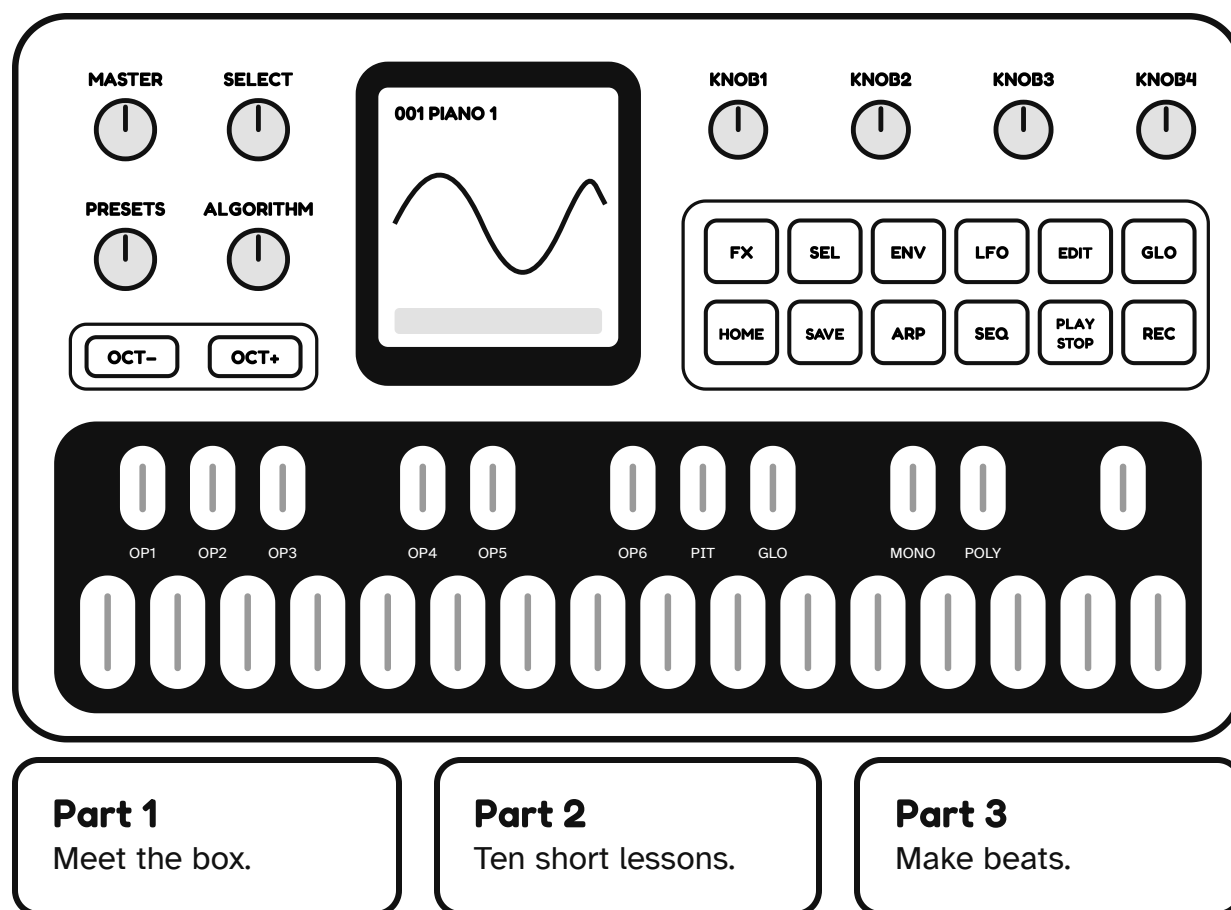


M-VAVE FM-1 · POCKET SYNTHESIZER

The FM-1 Easy Guide

Every button in plain words. First sounds, then your first loop, then simple beats. **No music knowledge needed.**



Second edition, v2.4.0. Made from the FM-1 manual and M-VAVE's software notes up to V15. Not an official M-VAVE document.

A synthesizer is a box that makes music sounds from electricity. The FM-1 is a small one with **128 ready-made sounds**. This book teaches it one page at a time.

- **Do the lessons in order.** Each is one page and takes 5-10 minutes. Tick the boxes as you go.
- **Keep the FM-1 in front of you.** This is a do-it-with-me book.
- **Skip anything you don't need.** Part 1 is for looking things up. Part 2 is the lessons. Part 3 is beats.

What the pictures mean

	A button . Press it.
	A knob . Turn it.
	A key , counted from the left (map on page 6).
	Words on the screen .
	How far to turn a knob. The screen shows a number; these words are close enough.

TRY IT

A quick experiment. Do it and listen. That's how you learn sound.

WATCH OUT

A trap that catches almost everyone the first time.

Why it's called "FM"

Picture 6 kids on swings. One kid swinging alone makes a smooth "oooo." When another kid pushes that swing, the sound turns shiny and bell-like. The harder the push, the buzzier it gets. The FM-1 builds every sound this way, exactly like the famous 1980s Yamaha DX7 keyboard. That's all the theory you need.

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Before you start

- **Charge it** with any USB-C cable, like a phone. A full charge lasts about 12 hours. The battery icon is top-right on the screen.
- **The power switch is on the back**, next to the USB-C port.
- **Sound comes out of the built-in speaker.** Plug headphones or an aux cable into the 3.5 mm jack on the back and the speaker turns itself off.

Your 60-second first go

- 1 ☐ Flip the power switch.

You should hear/see: the screen lights up

- 2 ☐ Turn **MASTER** to about **half**. The FM-1 is loud.
-

- 3 ☐ Press any key.

You should hear/see: a sound, and a wiggly yellow line on the screen

- 4 ☐ Turn **PRESETS** one click and press a key again.

You should hear/see: a different sound, and a new name at the top of the screen

That's it. You're playing a synthesizer. The rest of this book shows you how to change those sounds and record them.

HEADPHONES

Use normal stereo headphones (the plug has 2 black rings). Phone headsets with 3 rings can buzz.

The 6 golden rules

Almost every "it's broken!" moment is one of these.

1. Buttons open drawers. **FX** **ENV** **LFO** **ARP** **SEQ** each open a drawer of settings. Press once to open, press the same button again to close.

2. The 4 knobs change jobs. **⌚ KNOB 1** – **⌚ KNOB 4** do something different in every drawer. Their jobs show on the screen in a 2x2 grid: Knob 1 top-left, 2 top-right, 3 bottom-left, 4 bottom-right.

