OSCURO

Oscuro for Bitwig Studio

The manual for the DAW and DAW BT builds on the M-Vave SMK-37 Elite with the SMK-37 Oscuro script for Bitwig Studio

Firmware 0.90.10

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Getting started

CHAPTER 1

What the DAW builds do

The DAW builds turn the SMK-37 into a controller that knows your DAW. With the Oscuro script in Bitwig Studio, Ableton Live or FL Studio, the knobs follow the device you are working on, the faders mix, the pads select and mute tracks, and the screen shows names, values, levels and the browser.

One build: DAW BT

Build	File	What it is
DAW BT	`oscuro-<version>-daw_bt-app.bin`	The DAW build: USB MIDI and the DAW link, plus Bluetooth LE MIDI, so the keyboard can also work without a cable to the computer.

Earlier versions also came as a USB-only **DAW** build with the same features. It is no longer published: DAW BT does everything it did over USB, and Bluetooth stays off until you tap `BT`. Everything in this manual works in DAW BT, except where a page says it needs Bluetooth.

The DAW builds run on the M-Vave **SMK-37 Elite** and its twins: the SMK-37 Pro, the MKE-P37 and the Starrykey 37 Play. Only the Elite and the Pro have been tried on a unit.

What the keyboard does in a DAW build

- **Keys, pads, wheels and pedal play MIDI** into your DAW, as on any controller. The sound comes from the DAW. The build has no synth patches; a small built-in test voice plays from the keys and pads on the keyboard itself and cannot be switched off.
- **With the Oscuro script**, the knobs, faders, pad bank B, `Left` / `Right`, `SEQ`, `SEQ PLAY` and `SEQ REC` belong to the DAW. The screen draws four views of your project: **Device**, **Mixer**, **Overview** and **Browser**.
- **The keyboard's own musical features stay**: the Harmony Helper (a chord partner on the pads), Scale and Chord modes, the arpeggiator, Note Repeat and the step sequencer. Pad bank A stays notes, so you can play drums or chords while bank B controls tracks.
- **Without a script**, or with M-Vave's stock script, the keyboard is a plain MIDI controller with editable presets.

How the pieces fit

Your computer runs the DAW and the Oscuro script for it. The script and the keyboard talk over the **Oscuro DAW protocol**: the keyboard reports what you touch ("K3 turned two steps"), the script decides what that does in the DAW and sends back what the screen and lights should show. Notes travel as ordinary MIDI beside it.

There are three scripts, one per DAW, and this manual comes in three books, one for each:

DAW	Script	Book
Bitwig Studio 6.1 or newer	**SMK-37 Oscuro** (controller extension)	Oscuro for Bitwig Studio
Ableton Live 12 or newer	**SMK37_Oscuro** (Remote Script)	Oscuro for Ableton Live
FL Studio 2026	**SMK-37 Oscuro** (MIDI script)	Oscuro for FL Studio

The chapters about the keyboard itself are the same in every book; the setup, views, workflows and reference chapters are written for one DAW each.

M-Vave's own Bitwig script for the stock firmware is a different script; both can be installed side by side (see Set up Bitwig Studio).

> **Status.** The DAW protocol and the three scripts are tested on a computer against a model of the DAW and the firmware's own decoder. The Ableton Live and FL Studio scripts have had only a **short test with a keyboard**; the Bitwig script has had the most use. Expect rough edges, and tell us what you find. Everything can be undone: the installer puts M-Vave's firmware back at any time.

CHAPTER 2

Install, update, go back

The web installer writes Oscuro to the keyboard over the USB cable and can put M-Vave's own firmware back whenever you want. It runs in Chrome or Edge on your computer; nothing needs installing.

What you need

- Chrome or Edge (they have Web MIDI), the USB cable and the Oscuro package (`oscuro-installer.html` and the `…-daw_bt-app.bin` or `…-daw-app.bin` file).
- For the first install: M-Vave's firmware file for your keyboard, for example `SMK-37 Elite_016.fwsc` from M-Vave's download page. The package does not contain it.

Install or update

1. Close your DAW and any other MIDI app. The installer needs the keyboard's MIDI port to itself.
2. Connect the keyboard and open `oscuro-installer.html`.
3. Under **Install or update Oscuro**, choose the app file: `…-daw_bt-app.bin` for Bluetooth, `…-daw-app.bin` without.
4. First install only (the keyboard still runs M-Vave's firmware): also choose M-Vave's `.fwsc` file. The page combines the two on your computer.
5. Press **Install Oscuro** and keep the cable in until the page says Finished. The keyboard restarts by itself.

Check the version afterwards: tap `Globe`, turn K1 to About and press `Right`. The About screen shows the version and **DAW**, with **TEST** in a test build. The DAW script also receives the version when it connects.

Images larger than M-Vave's app slot

The keyboard keeps its firmware in an area of fixed size, the app slot. The DAW BT image is about 81 KB **larger than M-Vave's slot**. The package's `README.md` names every app file that is too large (more than 621,320 bytes).

- The web installer (0.83.2 and newer) takes such a file. Choose it together with your M-Vave `.fwsc` file under **Install**; the installer moves the keyboard's settings area behind the app to make room.
- What this costs: the area where M-Vave's firmware kept its own settings is overwritten.
- From a keyboard that still runs M-Vave's firmware, M-Vave's firmware does the writing, and it has **not yet been tried** with a grown image. If it refuses, nothing is changed.
- Once the slot is grown it stays grown, and later updates install as usual.

Go back to M-Vave's firmware

Under **Back to M-Vave's firmware**, choose M-Vave's `.fwsc` file and press **Install M-Vave firmware**. This works from Oscuro and from any M-Vave version. If you made a patch-memory backup (`.ksua`) before you started using Oscuro, restore it first on the **Patch memory** tab; it brings M-Vave's user data back.

After going back, use the **stock-firmware script** for your DAW again. The Oscuro script stays quiet on stock firmware (see Troubleshooting).

> **Grown slot and going back.** Going back to M-Vave's firmware from a keyboard whose slot was grown for an oversize image has not been tried on a unit yet. If anything goes wrong, the recovery route is described in `guides/F01_flash_over.md` in the package.

CHAPTER 3

Connect: USB and Bluetooth

The keyboard reaches your DAW over the USB cable, or over Bluetooth LE MIDI in the DAW BT build. Over USB you can also split it into three MIDI ports, so the keys, the pads and the DAW link each get their own.

USB: one port or three

By default the keyboard shows up as **one** USB MIDI port, SMK-37 Oscuro USB. Keys, pads and the DAW link share it, and the script sorts them out. This is the simplest setup and works out of the box.

For separate recording of keys and pads, set **Globe** → **DAW & USB** → **USB Ports** → **Split** and restart the keyboard. It then shows up as three ports:

Port	Carries	In Bitwig
Keys	keys, knobs and faders outside a script, wheels, arpeggiator, melodic sequencer tracks	add as a generic MIDI keyboard
Pads	pads (and the Harmony Helper's chords), Note Repeat, the drum track	add as a second generic MIDI keyboard
DAW	the Oscuro DAW protocol	the input and output of the SMK-37 Oscuro script

With Split, record the keys on one instrument track and the pads (drums, Harmony chords) on another, as if they were two instruments.

Bluetooth MIDI (DAW BT)

1. Tap `BT`. The first start shows Starting Bluetooth...; the screen then says On (advertising).
2. Pair **SMK-37 Oscuro BLE** in your computer's MIDI setup. On a Mac: Audio MIDI Setup → Window → Show MIDI Studio → Bluetooth, then **Connect**.
3. In Bitwig, choose SMK-37 Oscuro BLE as the script's input and output, and set the script preference **Connection** to Bluetooth.

The whole DAW session runs over Bluetooth: screens, knobs, pads and transport. The keyboard needs no USB cable at all, so it can run from a power bank. It uses one link at a time: the one the DAW connected on last; traffic for the script on the other link is ignored while it lasts.

Things to know:

- Bluetooth carries one MIDI stream. Keys and pads are told apart by MIDI channel (pads on channel 10 by default); there is no Split.
- If BT is left on, it starts by itself after power-on. **Hold `Globe` while switching on** to skip it for that start.
- Bluetooth adds a little delay, and the screen updates arrive in small bursts. See Troubleshooting if it feels slow.

- Bluetooth MIDI has been tried with a Mac only; Windows, iOS and Android are untested. The DAW session over Bluetooth is tested on a computer only, not yet with a keyboard.

Channels and other settings that matter

Where	Setting	Why
Globe → Play Setup	Key Channel, Pad Channel, curves	which MIDI channel your keys and pads play on
Globe → DAW & USB	USB Ports (One / Split)	one port or three (next start)
Globe → MIDI	Clock, Clock Out	who sets the tempo of the arpeggiator, Note Repeat and sequencer
Globe → Physical Controls → Pads	Shift Pad	makes one pad a Shift key for the script (see Controls that work in every view)

Changes to USB Ports take effect at the next start.

CHAPTER 4

Set up Bitwig Studio

The SMK-37 Oscuro script is a Bitwig controller extension in the folder `bitwig/SMK37-Oscuro` of the DAW package. You copy it once into Bitwig's script folder and add it as a controller.

> **Needs Bitwig Studio 6.1 or newer.** Older versions are not supported: Bitwig shows SMK-37 Oscuro needs Bitwig Studio 6.1 or newer and the script does not start.

Install the script

Copy the folder `SMK37-Oscuro` (without its `tests` folder) into Bitwig's Controller Scripts folder:

System	Folder
macOS	`~/Documents/Bitwig Studio/Controller Scripts/`
Windows	`%USERPROFILE%\Documents\Bitwig Studio\Controller Scripts\`
Linux	`~/Bitwig Studio/Controller Scripts/`

When you update Oscuro, replace the folder with the one from the new package.

Add the controller

1. In Bitwig open Settings → Controllers.
2. **Add controller**, choose the vendor **Oscuro** and the model **SMK-37 Oscuro**.
3. Set its MIDI input and output: - **USB Ports: One** → SMK-37 Oscuro USB for both. - **USB Ports: Split** → the **DAW** port for both, then add the Keys and Pads ports as two Generic → MIDI Keyboard controllers. - **Bluetooth** → SMK-37 Oscuro BLE for both.
4. Bitwig may find the keyboard by itself when it is connected; check the ports anyway.

When the script reaches the keyboard, the screen turns to the **Device** view with the selected device's knobs. If the keyboard is not connected yet, the script waits and connects as soon as it is.

Keep M-Vave's stock script

M-Vave's own Bitwig script (SMK37-Elite, from M-Vave's repository) speaks to the **stock** firmware. Keep it installed if you ever go back:

- On **Oscuro**, enable SMK-37 Oscuro and disable or remove the stock controller in Settings → Controllers.
- On **M-Vave's firmware**, do the opposite. The Oscuro script never sends anything the stock firmware would act on; it just waits.

Both scripts can sit in the Controller Scripts folder at the same time. Only one should be active on the keyboard's port.

Help inside Bitwig

The script folder holds a short help page, `SMK37-Oscuro.html` (setup and the quick-reference card), and this manual as `oscuro-bitwig-manual.pdf`. Bitwig shows a page named after a script as that controller's help, as it does for its own scripts; whether it does so for scripts in your own Controller Scripts folder has not been confirmed yet. If no help link appears, open the two files from the folder yourself.

Preferences

The script's settings sit in the controller's panel in Settings → Controllers. The defaults suit most people; each is explained in Script preferences:

Preference	Default
SEQ button	Screen views
Show modulation	Yes
Accent colour	Bitwig orange
Fader pick-up	Soft takeover
Knob steps	Normal (128)
Connection	USB (set Bluetooth on the BLE ports)

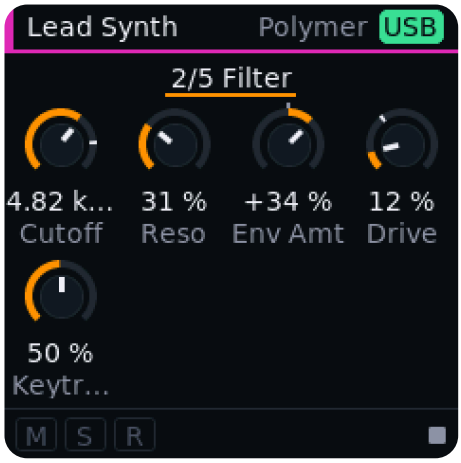
The surface

CHAPTER 5

Reading the screen

While the script is connected, the screen shows your DAW, not the keyboard. Every view has the same frame: a status bar on top, the view's content in the middle, and the selected track's colour at the bottom.

The status bar



The Device view: the device name (Polymer) on the left, the remote page (2/5 Filter) in the middle, the USB chip on the right. The selected track sits at the bottom.

Place	Shows
Left	What you are working on: the device's name in the Device view, Mixer, Overview or Browser in the others
Middle	Where you are inside it: the remote page ("2/5 Filter"; the word pads is added when the pads are the device's switches), the tracks the Mixer shows ("Tracks 1-8"), the project name, the browser's title
Right	**USB** (green) while a computer is connected

Without a script, the left side reads **DAW** and the screen shows the keyboard's own home page: the last note or chord, the bank, the octave and which modes are on.

The accent and the track colour

Two colours tell you different things, and they never swap roles.

- **The accent** is the screen's highlight colour: the line under the status bar, the knob arcs, the cursor, the framed track, lit chips. The script sets it once when it connects. It stays the same all session, whichever track you select.

The Bitwig script uses **Bitwig orange**; the script preference Accent colour → Keyboard setting keeps your own accent from **Globe** → **System** → **Accent** instead.

- **The track colour** is the colour of the track you selected in the DAW. It shows as a coloured bar next to the track's name (Device view), as each strip's colour line (Mixer), and as a thin line along the bottom of the screen (Overview, Browser).

So when the bottom line or bar changes colour, you selected another track. The rest of the screen keeps its look.

Knob cells

In the Device view (and the small cells of the Overview), each cell sits above the knob it belongs to:

- the **name** of the parameter and the **value** as the DAW writes it ("4.82 kHz", "31 %");
- an **arc** showing the position. Parameters that go both ways from a centre fill from 12 o'clock;
- a small **tick on the arc** where modulation moves the parameter right now (an LFO or envelope in Bitwig), when Show modulation is on;
- **empty and dim** when the knob has nothing to control on this page. Turning it does nothing.

Messages

Short messages appear as a card over the screen and disappear by themselves:

- **Fader moves** outside the Mixer: "Bass: -4.8 dB", with "(move up)" or "(move down)" while the fader waits for pick-up.
- **Tempo** while you change it with `Oct-` + K8.
- **Pads: <device> switches** once, when pad bank B turns into the device's switches (Device view).
- **Alerts** from the DAW. Only an alert interrupts a keyboard page you are editing.

A message from the DAW, framed in red: an alert.

When the connection ends

If the DAW quits, the script is switched off, or the cable comes out, the keyboard notices within two seconds. It then drops everything the script owned: the knobs, faders, pads and buttons go back to the keyboard's own functions and lights, and no note is left hanging. When the script comes back, it takes them again.

CHAPTER 6

Controls that work in every view

Some controls do the same thing whatever the screen shows: the transport, the view button, the tracks on pad bank B and the second fader bank. Learn these once and they work everywhere.

Transport

Control	Does
`SEQ PLAY`	Play / stop. Lit while Bitwig plays
`Oct-` + `SEQ PLAY`	Stop and return to the start
`SEQ REC`	Arranger record. Lit while recording; blinks slowly while launcher overdub is on
`Oct-` + `SEQ REC`	Launcher overdub on / off
`Oct-` + `SEQ` (tap)	Metronome on / off
`Oct-` + K8	Tempo: one BPM per click; hold the Shift pad as well for 0.1 BPM. The new tempo shows as a message

Views

Control	Does
`SEQ` (tap)	Next view: **Device** → **Mixer** → **Overview** → **Device**. `SEQ` is lit in every view except Device
`SEQ` (hold half a second)	**Browser**: replace the selected device, or add one to a track that has none
`Oct-` + `SEQ` (hold)	**Browser**: insert a new device after the selected one
`SEQ` in the Browser	Close it without loading and go back to the view you came from

Oct- is the modifier

The SMK-37 has no Shift button, so `Oct-` **held** is the modifier for everything the script does. A chord with `Oct-` never shifts the octave: a lone tap of `Oct-` still steps the octave down when you let go, but once you used `Oct-` together with another control, its release does nothing.