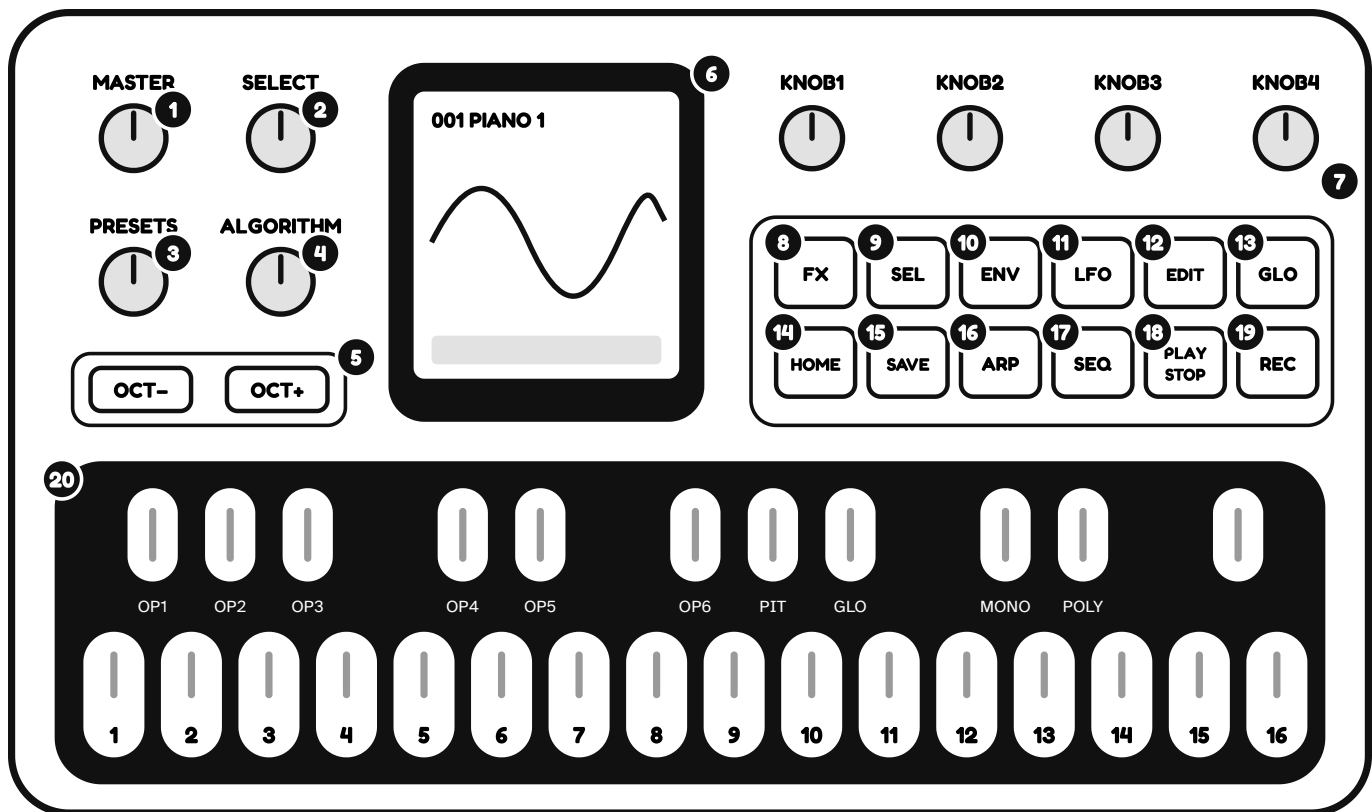
3. **⌚ SELECT turns the page.** Most drawers have 2 or 3 pages. The bottom of the screen shows which one, like **1/2**.

4. Lost? Press **HOME.** It closes whatever is open. The top line of the screen always shows the sound you're on.

5. Nothing is kept until you press **SAVE.** Hold it a moment, until the screen says **Preset Saved**.

6. **ARP and **SEQ** can't both be on.** Turn one off before you turn the other on.

PART 1 Map of the FM-1



1 Master	volume	8 FX	effects	14 Home	escape
2 Select	turn the page	9 Sel	move an effect	15 Save	keep it
3 Presets	change sound	10 ENV	sound's life	16 ARP	plays for you
4 Algorithm	change the "team"	11 LFO	wobble	17 SEQ	music box
5	lower / higher Oct-/Oct+	12 Edit	build sounds	18 Play/Stop	start / stop
6 Screen		13 GLO	settings	19 Rec	record
7 Knobs 1-4	helpers				

20 • The keys. A small piano made of pills. The **bottom row of 16** are the main notes, called "bottom key 1-16" in this book. The **top row of 11** are the in-between notes. The words under the top keys (OP1 ... POLY) only matter in **EDIT**.

The back edge, left to right: headphone/aux jack · MIDI IN (ignore it) · USB-C (charging) · power switch.

Numbers match the map on page 6. The lesson number tells you where it's taught.

1	 MASTER	Volume. The only knob with an end-stop.
2	 SELECT	Turns the page inside a drawer. In FX, picks which effect.
3	 PRESETS	Picks one of the 128 sounds. Lesson 1.
4	 ALGORITHM	Changes how the sound is built (32 choices). Lesson 9.
5	OCT- OCT+	Whole keyboard lower or higher. Both together = reset. Lesson 2.
6	Screen	Top line: your sound. Bottom line: the drawer and its page.
7	 KNOB 1 –  4	Different jobs in every drawer. Read the screen.
8	FX	6 effects: reverb, echo, crunch... Lesson 5.
9	SEL	Inside FX only: grab an effect to move it in the line.
10	ENV	How a sound starts, holds and fades. Lesson 3.
11	LFO	Makes the sound wobble or pulse. Lesson 4.
12	EDIT	Build sounds from scratch. The keys become buttons. Lesson 9.
13	GLO	Machine settings: factory reset, key strength, glide. Lesson 8.
14	HOME	Closes any drawer. Shows the wiggly line.
15	SAVE	Keeps everything. Hold it a moment. Lesson 8.
16	ARP	Plays held keys for you, one after another. Lesson 6.
17	SEQ	The 16-step music box. Lesson 7.
18	PLAY/STOP	Starts and stops the music box.
19	REC	Records into the music box.
20	Keys	16 bottom, 11 top. Up to 12 notes at once.
21-24	Back edge	Headphone jack · MIDI IN · USB-C · power switch. Lesson 10.

The only music words this book uses, in plain English. Come back here whenever one trips you up.

Note	One sound, like one "boop." Each key plays one note.
Pitch	How high or low a note is. A bird is high, a bear is low. Keys to the right are higher.
Octave	The same note one whole "floor" higher or lower, like a kid and a grown-up singing the same song.
Preset	A saved recipe for a sound. The FM-1 has 128. The screen also calls it a voice . Same thing.
Beat	The steady tap you clap or tap your foot to.
Tempo	How fast the beats go, in beats per minute (BPM). 60 = a clock ticking. 120 = a fast walk.
Bar	A group of 4 beats: "1-2-3-4."
Rest	Silence on purpose. Gaps are part of a beat.
Loop	Something that plays again and again.
Chord	Several notes at the same time.
Bass	The low notes everything else stands on.
Sequencer (SEQ)	A music box with 16 boxes (steps) you fill with notes. One filled row is a pattern .
Arpeggiator (ARP)	Hold some keys and it plays them one after another for you.
Envelope (ENV)	A sound's life story: how it starts, stays and fades.
LFO	An invisible hand that wiggles the sound over and over.
Effect (FX)	Something the sound goes through after it's made: an echo, a big room, crunch.
Operator	One of the 6 "swing kids" inside every sound.