The **Shift pad** works the same way for the script. Make one pad a Shift key in **Globe** → **Physical Controls** → **Pads** → **Shift Pad**. It is optional; everything has an `Oct-` chord too. Two things only the Shift pad does:

- held while turning `Oct-` + K8, it gives 0.1 BPM steps;
- held, it lights the bottom pad row as the choice of pad actions (below).

Held while turning a knob, either one gives **fine steps** (eight times finer than normal).

Tracks on pad bank B

Press `Knob Bank` and `Fader Bank` together to switch the pads between bank A and bank B. **Bank A plays notes** (and the Harmony Helper when it is on); **bank B controls tracks**, so you can switch back and forth without losing either.

> **Exceptions in the Device view.** When the selected device has on/off switches, pad bank B toggles those instead of the tracks (see Device view). On a drum track it becomes the drum pads and the step sequencer (see Drum pads and steps). The Mixer and Overview always keep the track pads.

- **Top row, pads 1-8: select a track.** Each pad is lit in its track's colour; the selected track is brightest. Unlit pads have no track.
- **Bottom row, pads 9-16: one action on the same eight tracks.** Which action is up to you:

Pad to choose it	Action	Lit
9	**Mute**	yellow, bright when muted
10	**Solo**	blue, bright when soloed
11	**Arm**	red, bright when armed
12	**Stop** the track's clip	grey, pulses while a clip plays, blinks when a stop is queued
13	**Launch** the clip in the selected scene	the clip's colour; dim = stopped, pulse = queued, blink = recording

To choose, hold `Oct-` (or the Shift pad) and tap pad 9-13. The choice stays until you change it. Only while you hold the **Shift pad** do pads 9-13 light up as the menu, with the current action brightest.

Moving around with the top row (hold `Oct-` or the Shift pad):

Pad	Does
1 / 2	Previous / next eight tracks
3 / 4	Scene up / down (which scene Launch uses)
8	Launch the whole selected scene

Faders

- **Fader Bank A (normal):** faders 1-4 are the volumes of four tracks, the fader window. In the Mixer view the window is marked F1-F4; `Left` / `Right` move it there.
- **Fader Bank B:** faders 1-4 are the **selected track's** Volume, Pan, Send 1 and Send 2.

Faders use **soft takeover**: a fader that does not sit where the value is waits until you move it across the value, then takes over. A message tells you which way to move it. Fader pick-up → Jump in the script preferences switches this off. Details in Mixer view.

Knob Bank B

`Knob Bank` switches the knobs between bank A (K1-K8) and bank B (K9-K16). What K9-K16 do depends on the view. The screen shows the bank you are on.

Recording automation by touch

Turning a knob or moving a fader **touches** its parameter in Bitwig, and releases it half a second after you stop. With Bitwig's automation write mode set to **Touch**, you can record automation by simply playing the knobs: only what you move is written. See Workflows.

CHAPTER 7

When the keyboard's own pages take over

The script owns the knobs, faders, pad bank B and a few buttons. The rest stays the keyboard's, and while you use one of the keyboard's own pages it borrows the knobs and `Left` / `Right` back. You never have to disconnect the script to change a keyboard setting.

Buttons that always stay the keyboard's

`Globe` (settings), `PATCH` (Harmony Helper), `ARP`, `SCALE`, `CHORD`, `NOTE REPEAT`, `Oct+` / `Oct-`, `Knob Bank`, `Fader Bank`, `BT`, `PARA` and `FX` keep their own functions in a DAW session. The keys, pad bank A and the wheels keep playing MIDI.

Who gets the knobs and Left / Right

While...	Knobs	`Left` / `Right`	Then
a keyboard page or list is open (`Globe` settings, the `SCALE`, `ARP`, `CHORD` or `NOTE REPEAT` list)	the page	the page	the DAW gets them back when the page closes
`Globe` or `ARP` is held (editing without opening the list), or a button is held for its long press	the keyboard	—	back when you let go
the **Harmony Helper** is on	the DAW, on its home page; the page, on its list pages	the Harmony pages (its carousel and its scale question)	back when you switch Harmony off
nothing of the above	the DAW	the DAW	

The **faders** stay the DAW's throughout, and the keyboard's own fader screen never opens for them.

A turn or press that the keyboard took never reaches the DAW, so a setting you change on a keyboard page never moves a parameter by accident.

The Harmony Helper and the screen

While the Harmony Helper is on, its screen replaces the DAW view. Its pads are pad bank A, so pad bank B still controls tracks. Hold `PATCH` to switch it off; the DAW view returns. See Harmony Helper.

SEQ and the keyboard's sequencer

In a DAW session `SEQ` changes the screen view, and `SEQ PLAY` / `SEQ REC` drive the DAW's transport. If you would rather use the keyboard's step sequencer with `SEQ`, give `SEQ` back to the keyboard in the script's settings (Bitwig: preference SEQ button → Firmware sequencer; Live: `seq_views: False` in `user_settings.py`; FL Studio: `seq_views: False` in `oscfl_settings.py`). The views then stay on **Device** (only `SEQ` changes them), and `SEQ PLAY` / `SEQ REC` still belong to the DAW.

The Harmony Helper's **Memory** page is the one exception for `SEQ PLAY`: there it starts and stops the replay of your stored chords on the keyboard, even in a DAW session.

Views

CHAPTER 8

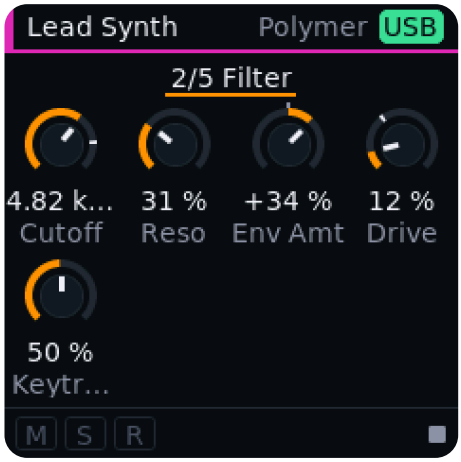
Device view

Play a sound and shape it with the knobs, without looking at the computer. The knobs follow the device you select in Bitwig, page by page, and the screen names every knob and shows its value as Bitwig does.

Getting there

The Device view is where every session starts. From another view, tap `SEQ` until the left of the status bar shows the device's name. `SEQ` is unlit in this view.

What the screen shows



The Device view: Polymer, remote page 2 of 5 (Filter). Cutoff and Drive show a modulation tick; K6-K8 have nothing on this page. The selected track, Lead Synth, is at the bottom.

- **Status bar:** the device's name on the left; the remote page's position and name in the middle ("2/5 Filter").
- **Eight knob cells** for K1-K8: name, value, arc. A tick on the arc shows where modulation has the parameter right now. A dim, empty cell has no parameter on this page; its knob does nothing.
- **The selected track** along the bottom: its colour bar, its name, and its **M**, **S**, **R** (mute, solo, arm) lit when on.

The controls

Control	In the Device view
K1-K8	The selected device's **remote controls**, the current page
K9-K16 (Knob Bank B)	The selected **track's** remote controls
`Left` / `Right`	Previous / next remote page
`Oct-` + `Left` / `Right`	Previous / next device in the track's chain
`Oct-` or Shift pad held while turning	Fine steps
Pad bank B	The device's on/off switches, when it has any (below); on a drum track the drum pads (see Drum pads and steps); otherwise tracks

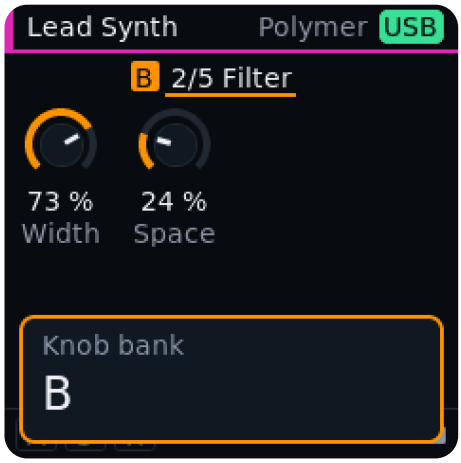
Control	In the Device view
hold `SEQ`	Browser: replace this device
`Oct-` + hold `SEQ`	Browser: insert a device after this one
Shift pad + `Right`	Steps for one key of the track (see Drum pads, steps and key lanes)

Pads, faders and transport work as everywhere (see Controls that work in every view).

Remote controls: what the knobs reach

Bitwig gives every device **remote control pages**: sets of eight parameters chosen to be useful together (for Polymer: Oscillator, Filter, Envelope…). Bitwig's own devices come with pages; for plug-ins and your own devices you can make pages in the device's remote-controls panel in Bitwig. The knobs always show the page the screen names.

Track remote controls (K9-K16) are Bitwig's per-track macros (Bitwig 5 and newer): eight controls on the track itself that can each move parameters on several devices, such as "Drive" or "Width". Set them up in the track's remote-controls panel. They are the same whichever device is selected, so they make a second layer that does not change when you step through the chain.



Knob Bank B in the Device view: the track's remote controls (Width, Space).

Device pads: switches on the pads

Many devices have on/off parameters on their remote pages: a filter's bypass, a delay's sync, an oscillator's on switch. When the selected device has such switches on its current remote page or the next one, **pad bank B plays them** instead of the tracks:

- **Top row (pads 1-8):** the switches of the current page, under the knob with the same number.
- **Bottom row (pads 9-16):** the switches of the next page.
- A switch's pad is lit in Bitwig orange: **bright = on**, dim = off. Pads without a switch stay dark and do nothing.
- Tap a pad to flip the switch. Like a knob, it touches the parameter, so Bitwig can record the flip as automation.

You can tell the pads changed meaning three ways: the message **Pads: Polymer switches** appears once, the status bar adds **| pads** after the page name ("2/5 Filter | pads"), and the pads turn orange.

The `Oct-` and Shift pad chords on the pads still do what they do everywhere (track bank, scenes, choosing the bottom-row action). To mute or select tracks with the pads, tap `SEQ` to the **Mixer**, or pick a device without switches.

How fine is a knob?

A knob click moves a parameter by 1/128 of its range. Holding `Oct-` or the Shift pad makes it 1/1024 for exact settings. The script preference Knob steps → Fine (256) halves the normal step. Turning fast makes bigger jumps if **Globe** → **Physical Controls** → **Knob Curve** is set to the exponential curve.

When there is no device

On a track without devices the status bar reads **No device** and **hold SEQ: browse**: hold `SEQ` to pick one (see Browser). A device without remote pages shows **no pages**, and its knobs do nothing until you add a page in Bitwig.

Good to know

- Turning a knob also touches the parameter, so Bitwig can record it in Touch automation mode (see Workflows).
- Show modulation → No in the script preferences hides the modulation ticks.
- The knobs follow Bitwig's selection: click a device in Bitwig and the screen follows it.

CHAPTER 9

Drum pads, steps and key lanes

Program a beat from the keyboard. With a Drum Machine on the track, pad bank B shows its drum pads: pick a sound, hold its pad, and the sixteen pads become sixteen steps of that sound in the clip. Play on pad bank A, program on pad bank B.

When the pads become drum pads

This works in the **Device view**. Pad bank B turns into drum pads when:

1. the selected device is a **Drum Machine** (or another device with drum pads), or
2. the selected device has no on/off switches for the device pads (see Device view), and the track's first instrument is a Drum Machine.

So on a drum track, selecting the Drum Machine, or an effect without switches, brings up the drum pads; selecting a device with switches gives the device pads instead. The screen says **Pads: <device> drum pads (hold one: steps)** once. In the Mixer and Overview, pad bank B is always the track pads.

The drum pads only select and program; they make no sound. Play the drums on **pad bank A** (or the keys) as usual.

The drum pads page

Pads	Do
Top row, 1-8	Eight drum pads, starting at C1, lit in their colours; the selected one is bright. **Tap** selects the pad in Bitwig. **Hold half a second**: its steps
Bottom row, 9-16	**Mute** of the same eight drum pads (yellow, bright = muted). **Solo** (blue) instead when the bottom-row action is Solo
`Oct-` + `Left` / `Right`	The next / previous eight drum pads (C1-G1, G#1-D#2, ...)
`Left` / `Right`	Remote pages, as in the Device view

The status bar shows the Drum Machine's name and the window ("C1-G1"). The `Oct-` and Shift pad chords on the pads keep their meaning: for example `Oct-` + pad 10 makes the bottom row solo the drum pads.

The steps page

Hold a drum pad for half a second and all sixteen pads become **steps**: sixteen sixteenth notes of that drum sound in the clip shown in Bitwig's editor.

- **Lit in the pad's colour:** a note on that step. **Dim:** empty. **White:** the step playing now.
- **No clip yet?** The first press makes a one-bar clip in the track's launcher slot and puts the note in it. If no clip appears within two seconds (no slot to make it in), the screen says **No clip to write to: select a slot**: select an empty launcher slot in Bitwig and press again.

- The status bar shows the drum pad's name and **Steps 1-16/16** (which steps, of how many in the clip's loop).

Control	Does
Press an empty step	Add a note (velocity 100, one sixteenth long)
Press a note and let go	Remove it
Hold a step and turn K1	Velocity
Hold a step and turn K2	Length, a sixteenth per click
Hold a step and turn K3	Chance: how often the note plays
Hold a step and turn K4	Repeats: ratchets within the note
Hold a step and turn K5	Occurrence: when the note plays (Always, First, Not first, Prev, Not prev, Prev channel, Not prev channel, Prev key, Not prev key, Fill, Not fill), one per click
Hold a step and turn K6	Recurrence: Off, or play only on the first of 2 to 8 cycles of the clip
Hold a step and turn K7	Timbre (for instruments that follow per-note timbre)
Hold a step and turn K8	Pressure (per-note pressure). `Oct-` + K8 still sets the tempo
`Left` / `Right`	The previous / next sixteen steps (in a longer clip)
`Oct-` + `Left` / `Right`	The previous / next drum sound, staying on the steps page
Shift pad + `Left`	Back to the drum pads page

A note you held and edited with a knob stays when you let go. While a step is held, the eight knob cells show its Velocity, Length, Chance, Repeats, Occurrence, Recurrence, Timbre and Pressure; hold `Oct-` or the Shift pad for fine steps.

Building a beat

1. Put a Drum Machine on a track and select it. Switch to pad bank B (`Knob Bank` + `Fader Bank`).
2. Hold the kick's pad (C1, pad 1). Press steps 1, 5, 9 and 13.
3. `Oct-` + `Right` twice to the snare (D1). Press 5 and 13.
4. `Oct-` + `Right` four more times to the closed hi-hat (F#1). Press every other step; hold one and turn K1 down for a softer hit, K3 down so it only sometimes plays.
5. `SEQ PLAY`: the white step runs over the pattern. Shift pad + `Left` to go back to the drum pads and mute sounds on the bottom row.

Good to know

- On the drum pads page `Oct-` + `Left` / `Right` moves the drum pad window, not the device chain. To change device, select it in Bitwig or leave the drum pads (tap `SEQ` around the views).

- Without a Shift pad, the way back from the steps page is to leave the Device view and come back: tap `SEQ` three times. Setting a Shift pad (Globe → Physical Controls → Pads → Shift Pad) makes it one press.
- The steps edit the launcher clip in the editor, not the arranger.
- Drum pads, steps and key lanes are new and tested on a computer only: they have not yet been tried in Bitwig with a keyboard.

Steps for any instrument: key lanes

The steps page also works on a melodic track, one key at a time. In the **Device view**, on a track that holds notes, with the track pads showing (no switches, no Drum Machine):

1. **Shift pad +** `Right` opens the steps of one key, **C3** the first time. The screen says **Steps: <track> key C3 (Oct- + Left/Right: key)** once; the status bar shows the note name and Steps 1-16/16.
2. Edit the steps exactly as with drums: press to add, press and let go to remove, hold and turn K1-K8. Notes are lit in the track's colour.
3. `Oct-` **+** `Left` **/** `Right` moves to the key a semitone lower / higher. `Left` / `Right` page through a longer clip.
4. **Shift pad +** `Left` closes it. Changing track or leaving the Device view closes it too. The next time it opens on the key you used last.

Key lanes need a Shift pad (Globe → Physical Controls → Pads → Shift Pad). A selected Drum Machine keeps the drum pads instead.