The 128 sounds

The sounds come in 4 groups of 32. Groups A, B and C follow a simple pattern. Group D is the fun grab-bag: drums, bells and oddities.

- **Group A (001–032):** PIANO, ORGAN, SYN LEAD, SYN PAD, repeating. So PIANO 1 is 001, PIANO 2 is 005, PIANO 3 is 009 ... every 4th number. ORGAN starts at 002, SYN LEAD at 003, SYN PAD at 004.
- **Group B (033–064):** GUITAR (033, 037 ...), DS GUITAR = crunchy guitar (034 ...), BASS (035 ...), SYN BASS (036 ...).
- **Group C (065–096):** BRASS (065 ...), WOODWIND (066 ...), STRING (067 ...), VOICE (068 ...).

Group D (097–128)

097 BOWOAN	098 BDWHOCARES	099 BLOCK ▲	100 WAVES
101 FROGBELL ◆	102 ELECT.GONG ◆	103 TORIMTORA2	104 MONO M
105 TIBET	106 LOG DRUM ▲	107 COWBELL ▲	108 MONO Z
109 FINGERCYM ▲	110 TIMPANI ▲	111 TAMBOURINE ▲	112 DESCENT
113 CLANG BELL ◆	114 STEEL DRUM ▲	115 CONGA ▲	116 SAW EM UP
117 BI BEN ◆	118 KALIMBA ◆	119 GAMALONG ◆	120 SAW EM UP2
121 TUB BELLS ◆	122 BRUSHES ▲	123 TOM TOMS ▲	124 SAW EM UP3
125 ECHO	126 TIMBALI ▲	127 PERCUSSION ▲	128 WHAT IF

▲ = drum or percussion, good for beats · ◆ = bell

GOOD ONES TO START WITH

Calm: **004 SYN PAD 1**, **118 KALIMBA**. Beats: **127 PERCUSSION**, **123 TOM TOMS**.

Bass: **035 BASS 1**. Big: **065 BRASS 1**.

If a number doesn't match the name on your screen, trust the screen. Loading new sounds from a computer changes a whole group.

Goal: flip through the ready-made sounds and find three you like.

- 1 ☐ Turn **MASTER** to **half**.
- 2 ☐ Press the far-left bottom key, then the far-right one.
You should hear/see: left is low like a bear, right is high like a bird
- 3 ☐ Press and **hold** one key for 3 seconds.
You should hear/see: some sounds keep going, some fade by themselves
- 4 ☐ Press **3 keys at once**.
You should hear/see: a chord: all three together
- 5 ☐ Turn **PRESETS** one click.
You should hear/see: a list pops up for a second, and the sound changes right away
- 6 ☐ Keep clicking and playing. There are 128 sounds; after 128 it goes back to 001.
- 7 ☐ Found one you like? Write its number in the log on page 32. Find three.

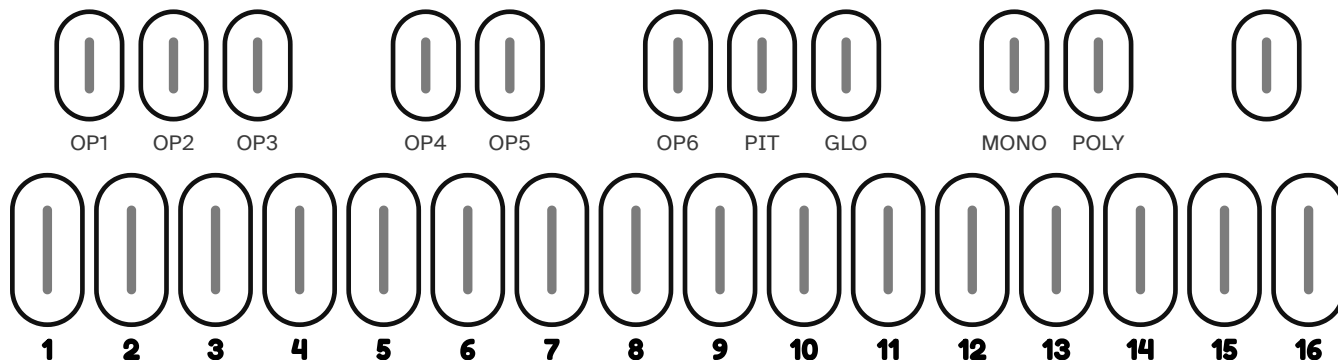
TRY IT

The name at the top of the screen is a big hint: PIANO, ORGAN, BASS, BRASS, BELL...

The full list is on page 9.

Higher and lower

Goal: move the whole keyboard up and down, and know how to put it back.



16 bottom keys, numbered 1-16 in this book. The 11 top keys are the in-between notes.

- 1 ☐ Play bottom key 1. Press **OCT-** once and play it again.

You should hear/see: the same note, one "floor" lower. The screen shows **Octave -1**

- 2 ☐ Press **OCT-** twice more and play the low keys.

You should hear/see: deep rumbles, good for bass and drums

- 3 ☐ Press **OCT+** until the screen says **Octave +3**.

You should hear/see: tiny, bright notes, good for ticks and bells

- 4 ☐ Press **OCT-** and **OCT+** together.

You should hear/see: back to normal

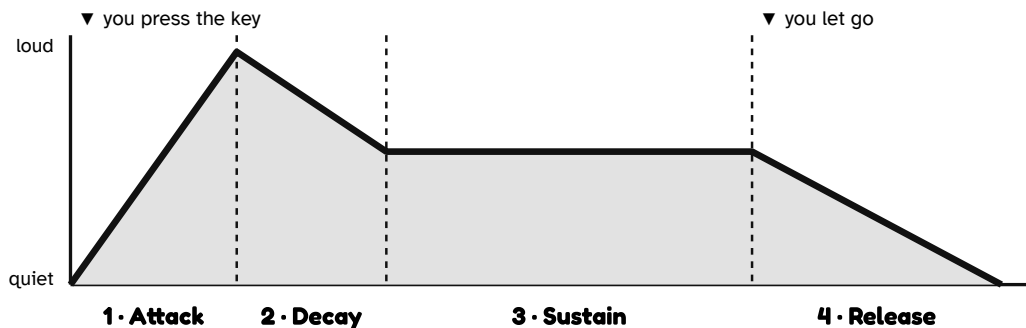
WATCH OUT

Holding an OCT button while turning **⏸ ALGORITHM** shifts every key by a tiny step (the screen says **Transpose**). It's remembered even after you switch off. If notes ever sound "off," press both OCT buttons together to reset.