CHAPTER 10

Mixer view

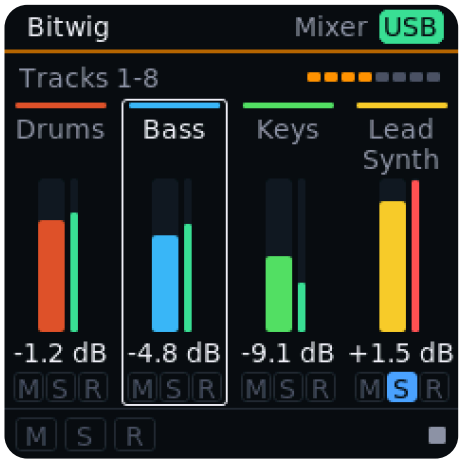
Balance a song without reaching for the mouse. The four faders set four track volumes at a time, the knobs pan and send, and the pads mute, solo and arm, while the screen shows eight tracks with their levels.

Getting there

Tap SEQ. The views turn in a ring: **Device** → **Mixer** → **Overview** → **Device**. The SEQ button is lit in every view except Device, so you can tell at a glance that you are away from the sound controls. The status bar reads **Tracks 1-8** (the eight tracks the screen shows).

> **SEQ does something else?** In the script preferences, SEQ button is set to Firmware sequencer. Set it back to Screen views (see Script preferences).

What the screen shows



The Mixer view: eight strips, the four under the faders marked F1-F4, the selected track (Bass) framed. Lead is soloed, Pad muted, FX armed.

Each strip, top to bottom:

- **Colour line and name:** the track's colour in Bitwig and as many letters of its name as fit.
- **Volume bar** in the track's colour. A muted track's bar turns grey.
- **Level meter** beside it: green, red near clipping. It moves while Bitwig plays.
- **Three small squares:** mute (yellow), solo (the accent colour), arm (red). A square is lit while that switch is on.
- **F1-F4** under the four strips the faders move, underlined in the accent colour.

The selected track is framed in the accent colour. Its name and volume are written along the bottom ("Bass -4.8 dB").

The controls

Control	In the Mixer view
Faders 1-4	Volume of the strips marked F1-F4
`Left` / `Right`	Move the faders to the other four strips; past the edge, to the next or previous eight tracks
`Oct-` + `Left` / `Right`	Jump eight tracks back or forward (the faders stay on the same strips)
K1-K8	Pan of strips 1-8
K9-K16 (Knob Bank B)	Send 1 of strips 1-8
`Oct-` or Shift pad held while turning	Fine steps
Fader Bank B	The selected track's Volume, Pan, Send 1, Send 2 (in every view)

The screen does not draw pan or send values. Watch Bitwig's mixer while you set them.

Soft takeover: why a fader sometimes does nothing

A fader never makes a volume jump. When its position doesn't match the track's volume, it waits until you move it past that volume, and then it takes over. While it waits, its label shows which way to go:

- **F2^**: move fader 2 up.
- **F2v**: move fader 2 down.

You will see this after `Left` / `Right` (the four faders now face new tracks), and after Bitwig moved a volume itself (automation, the mouse). In the other views a fader move shows a short message instead, such as "Bass: -4.8 dB (move up)".

If you would rather have the volume jump to the fader at once, set Fader pick-up to Jump in the script preferences.

Mute, solo and arm from the pads

The pads of pad bank B control tracks in every view, so you can use them in the Mixer. Press `Knob Bank` and `Fader Bank` together to switch the pads to bank B. Bank A keeps playing notes.

- **Top row (pads 1-8):** select the track. Each pad is lit in its track's colour, and the selected one is brightest.
- **Bottom row (pads 9-16):** one action for the same eight tracks: **Mute** (yellow), **Solo** (blue), **Arm** (red), **Stop** (grey, pulses while a clip plays) or **Launch** (the clip's colour).

To choose the bottom row's action, hold `Oct-` or the Shift pad and tap one of pads 9-13 (Mute, Solo, Arm, Stop, Launch). While the **Shift pad** is held, the bottom row lights up as that choice; holding `Oct-` does not light it.

A mixing pass

1. Tap `SEQ` until the status bar reads **Tracks 1-8**.

2. Start playback with `SEQ PLAY` and pull faders 1-4 down to the lowest track label. Each fader picks up its track as it passes the volume (the ^ / v mark goes away).
3. Set the balance of tracks 1-4, press `Right`, and set tracks 5-8.
4. Turn K1-K8 to place the tracks in the stereo field. Switch `Knob Bank` to B and use K9-K16 to send tracks to your reverb on send 1.
5. Pick the bottom-row action Solo (hold `Oct-`, tap pad 10) and solo tracks to check them one at a time.
6. Select the track you are fine-tuning with its top-row pad and switch `Fader Bank` to B. Faders 1-4 now set its volume, pan, send 1 and send 2.

Good to know

- The keyboard's own pages (Globe settings, SCALE, ARP, CHORD lists) take the knobs and `Left` / `Right` while they are open. The faders keep controlling the mixer.
- The meters update about ten times a second, enough to see levels but not a precise peak meter.
- The view needs the DAW or DAW BT build. Other Oscuro builds keep the knob cells on the screen while the script still drives the same controls.

CHAPTER 11

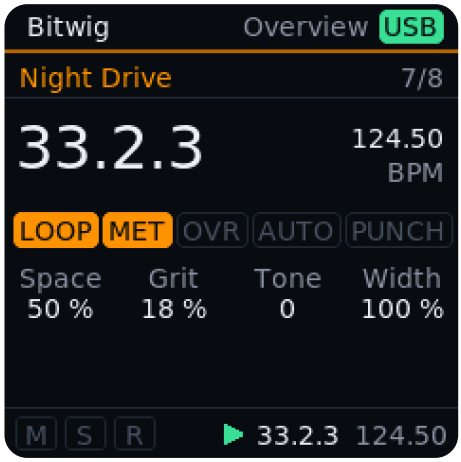
Overview

The view for arranging and recording: a big tempo and play position, the state of loop, metronome, overdub, automation and punch, and knobs for the project-wide controls, so you can run a take without the mouse.

Getting there

Tap `SEQ` until the status bar reads **Overview** (Device → Mixer → Overview). One more tap goes back to Device.

What the screen shows



The Overview: tempo 124.50 BPM, position bar 33 beat 2 sixteenth 3, project Night Drive in 7/8, playing; Loop and Metronome on. The knob cells show the project's remote controls.

- **Tempo** in large digits, and the **position** as bar.beat.sixteenth.
- The **project name**, the **time signature**, and the transport: **PLAY**, **REC** or **STOP**.
- **Chips**, lit while on: **LOOP**, **MET** (metronome), **OVR** (overdub), **AUTO** (automation write), **PUNCH**.
- **Knob cells** for the knobs: K1-K8 or, on Knob Bank B, K9-K16.
- The selected track's colour as a thin line along the bottom.

The controls

Control	In the Overview
K1-K8	The project's **remote controls** (Bitwig's project-wide macros)
K9	Tempo: 1 BPM per click (0.1 with `Oct-` or the Shift pad held)
K10	Shuffle amount (Bitwig's groove)
K11	Metronome volume
K12	Loop start, one bar per click (a quarter note with the modifier)

Control	In the Overview
K13	Loop length, one bar per click (a quarter note with the modifier)
K14	Play position, one bar per click (a quarter note with the modifier)
K15	nothing
K16	Master volume
`Left` / `Right`	Play position one bar back / forward
`Oct-` + `Left` / `Right`	Four bars back / forward

Transport, pads and faders work as everywhere (see Controls that work in every view).

Project remote controls

K1-K8 reach Bitwig's **project remote controls**: eight macros that belong to the whole project, not to a track. Map them in Bitwig's project remote-controls panel to anything you want within reach during a take: a master filter, a reverb size, a global "intensity". Unmapped controls show as empty cells.

Good to know

- The position updates up to ten times a second while Bitwig plays.
- The time signature is read from the project. Loop and position steps follow it: in 7/8 a "bar" is seven eighth notes.

CHAPTER 12

Browser

Find a device or preset by ear without leaving the keyboard. Holding `SEQ` opens Bitwig's browser, the keyboard's screen lists the results, and you scroll and hear them while you play.

Getting there

Hold `SEQ` for half a second in any view. Bitwig opens its pop-up browser to **replace the selected device**, or to add a device when the track has none. **Hold** `Oct-` **and hold** `SEQ` to **insert a new device after** the selected one instead. The keyboard shows the Browser view.

What the screen shows

The Browser: presets for Polymer, the cursor on result 41 of 412. The bottom row names the knobs and the Cancel / OK buttons.

- The browser's **title** (what is being browsed; No results when a filter leaves nothing) and the cursor's position in the results ("41/412").
- **Eight result rows**; the cursor's row is filled with the accent colour. Long names are cut.
- The **knob labels** along the bottom: Result, Category, Creator, Type, and **< Cancel** / **OK >** over `Left` / `Right`.