LESSON 3

ENV: a sound's life story

Every sound is born, lives and goes to sleep. **ENV** lets you choose how, with 4 knobs.



⌚ KNOB 1 Attack: how fast it **wakes up**. Low = instant, like a drum. High = a slow ghostly fade-in.

⌚ KNOB 2 Decay: how fast it **calms down** after the first loud moment.

⌚ KNOB 3 Sustain: how loud it **stays while you hold** the key.

⌚ KNOB 4 Release: how long it takes to **fade after you let go**.

1 ☐ Pick a sound. Press **ENV**.

You should hear/see: 4 bar graphs

2 ☐ Turn Attack to **a lot** and hold a key. Then turn it to **lowest**. Hear the difference.

3 ☐ Turn Release to **a lot**, tap a key, let go. Listen to the tail.

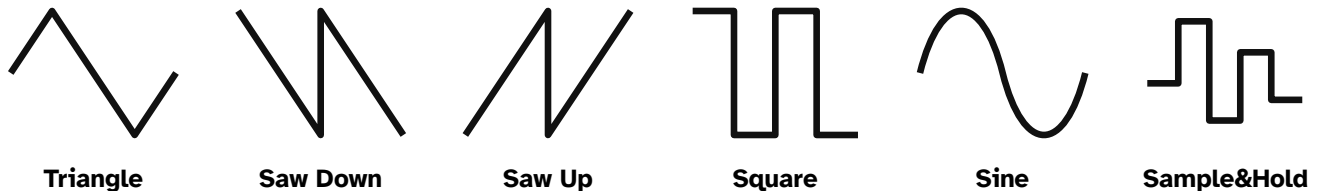
4 ☐ Press **ENV** to close. Press **SAVE** if you like it.

THREE RECIPES (ATTACK · DECAY · SUSTAIN · RELEASE)

Plink: lowest · a little · lowest · a little. **Organ:** lowest · half · highest · lowest. **Dreamy**

pad: a lot · half · a lot · a lot.

An LFO is an invisible hand that wiggles something for you, over and over. It can wobble the **pitch** (a siren) or the **loudness** (a helicopter).



The shapes of the wiggle. Sine and Triangle are smooth. Square jumps. Sample&Hold is random robot bleeps.

⌚ KNOB 1 Wave: the shape of the wiggle (pictures above).

⌚ KNOB 2 Speed: how fast the hand wiggles.

⌚ KNOB 3 PMD: how much it wiggles the **pitch**.

⌚ KNOB 4 AMD: how much it wiggles the **loudness**.

Page 2, **⌚ KNOB 2 Pitch Sens:** how much the pitch listens to the hand. Turn it up or PMD does nothing.

1 ☐ Press **LFO**. Set Wave = **Sine**, Speed = **35**, PMD = **10**.

2 ☐ Turn **⌚ SELECT** to page 2. Set Pitch Sens = **4**. Hold a key.
You should hear/see: a singer's wobble

3 ☐ Back on page 1, turn Speed up and PMD up.
You should hear/see: a police siren

4 ☐ Set PMD and AMD back to **0** to switch the wobble off. Press **LFO** to close.

Effects change a sound **after** it's made, like shouting in a canyon. The FM-1 has 6, in a row. A bright box on the screen means that effect is on.

- 1 ☐ Press **FX**.

You should hear/see: a grid of 6 boxes with a blinking dot under one

- 2 ☐ Turn **SELECT** to move the dot to **Reverb**.

- 3 ☐ Turn **NOB 4** to the right.

You should hear/see: the box goes bright: Reverb is on. Play a key: it's in a big room

- 4 ☐ Turn **NOB 3** (Mix) up and down while you play.

- 5 ☐ Move the dot to **Delay** and turn it on with **NOB 4**.

You should hear/see: echo... echo... echo

- 6 ☐ Press **FX** to close. Press **SAVE** if you like it.

Effect	What it does	The knob that matters
Filter	muffles the sound, like a blanket over it	Knob 2 CutOff: lower = more muffled
Reverb	puts it in a room or a church	Knob 3 Mix: how much room
Delay	echo, echo, echo	Knob 2 Rate: time between echoes
Distortion	crunchy and angry	Knob 1 Gain: how much crunch
Chorus	sounds like several playing together	Knob 3 Mix
Phaser	a swooshy jet-plane sweep	Knob 1 Freq: speed of the swoosh

SOUND GONE QUIET?

A Filter with CutOff at lowest nearly silences everything. Turn the Filter off with

NOB 4.

LESSON 6

ARP: it plays for you

Hold some keys and the **arpeggiator** plays them one after another, by itself, like a music box.

- 1 ☐ Make sure the **SEQ** light is off. Press **ARP**.
You should hear/see: the ARP light comes on
- 2 ☐ Hold bottom keys **1, 3 and 5** together.
You should hear/see: da-da-da, da-da-da, over and over
- 3 ☐ Keep holding and turn **⌚ KNOB 4** (Tempo).
You should hear/see: faster or slower
- 4 ☐ Turn **⌚ KNOB 1** (Mode) through the patterns below.
- 5 ☐ Turn **⌚ SELECT** to page 2 and set **⌚ KNOB 3** **Latch = On**. Let go.
You should hear/see: it keeps playing without you
- 6 ☐ To stop: Latch Off, or press **ARP**.

Modes: Up (low to high) · Down · Inclusive (bouncing) · Random · Order (the order you pressed) · Repeat (each note twice).

Page 1: Mode · Octave (how many floors it climbs) · Rate (1/16 = busy, 1/4 = slow) · Tempo.

Page 2: Gate (short "tik" or long) · Swing (50% straight, 60% bouncy) · Latch.

SCREEN SAYS **DISABLE SEQ TO ENTER ?**

Press **SEQ** to turn the sequencer off first. The ARP is for playing live; it can't be recorded.

LESSON 7

SEQ: record your first loop

The **sequencer** is a music box with 16 drawers. Put a note in each and it plays them in order, forever. There are 16 music boxes (patterns), and each remembers its own sound.

WHY YOUR SOUND CHANGES WHEN YOU PRESS SEQ

Each pattern keeps a sticker saying which sound it plays, and pressing **SEQ** loads that sound. The **PRESETS** knob is switched off inside SEQ. So: **save your sound first**, then **pick it inside SEQ** (step 3).