The controls

Control	In the Browser
K1	Scroll the results. Bitwig previews the result under the cursor; play the keys to hear it
K2	Category filter
K3	Creator filter
K4	File type filter

Control	In the Browser
`Right`	**OK**: load the result and close
`Left`	**Cancel**: close without loading
`SEQ` (tap)	Cancel, as `Left`

After closing, the keyboard returns to the view you came from. Closing the browser in Bitwig (Esc, a click outside) does the same.

Finding a sound

1. Select the track and the device to replace (Device view: `Oct-` + `Left` / `Right`).
2. Hold `SEQ`. Turn K2 to the category you want ("Bass"), K3 to narrow by creator if you like.
3. Turn K1 slowly and play a few notes on each result.
4. `Right` keeps it, `Left` keeps the old device.

Good to know

- `SEQ` alone replaces the selected device; `Oct-` + `SEQ` held adds a new one after it, so you can build a chain (synth, then EQ, then delay) from the keyboard.
- The rows follow the cursor a page of eight at a time.

The keyboard's own features

CHAPTER 13

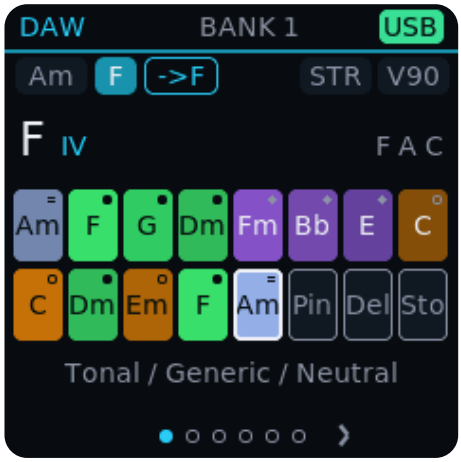
Harmony Helper

A chord partner on the pads. It names the chords you play, lights the pads with the chords that tend to come next, coloured by how well they fit, and shows which notes fit over the chord that is sounding. It makes MIDI notes only: record them in your DAW like any other notes.

On, off, and what it takes over

- **Hold** `PATCH` (half a second) to switch it on or off. `PATCH` is lit while it is on.
- **Tap** `PATCH` to open its Setup list.

While it is on, **pads 1-16 of pad bank A** belong to the helper and its screen replaces the DAW view. Pad bank B still controls the DAW's tracks, the faders still mix, and `Left` / `Right` walk the helper's pages instead of the device pages. Hold `PATCH` again to give everything back; every note it held is released.



The Play page after a chord: the chord just played (F, numeral IV), the two pad rows as tiles, and what fits.

The pads

Pads	What they play
1	The same chord again
2-8	The seven best next chords after the one you played, best first. Before any chord: the home chord and good ways to start
9-12	The first four chords of your scale, I ii iii IV (C Dm Em F in C major). Hold `Oct-`: V vi vii° I
13	The **anchor** chord, a stable reference
14 **PIN**	Make the last chord the anchor
15 **DEL**	Remove the last stored chord
16 **STORE**	Pin the chord and store it in the Memory

Colours: green safe, **orange** explore, **violet** borrowed from outside the scale but it fits, **dark red** does not fit (scale row only), **pale blue** the same chord again, **white** the chord sounding now. Brighter = ranked higher. **Globe** → **System** → **Pad Colours** → **Colour-blind** switches to blue, yellow, magenta and dark.

Hold a pad for a quarter of a second to see **why** it fits (with Setup → Why Popup → Hold). Chords you play on the keys are named too, including odd ones and slash chords.

The six pages

`Right` and `Left` walk **Play** → **Notes** → **Memory** → **Tuning** → **Bass** → **Setup** and wrap around. On the list pages K1 picks a row, K2 changes it, K3 pages. The pads play on every page.

Page	What it is for
Play (home)	K1 Suggest (Safe, Tonal, Bold), K2 Genre (39 genres; a card shows its typical moves), K3 Mood, K4 Chord Size, K5 Strum and K6 Humanize (stored, not applied yet), K7 Velocity, K8 Octave
Notes	The twelve notes as piano keys coloured by their job over the current chord: **H** Home (green), **C** Colour (blue), **L** Lean, wants to resolve (orange), **P** Passing (grey), Out of scale (violet). Held keys get a white outline
Memory	Up to 8 stored chords, each ½, 1 or 2 bars (K2). `SEQ PLAY` here replays the progression in a loop
Tuning	Velocity, Level, Chord Size, **Chord Shape** (Close, Open, Rootless A / B, Quartal), Spread, Voice Lead, Octave
Bass	A bass line on its own MIDI channel: Off, Root, or Pattern (follows the clock), with a style, lowest note, approach notes and pedal
Setup	Suggest, Genre, Mood, Follow (keys, pads or both), Scale Detect (Off, Ask, Auto), Advance, Why Popup, Note Context

Notes while a stored progression replays: Home green, Colour blue, Lean orange, Out violet; the next chord top right.

A first session in your DAW

1. Set the scale with `SCALE` (K1 base note, K2 scale). Hold `PATCH`.

2. In the DAW, give the pad channel an instrument track with a sound you like (with USB Ports: Split, put the **Pads** port on it).
3. Play pad 9 (the I chord). The green pads on the top row are safe next chords; play one. When you like a chord, press **STORE** (pad 16). Store four.
4. `Right` to **Memory**, then `SEQ PLAY`: the four chords loop. Arm the track in the DAW and record them; to record in time with the DAW's transport, start recording there first.
5. `Left` to **Notes** and play a melody on the keys over the loop: green notes on strong beats.
6. On **Tuning**, try Chord Shape: Rootless A with the **Bass** page on Root, and give the bass channel its own bass track.

Scales shared with the DAW

The helper and the keyboard's Scale mode use one scale.

Bitwig has no project scale, so the script leaves the keyboard's scale as it is. With Scale Detect: Ask the helper may offer a better-fitting scale after a few chords: `Right` switches, `Left` keeps yours.

Limits

- Not yet run on a keyboard: the helper, its replay and bass assist were tested on a computer only.
- The Memory is lost at restart and cannot be sent to the sequencer yet.
- Strum and Humanize are stored but do not change the notes yet. Rootless shapes need the bass assist on.

CHAPTER 14

Scale, Chord, Arp, Note Repeat, sequencer, clock

The DAW builds keep the keyboard's own performance features. They work the same in a DAW session: they change the notes the keys and pads send, and the DAW records the result.

How the buttons work

Most of these buttons share one pattern: **tap** opens the list, **hold** switches the mode on or off. In a list, K1 picks a row, K2 changes it, K3 pages, `Left` goes back. While a list is open it has the knobs and `Left` / `Right`; the DAW gets them back when it closes.

Scale

Tap `SCALE`: K1 Base, K2 Scale, K3 Fix, K4 Shift. Hold `SCALE` to switch it on or off. With it on, the keys are pulled into the scale; **Fix** decides what a key outside it does (Down, Up, Near, or Filter it out). Make your own **User 1-4** scales by tapping keys on the SCALE list. The Harmony Helper uses the same scale.

Chord

Tap `CHORD`: Chord (Maj, Min, Dim, Aug), Type (Triad to 13th), Voicing (Fixed or in the Scale). Hold `CHORD` to switch it on or off. With it on, each key plays a whole chord.

Arpeggiator

Tap `ARP` for its list; hold it for 0.6 s to switch it on or off. Its sections, reached with `Left` / `Right`: **ARP**, **RHYTHM** (Euclidean), **EVOLVE**, **STRUM**, **HUMAN**. Hold `ARP` and turn K1-K8 to edit without opening the list (the knobs are the keyboard's while you hold it).

Note Repeat

Hold `NOTE REPEAT` and turn K1-K5 (Gate, Swing, Tempo, Rate, Latch); tap it to switch on or off. Pads then repeat while held, for drum rolls into the DAW.

Step sequencer

Seq1, Seq2 (melodic) and Drum (14 lanes), each with 8 patterns of up to 64 steps. In a DAW session `SEQ`, `SEQ PLAY` and `SEQ REC` belong to the DAW. To use the sequencer from `SEQ`, give `SEQ` back to the keyboard in the script's settings (see When the keyboard's own pages take over). Projects are kept in memory only and are lost at restart. The sequencer has not been run on a unit yet.