- 1 ☐ Get your sound ready. Press **SAVE**.
You should hear/see: **Preset Saved**
- 2 ☐ ARP light off? Press **SEQ**.
You should hear/see: SEQ and STOP lights on
- 3 ☐ Turn **SELECT** to **page 2**. **Knob 1** **Voice** = your sound's number. Rate = **1/16**, Tempo = **100**.
You should hear/see: your sound is back
- 4 ☐ Turn **SELECT** to **page 1**. **Knob 1** **Pattern** = pick one. **Knob 4** **Step** = 16.
- 5 ☐ Press **REC**.
You should hear/see: REC and PLAY lights on: it's listening
- 6 ☐ Play notes **one at a time**. Each fills the next drawer.
You should hear/see: a bottom-key light for each filled drawer
- 7 ☐ Press **REC** again.
You should hear/see: your loop plays back. **PLAY/STOP** stops and starts it. Press **SAVE** to keep it.

Page 1: Pattern · Clear · Chain · Step (loop length).

Page 2: Voice (the sound) · Rate · Tempo · Gate.

Page 3: Swing · Sync · Transpose.

Fix a mistake, leave a gap

Everyone records a wrong note. Here's how to fix it, and how to put silence into a loop, which is what makes a beat groove.

I want to...	Do this
Leave a silent step	While recording, hold REC and turn ⌚ SELECT one click. That drawer stays empty. Two clicks = two silent steps.
Fix one wrong note	While recording, hold REC and turn ⌚ SELECT to walk to that step. Let go of Rec and play the right note.
Erase a step or the whole pattern	Page 1, turn ⌚ KNOB 2 (Clear). Then ⌚ KNOB 3 = clear this step, ⌚ KNOB 4 = clear the whole pattern, ⌚ KNOB 2 = cancel.
Start again from the top	Press REC again. It records from step 1, writing over as it goes.
Make a shorter loop	Page 1, ⌚ KNOB 4 Step = 8 (half as long) or 4.
Hold a note longer	While recording, hold the key and turn ⌚ SELECT to where it should end, then let go.

WATCH OUT

Play more notes than the loop has steps and it wraps around to step 1 and writes over your first notes. Count as you go.

Changes you make with ENV, LFO, FX or Edit are only kept if you save. Here's how to keep them, throw them away, or start over.

Keep it

- 1 ☐ Press **SAVE** and hold it a moment.

You should hear/see: **Preset Saved**. Your sound, effects, patterns and settings are all kept.

IT WRITES OVER THE PRESET YOU'RE ON

Save while on 065 BRASS 1 and the old BRASS 1 is replaced by your version. You can always get the factory one back (below). Write down what you saved in the log on page 32.

Throw away changes you haven't saved

- 1 ☐ Turn **PRESETS** one click away and one click back.

You should hear/see: the saved version comes back

Put the factory sounds back

- 1 ☐ Press **GLO**. Turn **SELECT** to page 2.

- 2 ☐ Turn **KNOB 1** (Reset Patches).

You should hear/see: it asks which group: A (001-032), B (033-064), C (065-096) or D (097-128)

- 3 ☐ Pick the group with **KNOB 1** – **KNOB 4**, then turn **SELECT** right to reset, or left to cancel. Press **GLO** to close.

Extras in GLO page 2: Knob 2 **Velocity** = how hard every key "hits" (the keys aren't touch-sensitive).
Knob 4 **Glide** = notes slide into each other; it only works in MONO (Lesson 9).

Build your own sound

Remember the 6 swing kids? Some are **singers** you hear, some are **pushers** that change a singer's tone. This lesson lets you change who pushes whom, and how hard.

Swap the team: **ALGORITHM**

- 1 ☐ Pick a sound and hold a note (or use the ARP with Latch on, so both hands are free).
- 2 ☐ Turn **ALGORITHM** one click at a time.
You should hear/see: a picture of the 6 kids flashes up, and the sound changes each click
- 3 ☐ Like one? Press **SAVE**. Don't? Undo with **PRESETS** (Lesson 8).

Meet each kid: **EDIT**

- 1 ☐ Press **EDIT**.
You should hear/see: the top keys start blinking. They are now buttons: OP1-OP6, PIT, GLO, MONO, POLY
- 2 ☐ Press the top key labeled **OP1**. Turn **SELECT** to page 4.
- 3 ☐ Turn **Knob 4** (Out Level) to lowest, then back up.
You should hear/see: that kid disappears, then returns. Try OP2 to OP6 the same way
- 4 ☐ On page 3, **Knob 2** (FreqCoarse) changes a kid's "size": warm to bell-like.
- 5 ☐ Press **EDIT** to leave. Press **SAVE** if you like it.

TWO MORE TRICKS

MONO / POLY: in Edit, the **MONO** key makes it play one note at a time (great for bass). **POLY** = up to 12 at once.

Fizz: in Edit, press the top key **GLO** and turn up **Feedback** (Knob 2). At 7 it hisses like a cymbal.

Plug things in

The back edge has a headphone jack, a MIDI IN jack, a USB-C port and the power switch. Here's what to plug into what.

I want to...	Do this
Hear it privately	Wired headphones in the 3.5 mm jack. The speaker turns off by itself.
Hear it louder	An aux cable (3.5 mm both ends) from the jack to a speaker's AUX IN. Start with MASTER low.
Charge it	Any USB-C charger or computer port. It plays while charging.
Play music apps with its keys	A USB-C cable to a computer. Apps see the FM-1 as a keyboard.
Add thousands of sounds	USB-C to a computer plus the free program Dexed , which can send classic DX7 sound sets to the FM-1.
Play it from another keyboard	The MIDI IN jack, with a "TRS Type A" adapter. Most people never need this.

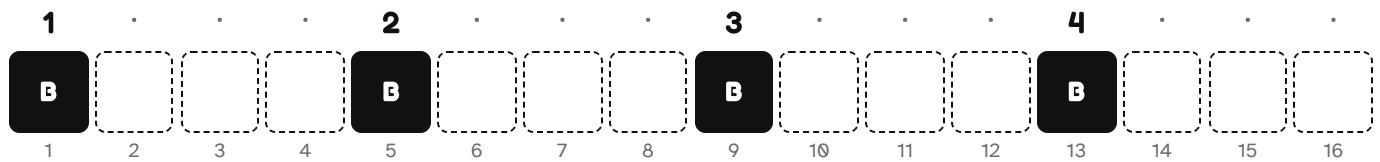
BUZZ OR HISS?

Use headphones with a 2-ring plug, turn **MASTER** down, and turn off Distortion in FX.

How a beat works

A beat is a short loop of **16 boxes**. Each box is a sound or a silence. That's all a beat is.

Tap your foot and count "**ONE and-a-and, TWO and-a-and, THREE and-a-and, FOUR and-a-and.**" The four big numbers are where you'd clap. 4 claps × 4 boxes = 16 boxes = one loop.



A "boom" on every clap: the heartbeat of dance music.

Drummers use three jobs

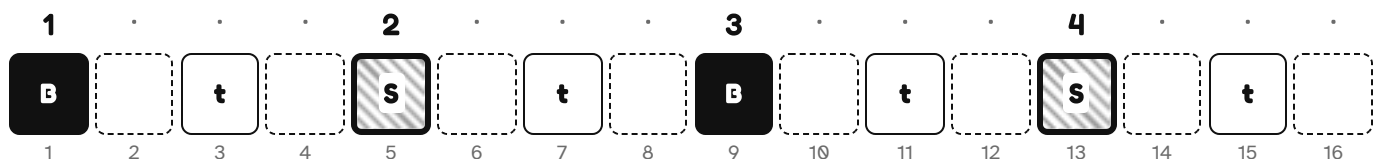
B BOOM (the kick drum): a low thump, on 1 and 3.

s SNAP (the snare): a middle "tak," on 2 and 4, where people clap.

t tick (the hi-hat): a tiny high "ts" in the gaps.

rest: silence. Gaps make the groove.

Put them together and you get the most famous beat in the world:



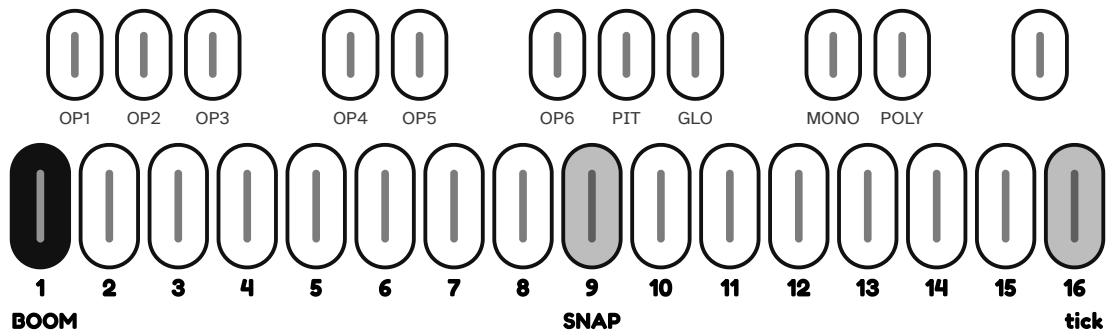
THE FM-1 TRICK

The FM-1 plays one sound at a time, so we make **one short drum-like sound** and play it at three heights: a **low key = BOOM**, a **middle key = SNAP**, a **high key = tick**. A funky little robot drummer. Tempo: 70–90 chill, 100–115 pop, 120–128 dance.

Make a drum sound

Turn a preset into a short "hit." You do this once, save it, and use it for every beat in this book.

- 1 ☐ Turn **PRESETS** to **127 PERCUSSION** (or 123 TOM TOMS, 106 LOG DRUM, 099 BLOCK). Tap a key: you want a sound that stops on its own.
- 2 ☐ **ENV**: Attack **lowest**, Decay **a little**, Sustain **lowest**, Release **lowest**. Close it.
You should hear/see: every tap is a short "tok"
- 3 ☐ **LFO**: PMD **0**, AMD **0**. Close it.
- 4 ☐ **FX**: turn everything **off** except **Distortion** on with Gain **a little**. Close it.
- 5 ☐ Press **OCT-** once. Tap the keys below.
You should hear/see: a low BOOM, a middle SNAP, a high tick
- 6 ☐ Press **SAVE**. Write the preset number in your log as **MY DRUM**.



NOT DRUMMY ENOUGH?

BOOM too thin: press **OCT-** once more. SNAP too polite: **EDIT** → top key **GLO** → Feedback up (fizz). Still like a xylophone: try another preset, or a few clicks of **ALGORITHM**. Hunting is part of the fun.

BEAT 1

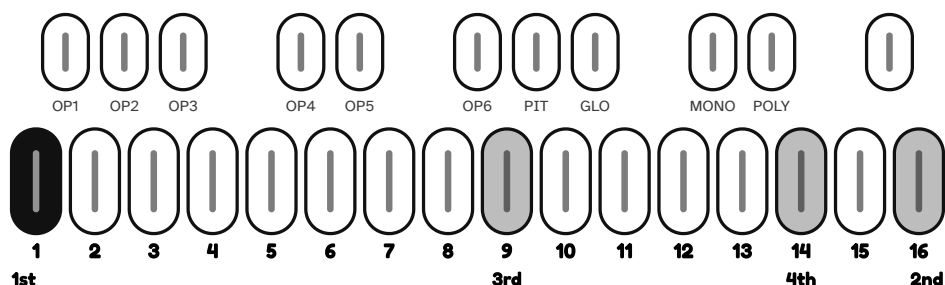
Instant beat (no recording)

Hold a BOOM, a tick and a SNAP key in the right order, and the ARP drums for you.

Load **MY DRUM**. Press **OCT-** once. SEQ light off.

Press **ARP**. Page 1: Mode = **Order** · Octave = **1** · Rate = **1/8** · Tempo = **100**.

Page 2: Gate = **30%** · Swing = **50%** · Latch = **On**.

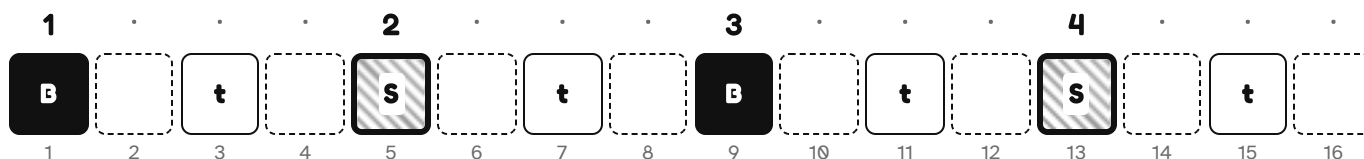


1 ☐ Hold bottom key **1** (BOOM) and keep holding.

2 ☐ Add key **16** (tick), then **9** (SNAP), then **14** (tick). Use both hands.

3 ☐ Let go of everything.

You should hear/see: "boom – tick – SNAP – tick," forever. Latch keeps it going.



Dance beat: hold only 1 then 16, Tempo 124.

Bouncy: page 2, Swing 62%. **Busier:** page 1, Rate 1/16. **Wild:** Mode Random.

Stop: Latch Off, or press **ARP**. To keep a beat, record it with the SEQ (next page).

BEAT 2

Boom-tick loop (your first recorded beat)

The famous beat, recorded into the SEQ. The trick: steps of **1/8** and a loop of **8 steps**, so every step gets a hit and there are no gaps to skip.

Load **MY DRUM**, press **SAVE**, press **OCT-** once. ARP off.

Press **SEQ**. Page 2: Voice = **MY DRUM's number** · Rate = **1/8** · Tempo = **100** · Gate = **30%**.

Page 1: Pattern = **1** · Step = **8**. If it has old notes, Clear it (Knob 2, then Knob 4).