Tempo and clock

All timed features (arpeggiator, Note Repeat, sequencer, Harmony replay and bass pattern) run from one clock.

- **The keyboard leads** (Globe → MIDI → Clock: Internal): its own tempo. In a DAW session `Oct-` + K8 sets **the DAW's** tempo instead (see Controls that work in every view); set the keyboard's own tempo on the ARP or NOTE REPEAT page.
- **The DAW leads** (Clock: USB or Auto): send MIDI clock from the DAW to the keyboard's port (Live: Sync on for the keyboard's output port; FL Studio: Send master sync on the keyboard's output in MIDI settings), and the arpeggiator and the rest follow the DAW's tempo, start and stop. The status bar shows `E` and the tempo while it follows. Over Bluetooth use Clock: BLE; the tempo settles after about four beats.
- **TAP**, where a preset binds it, taps the DAW's tempo while the script is connected.

Other settings worth knowing

Where	What
Globe → Physical Controls → Pads	Pad Thresh, Pad Sens, Pad Wait (how the pads respond), Shift Pad, Perform Layer
Globe → Physical Controls	Knob Curve and Knob Speed (how a fast turn behaves), Wheels (calibration)
Globe → System	Pad LEDs, Accent, Pad Colours, Save Delay
Globe → DAW & USB	USB Ports, USB Audio (the test voice as a sound card; leave it off unless you need it)

The **preset editor** (`oscuro-editor.html`) edits what every control sends when no script owns it. Close your DAW before connecting it.

Workflows

CHAPTER 15

Shape, mix, record, browse, navigate

Five everyday jobs, step by step. Each one names the view it uses; the view chapters explain every control in detail.

Shaping a sound

Device view. You want to play a part and adjust its synth while you play.

1. Select the track: pad bank B, top row (or click it in Bitwig). The bottom of the screen shows its name and colour.
2. The knobs are the first remote page of the selected device. Play with one hand, turn with the other.
3. `Right` for the next page (the status bar shows "2/5 Filter"), `Left` to go back.
4. `Oct-` + `Right` steps to the next device in the chain: an EQ, a delay. The knobs follow.
5. For an exact value, hold `Oct-` or the Shift pad while you turn: steps become eight times finer.
6. Switch `Knob Bank` to B for the track's own macros (K9-K16), which stay the same whichever device you select.

A modulation tick on a knob arc shows where an LFO or envelope moves that parameter, so you see whether your knob is the base value under a moving modulation.

Mixing

Mixer view. You want to balance eight tracks.

1. Tap `SEQ` to **Mixer**. Faders 1-4 are the strips marked F1-F4.
2. Pull each fader through its track's level; the ^ / v mark next to F1-F4 goes away when it picks up.
3. `Right` moves the faders to tracks 5-8, then on to the next eight tracks.
4. K1-K8 pan, K9-K16 (Knob Bank B) send to send 1. Watch Bitwig's mixer for the values.
5. On pad bank B, choose Solo (hold `Oct-`, tap pad 10) and solo tracks one by one; choose Mute (pad 9) to take parts out.
6. For one track in detail, select it and switch `Fader Bank` to B: volume, pan, send 1, send 2 on the faders.

Recording with automation

Overview and Device views. You want to record a take and the knob moves with it.

1. In Bitwig set automation write mode to **Touch** and enable automation write (the **AUTO** chip in the Overview lights).
2. Tap `SEQ` to **Overview**. Set the loop with K12 / K13, the metronome with `Oct-` + `SEQ`, and its level with K11.
3. Arm the track: pad bank B, Arm action (hold `Oct-`, tap pad 11), then the track's bottom-row pad.
4. Go back to where the knobs you want are: tap `SEQ` until **Device**.

5. `SEQ REC` starts recording. Play, and turn knobs where you want movement. Each knob writes only while you turn it and lets go half a second after you stop, so the rest of the automation stays.
6. `SEQ PLAY` stops. `Oct-` + `SEQ PLAY` stops and returns to the start for the next take.

For clip launcher takes use `Oct-` + `SEQ REC` (launcher overdub) and the Launch pad action.

Loading devices from the browser

Browser view. You want a new sound on a track.

1. Select the track. To replace a device, select it in the Device view (`Oct-` + `Left` / `Right`).
2. Hold `SEQ`. K2 chooses the category, K3 the creator, K4 the file type.
3. Turn K1 and play: Bitwig previews each result.
4. `Right` loads it, `Left` gives up. You are back in the view you came from, and the knobs show the new device.

On a track without a device, holding `SEQ` adds one. To add an effect after the selected device instead of replacing it, hold `Oct-` while you hold `SEQ`.

Programming a beat

Device view, drum track. Select the Drum Machine, switch to pad bank B, hold a drum sound's pad and press steps; hold a step and turn K1-K4 for velocity, length, chance and repeats. The whole walk-through is in Drum pads and steps.

Navigating a big project

You want to reach track 23 or scene 12 without the mouse.

- **Tracks by eights:** hold `Oct-` and tap pad 1 or 2 of bank B's top row (any view), or `Oct-` + `Left` / `Right` in the Mixer. The Mixer's status bar shows which eight ("Tracks 17-24").
- **Then select** with a top-row pad. The knobs, the bottom of the screen and Fader Bank B follow.
- **Scenes:** hold `Oct-`, tap pad 3 / 4 to move the scene; pad 8 launches the whole scene; the Launch action launches single clips of it.
- **Through time:** in the Overview, `Left` / `Right` step a bar, `Oct-` + `Left` / `Right` four bars, K14 moves the play position.
- **Through a chain:** in the Device view, `Oct-` + `Left` / `Right`.

Reference

CHAPTER 16

Script preferences

The SMK-37 Oscuro script has six settings in Bitwig's Settings → Controllers, in the SMK-37 Oscuro panel. A change applies at once: the script hands the keyboard the new setup without a reconnect.

Preference	Choices	What it changes
SEQ button	Screen views (default), Firmware sequencer	Screen views: `SEQ` cycles Device, Mixer and Overview, and a hold opens the Browser. Firmware sequencer: `SEQ` stays the keyboard's and opens its sequencer pages; the screen stays in the Device view. `SEQ PLAY` and `SEQ REC` drive Bitwig either way
Show modulation	Yes (default), No	The tick on a knob arc where modulation moves the parameter
Accent colour	Bitwig orange (default), Keyboard setting	The screen's highlight colour for the session. Keyboard setting keeps the accent chosen in Globe → System → Accent. The track colour never replaces it
Fader pick-up	Soft takeover (default), Jump	Soft takeover: a fader waits until it passes the current value (F1^ / F1v show the way). Jump: the value jumps to the fader at once
Knob steps	Normal (128) (default), Fine (256)	Clicks for a parameter's full range. Holding `Oct-` or the Shift pad gives 1024 either way
Connection	USB (default), Bluetooth	How much the script sends to the keyboard each tenth of a second (about 300 or 120 bytes). Set Bluetooth when the script uses the BLE ports. Names come first, then values, then modulation ticks, so the screen stays readable; a knob you turn still updates at once

Which to change first

- If you use the keyboard's step sequencer a lot, set **SEQ button** to Firmware sequencer.
- If parameter jumps are a problem live (for example on a master volume), keep **Soft takeover**. If you set levels from scratch each time, Jump is quicker.
- If you find the knobs coarse for filter sweeps, try Fine (256).
- Over Bluetooth, set **Connection** to Bluetooth.

CHAPTER 17

Troubleshooting

Most problems come down to which firmware is running, which port the script listens on, or a keyboard page holding the controls. Start at the top.

The screen never changes to the Device view

The script has not reached Oscuro firmware.

1. **Is Oscuro running?** Tap `Globe` → About. It should show **DAW** (or **DAW BT**). On M-Vave's firmware the Oscuro script waits and does nothing: use M-Vave's stock script there.
2. **Is the controller enabled and on the right port?** Settings → Controllers: SMK-37 Oscuro with SMK-37 Oscuro USB (USB Ports: One), the **DAW** port (USB Ports: Split) or SMK-37 Oscuro BLE as **both** input and output.
3. **Is another app holding the port?** Close the web installer, the preset editor and MIDI Suite.
4. **Look at the script console.** In Bitwig, the controller's console prints "SMK-37 Oscuro: waiting for Oscuro firmware" until the keyboard answers.
5. **Is Bitwig new enough?** The script needs Bitwig Studio 6.1 or newer; an older Bitwig shows SMK-37 Oscuro needs Bitwig Studio 6.1 or newer.
6. Turn the controller off and on in Bitwig, or replug the cable.