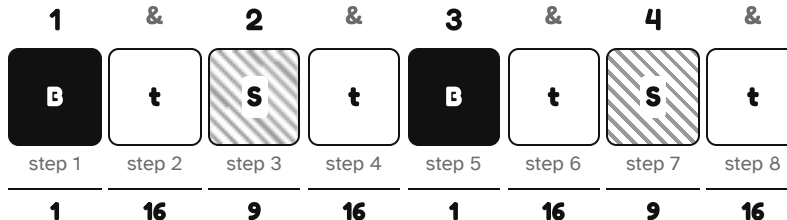
1 ☐ Press **REC**.

2 ☐ Press these bottom keys one at a time: **1, 16, 9, 16, 1, 16, 9, 16**.

3 ☐ Press **REC** again.

You should hear/see: "boom – tick – SNAP – tick," forever

4 ☐ Press **SAVE**. Write "Pattern 1 = Beat 2" in your log.



The bottom row says which key to press for each step.

Double boom: 1, 16, 9, 16, 1, **1**, 9, 16.

Dance: 1, 16, 1, 16, 1, 16, 1, 16 at Tempo 124.

Bounce: while it plays, page 3, Swing about **60%**. **New kit:** page 2, Voice = 123 TOM TOMS.

Two hits at once: press keys **1 and 16 together** while recording — they share one step.

BEAT 3

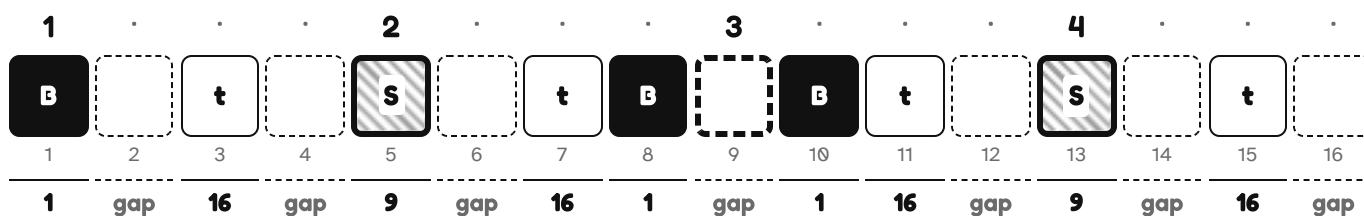
Lazy bounce (with gaps)

Real beats breathe. This one uses all 16 steps with silent gaps between hits: a slow, head-nodding feel.

MY DRUM, saved. **OCT-** once. Press **SEQ**.

Page 2: Voice = **MY DRUM** · Rate = **1/16** · Tempo = **88** · Gate = **40%**.

Page 1: Pattern = **2** · Step = **16**. Page 3: Swing = **60%**.



"gap" = hold **REC** and turn **SELECT** one click.

- 1 ☐ Press **REC**. Say each step out loud as you go. It helps.
- 2 ☐ Follow the bottom row: **1 · gap · 16 · gap · 9 · gap · 16 · 1 · gap · 1 · 16 · gap · 9 · gap · 16 · gap**.
- 3 ☐ Press **REC** to listen. Wrong note? Lesson 7b. Or Clear it and go again. Everyone does.
- 4 ☐ Press **SAVE**.

WHY IT GROOVES

The BOOM on step 8 lands just before the middle of the bar. That early kick, plus swing, is the lazy bounce. Try Tempo 70 and Swing 66% for extra lazy.

BEAT 4

Bass line, then a song

A bass line is the low, bouncy tune under a beat. This one uses 5 keys. Then we chain it to your drums.

Turn **PRESETS** to **035 BASS 1**. Press **SAVE**. Press **OCT-** once.

Press **SEQ**. Page 2: Voice = **035** · Rate = **1/8** · Tempo = **100** · Gate = **60%**.

Page 1: Pattern = **3** · Step = **16**.

1	&	2	&	3	&	4	&	1	&	2	&	3	&	4	&
3		3	10	3		5	6	3		3	10	2		5	6
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3	gap	3	10	3	gap	5	6	3	gap	3	10	2	gap	5	6

1 ☐ Press **REC**. Follow the bottom row: **3 · gap · 3 · 10 · 3 · gap · 5 · 6 · 3 · gap · 3 · 10 · 2 · gap · 5 · 6**. Key 3 is "home"; key 10 is the same note one floor up.

2 ☐ Press **REC** to listen, then **SAVE**.

Make it a song: chain the patterns

Chain plays patterns one after another, each with its own sound. Drums, then bass, then drums: a little song.

1 ☐ Give patterns 1, 2 and 3 (Beats 2, 3 and 4) the same Tempo.

2 ☐ Page 1: Pattern = **1**, **KNOB 3** Chain = **3**. Press **PLAY/STOP**.
You should hear/see: 1, then 2, then 3, then round again

3 ☐ Press **SAVE**.

The sounds take turns: the FM-1 plays one sound at a time, so drums and bass can't play **together**. The whole story, and what you can do instead, is on page 27.

Can two sounds play together?

Short answer on the stock software: no. (On the free SLOOP firmware: **yes** — page 28.) The FM-1 speaks with one voice at a time. It can play up to 12 **notes** of that one sound together, but drums and bass can never sound at the same moment. That's the box, not you — and the manual never says it out loud.

And no, there's no mixer

MASTER is one volume for the whole box — everything louder or quieter together.

The operator levels inside **EDIT** blend the six ingredients of **one single sound**, not different instruments.

The Mix knobs in **FX** blend "plain sound vs. echo," not instrument vs. instrument.

What you CAN do

1 • Put several notes on one step — they play together.

1 ☐ In SEQ, press **REC**.

2 ☐ Press two or three keys **at the same time** and let go together.
You should hear/see: that whole handful lands on ONE step

3 ☐ Play it back: the notes sound as one hit. Keys 1 + 16 together = BOOM and tick at once.

2 • **Make one sound do two jobs.** The MY DRUM trick (page 22): the same sound is a thump on the low keys and a tick up high. One voice, but your ear hears a kit.

3 • **Take turns with Chain** (page 26): drums for a bar, then bass for a bar. Sounds like a song, never overlaps.

4 • **To truly layer, use a recorder.** Aux cable from the FM-1 into any phone or computer recorder. Record loop #1 playing, then play that recording out loud while the FM-1 plays part #2 live on top. Two layers from one box.

Or put the free SLOOP firmware on it: then this same box becomes a 4-track groovebox (page 28).

Running SLOOP? Four sounds at once

SLOOP is free replacement software for the FM-1, made by the musician 3dSam. It turns the box into a **4-track groovebox**: three synth tracks and a drum track, all playing together. That's the "yes" to page 27.

Try it first, no install: the clickable SLOOP tutorial at **fm1-demo.pingywon.workers.dev/sloop/** — six lessons and four ready-made grooves.

The big change: tap a button for its pages, **hold** it and the keys change job. ALGORITHM picks the track. Track 4's bottom keys are 16 drums.