Knobs, pads or SEQ do the wrong thing

- **Two scripts on one port.** If M-Vave's stock script is also enabled on the keyboard's port, both react. Disable the one you are not using (stock script for stock firmware, SMK-37 Oscuro for Oscuro).
- **A keyboard page is open.** While Globe settings, a SCALE / ARP / CHORD list or the Harmony Helper is up, the knobs or `Left` / `Right` belong to it. Close it.
- **The pads play notes instead of tracks.** You are on pad bank A. Press `Knob Bank` and `Fader Bank` together for bank B.
- **The pads flip device switches instead of muting tracks.** In the Device view a device with on/off switches takes pad bank B (the status bar shows | pads). Tap `SEQ` to the Mixer for the track pads.
- **The pads show drum sounds or steps.** A Drum Machine is selected, or is the track's first instrument: see Drum pads and steps. Shift pad + `Left` leaves the steps; the Mixer has the track pads.
- `SEQ` **opens the sequencer.** SEQ button is set to Firmware sequencer.

A fader does nothing

Soft takeover: the fader waits until it passes the track's value. Move it toward the arrow (F2^ up, F2v down) or set Fader pick-up → Jump.

Keys play twice, or not at all

- With USB Ports: Split, add the Keys and Pads ports as generic MIDI keyboards; the script itself only listens to the DAW port.
- With USB Ports: One, do **not** also add the same port as a generic keyboard: the notes would arrive twice.

Bluetooth feels slow

Bluetooth MIDI adds a few milliseconds, and its packets come in bursts, so meters and the play position look jumpier than over USB.

- Set the script preference **Connection** to Bluetooth: it sends less per update.
- Use USB for playing; Bluetooth is fine for mixing and browsing.
- Keep the keyboard close to the computer, away from Wi-Fi routers.
- If it stays slow, switch `BT` off and on, or remove and pair SMK-37 Oscuro BLE again.

The keyboard restarted, or the cable came out

Nothing to do: the script notices within a second that the keyboard is back and sends it everything again. The keyboard, on its side, drops the script's controls two seconds after the link goes quiet and returns them to their normal functions, so nothing is left hanging.

Stock script or this one?

Your keyboard runs	Use
M-Vave's firmware	M-Vave's stock SMK37-Elite script
Oscuro DAW or DAW BT	**SMK-37 Oscuro**
Another Oscuro build	SMK-37 Oscuro works (knob names, values, pad lights); the Mixer, Overview and Browser screens need a DAW build

Reporting a problem

Note the version (Globe → About), what you did and what you expected. A test build can also save a diagnostics report (`TESTING.md` in the package). If you need the keyboard working right away, put M-Vave's firmware back with the installer.

CHAPTER 18

Quick-reference card

Everything the SMK-37 Oscuro script does, on one page. `Oct-` held is the modifier; the Shift pad works the same.

Everywhere

Control	Does
`SEQ` tap / hold	Next view (Device → Mixer → Overview) / Browser, replacing the device
`Oct-` + `SEQ` tap / hold	Metronome / Browser, inserting after the device
`SEQ PLAY` · `Oct-` + `SEQ PLAY`	Play / stop · stop and back to start
`SEQ REC` · `Oct-` + `SEQ REC`	Record · launcher overdub
`Oct-` + K8	Tempo (Shift pad: 0.1 BPM)
Faders 1-4	Volumes of the 4-track window
Fader Bank B	Selected track: Volume, Pan, Send 1, Send 2
Pad bank B, pads 1-8	Select track (Device view, device with switches: this page's switches, 9-16 the next page's)
Pad bank B, pads 9-16	Mute / Solo / Arm / Stop / Launch the same 8 tracks
`Oct-` + pad 9-13	Choose that action
`Oct-` + pad 1 / 2 · 3 / 4 · 8	Tracks −8 / +8 · scene up / down · launch scene
`Oct-` or Shift pad + knob	Fine steps
Drum track (Device view)	Pads 1-8 sounds (hold: steps), 9-16 mute. Steps: press add / remove, hold + K1-K8 edit
Steps page	Shift pad + `Right`: a key's steps · `Oct-` + `Left` / `Right`: sound or key · Shift pad + `Left`: back

Per view

	Device	Mixer	Overview	Browser
K1-K8	device remote page	pan of 8 tracks	project remotes	K1 results, K2 category, K3 creator, K4 type
K9-K16	track remote page	send 1 of 8 tracks	tempo, shuffle, click, loop start, loop length, position, —, master	—
`Left` / `Right`	remote page	fader window, then next 8	1 bar	cancel / load
`Oct-` + `Left` / `Right`	device in chain	8 tracks	4 bars	—

Stays the keyboard's

`Globe` settings · `PATCH` Harmony Helper (hold: on / off) · `SCALE`, `CHORD`, `ARP`, `NOTE REPEAT` (tap: list, hold: on / off) · `Oct+` / `Oct-` · `Knob Bank` · `Fader Bank` · `Knob Bank` + `Fader Bank`: pad bank A / B · `BT` · pad bank A: notes. An open keyboard page borrows the knobs and `Left` / `Right`.

Screen

Left: device or view · middle: page, tracks or project · **USB**: connected · accent (orange): the session's highlight · track colour: bar or line at the bottom · F2^ / F2v: move fader 2 up / down to pick up.

CHAPTER 19

Glossary

The words this manual uses, in alphabetical order.

Word	Meaning
Accent	The screen's highlight colour for the session (Bitwig orange, Live amber or FL Studio green by default). It never follows the selected track
Anchor	In the Harmony Helper: the chord the suggestions stay around, played by pad 13
App slot	The area of the keyboard's flash that holds the firmware. Images larger than M-Vave's slot grow it when installed
Bank A / bank B	Two layers of the same controls: K1-K8 / K9-K16, faders 1-4 / their second set, pads (bank A notes, bank B tracks)
Browser	The view that drives the DAW's browser from the knobs
DAW build / DAW BT build	The Oscuro firmware made for controlling a DAW; BT adds Bluetooth MIDI
DAW port	With USB Ports: Split, the USB MIDI port that carries the DAW protocol
DAW protocol	The Oscuro messages between the keyboard and the script: what you touch, what the screen and lights show
Device pads	Pad bank B as the selected device's on/off switches, in the Device view
Drum pads	Pad bank B as the eight drum sounds of a Drum Machine, in the Device view
Device view	The view where the knobs are the selected device's remote controls
Fader window	The four tracks faders 1-4 control, marked F1-F4 in the Mixer
Fine steps	Knob steps eight times smaller, while `Oct-` or the Shift pad is held
Golden	A reference screen image from the keyboard's UI simulator; the screens in this manual
Key lane	The steps page for one key of a melodic track (Shift pad + Right in the Device view)
Mixer view	Eight track strips with volumes, meters and mute / solo / arm
Modulation tick	The mark on a knob arc where modulation moves the parameter right now
Oct- modifier	`Oct-` held together with another control; it then never shifts the octave
Overview	The view with tempo, position, transport states and the project remote controls

Word	Meaning
Project remote controls	Bitwig's eight macros for the whole project
Remote controls / remote page	Bitwig's sets of eight device parameters chosen to be played together
Script	The Oscuro script for your DAW: SMK-37 Oscuro (Bitwig controller extension), SMK37_Oscuro (Live Remote Script) or SMK-37 Oscuro (FL Studio MIDI script)
Session	The time the script and the keyboard are connected. It ends two seconds after the link goes quiet
Shift pad	A pad you made a Shift key in Globe → Physical Controls → Pads
Soft takeover	A fader waits until it passes the current value before it changes it
Split / One	USB Ports: three MIDI ports (Keys, Pads, DAW) or one
Steps page	The sixteen pads as sixteen sixteenth-note steps of one drum sound in the clip
Stock firmware / stock script	M-Vave's own firmware and the DAW script made for it
Touch (automation)	Bitwig's automation mode that writes only while a control is touched; turning a knob touches its parameter
Track colour	The selected track's colour in the DAW, shown as a bar or line, never as the accent
Track remote controls	Bitwig's eight macros on a track (Bitwig 5+), on K9-K16 in the Device view
View	One of the screen's layouts: Device, Mixer, Overview, Browser