Your stock sounds are replaced by SLOOP's own (153 sounds, 37 drum kits), and the lessons in this book describe the stock software.

Putting it on (a computer with Chrome or Edge)

- 1 ☐ Open **isod89.github.io/sloop-fm1**. Plug the FM-1 in with a USB-C **data** cable, straight into the computer, no hub.
- 2 ☐ Press **INSTALL**, allow MIDI access, wait for **Done**.
You should hear/see: the FM-1 restarts on the SLOOP logo
- 3 ☐ Unplug and plug the FM-1 back in once.

Getting back

Stuck at power-on? Hold **OCT-** while switching on: **SLOOP USB RESCUE**.

Back to the stock software: on the same installer page, "Return to the official firmware (V15)", with the official FM-1 file from m-vave.com. Back up your SLOOP music first: the stock software can't open it.

FINE PRINT

SLOOP is free, open source (GPL-3.0) and still in beta: its authors say to use it at your own risk. Not made by M-VAVE, and this book isn't made by the SLOOP authors.

"It's doing something weird"

First try: press **HOME**. Then find your problem below.

The screen says...	Do this
Enable SEQ first	Press SEQ before Play or Rec.
Disable ARP to enter	Press ARP to turn it off, then SEQ .
Disable SEQ to enter	Press SEQ to turn it off, then ARP .
LOW BATTERY	Plug in USB-C. It won't go away on its own.
Transpose +3	Press OCT- and OCT+ together.

What's happening	Why, and the fix
My sound changed when I pressed SEQ, and Presets does nothing	SEQ gives each pattern its own sound and turns the Presets knob off. Pick the sound on SEQ page 2 (Lesson 7).
Keys blink and don't play	You're in Edit. Press EDIT to leave.
It keeps playing by itself	ARP Latch (press ARP) or the SEQ (press PLAY/STOP).
Only one note at a time	MONO is on. EDIT → top key POLY → EDIT .
Muffled, wobbly or pulsing	Muffled = the Filter in FX, turn it off with Knob 4. Wobbly = the LFO, set PMD and AMD to 0.
Crackles on chords	It's loud. Turn MASTER down.
I want drums and bass at the same time	One sound at a time, no mixer. Page 27 has what works instead.
Bluetooth headphones won't connect	They can't. It's not that kind of Bluetooth. Use the jack.

Still stuck? The 4-step rescue: (1) **HOME**, and turn off ARP or SEQ if lit. (2) **OCT-** + **OCT+** together. (3) **PRESETS** one click away and back. (4) Power off and on.

Software versions and updating

The FM-1 gets free software updates that add features. This book describes **version V15** (July 2026). If a page doesn't match your screen, this is probably why.

Is mine on V15?

Press **SEQ**. If the bottom of the screen says **1/3** (three pages), you're on V15. Older software has two SEQ pages, no Voice setting, no Glide, and a factory reset that resets all 128 sounds at once.

What the printed manual gets wrong

The paper manual in the box is older than V15. Its SEQ and GLO pages are out of date, and it says ENV and FX go 0–8 when yours go 0–100. Trust the screen.

How to update (optional, needs a Windows or Mac computer)

- 1 ☐ Charge the FM-1. Turn it on and connect it with a USB-C **data** cable.
- 2 ☐ On **m-vave.com**, open the FM-1 product page. Download the **M-UPGRADE** app and the **PC Firmware** file (ends in .fwsc).
- 3 ☐ Open M-UPGRADE and wait until it shows the FM-1 and its version.
- 4 ☐ Click **Select Firmware**, choose the .fwsc file, then **Update Firmware**. The screen may go black for a moment.
- 5 ☐ Wait for **"Upgrade completed!"**, then unplug.

DON'T

Don't unplug or switch off during the update. Don't click "Update Preset" unless you want some sounds replaced. If it says "Waiting for device reconnection," unplug and replug the cable and try again.

Buttons

FX	effects. Select picks one, Knob 4 = on/off
ENV	Attack · Decay · Sustain · Release
LFO	wobble: Wave · Speed · PMD · AMD
EDIT	build sounds; keys become OP1-6
GLO	page 2: reset · velocity · glide
HOME	escape
SAVE	keep everything
ARP	plays held keys for you
SEQ	16-step music box
OCT-	lower / higher; both = reset
OCT+	

Screen

Top line = your sound. Bottom line = the drawer and its page. Knob values sit in a 2x2 grid: 1 top-left, 2 top-right, 3 bottom-left, 4 bottom-right.

Record a loop

1. Make the sound. **Save**.
2. ARP off. Press **SEQ**.
3. Page 2: Knob 1 **Voice** = your sound. Rate 1/16. Tempo.
4. Page 1: Pattern. Step = 16.
5. **Rec**. Play notes one by one. Gap = hold Rec + turn Select.
6. **Rec** again to listen.
7. **Save**.

Rescue

1. **Home**. Turn off ARP / SEQ.
2. **Oct-** + **Oct+** together.
3. **Preset**s one click away and back.
4. Power off and on.

REMEMBER

Nothing is kept until you **Save**. ARP and SEQ can't both be on.

My sounds and beats log

Write things down as you go. Two weeks from now you won't remember that preset 047 was the good bass.

Sounds I like

Preset #	Name on screen	What I changed (ENV, LFO, FX...)	Saved?
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

Patterns (loops) I made

Pattern #	Sound (preset #)	Tempo	Swing	What it is / notes

Plan a beat (pencil in: B = boom, S = snap, t = tick, leave blank = rest)

1

2

3

4

Where this came from

An unofficial beginner's guide, second edition. Everything was checked against these sources in September 2026. Where they disagreed, the book says "trust the screen."

Official FM-1 user manual	m.media-amazon.com/images/I/A1WOydif9HL.pdf (English pp. 1–12)
M-VAVE software release notes (V09–V15)	yms-file-store.oss-cn-hongkong.aliyuncs.com/software/releaseNote/firmware/FM-1.txt
M-VAVE's own update videos	youtube.com: n-TShi-a5OA · pzd2v4vYPg · HKsS77ouHfw
Official product photos	www.m-vave.com/product?id=fm-1
Factory sound names and the community V15 tutorial	github.com/KingParamount/fm1-factory-presets
Owner discussion	elektronauts.com/t/m-vave-fm-1/252170 · kvraudio.com
Review	synthanatomy.com , July 2026
SLOOP firmware by 3dSam (GPL-3.0), based on Felucca by Leo Kuroshita / Hügelton Instruments	github.com/isod89/sloop-fm1 (SLOOP.md, GUIDE.md, v2.6)

NOT TESTED ON A REAL FM-1

The beat recipes and knob amounts are starting points worked out from the manual and the sources, not measured on a unit. Your ears are the judge: if something sounds better a little higher or lower, that's the right setting.

M-VAVE, FM-1, DX7 and Dexed are names of their owners. This guide is not made or endorsed by M-VAVE.