LED controller — user guide

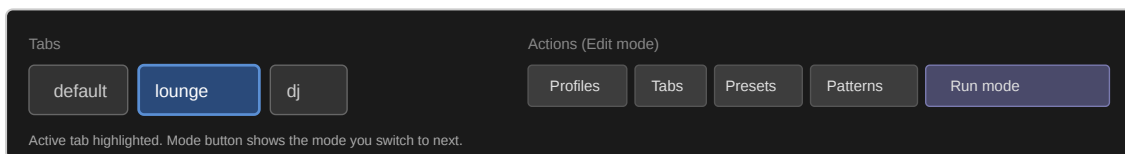## LED controller — user guide

This page describes the **main web UI** served from the Raspberry Pi app: profiles, tabs, presets, colour palettes, and sending commands to LED devices over the serial → ESP-NOW bridge.

For HTTP routes and the wire format the driver expects, see **API.md**. For running the app locally, see the project **README**.

Figures below are **schematic** (layout and ideas), not pixel-perfect screenshots.

Run mode and Edit mode

The header has a mode toggle (desktop and mobile menu). The **label on the button is the mode you switch to** when you press it.

Schematic: tab buttons on the left; Profiles, Tabs, Presets, Patterns, and the mode toggle on the right (example shows Edit mode with "Run mode" on the button).

The active tab is highlighted. Extra management buttons appear only in Edit mode.

Mode	Purpose
Run mode	Day-to-day control: choose a tab, tap presets, apply profiles. Management buttons are hidden.
Edit mode	Full setup: tabs, presets, patterns, colour palette, **Send Presets**, profile create/clone/delete, preset reordering, and per-tile **Edit** on the strip.

Profiles is available in both modes: in Run mode you can only **apply** a profile; in Edit mode you can also **create**, **clone**, and **delete** profiles.
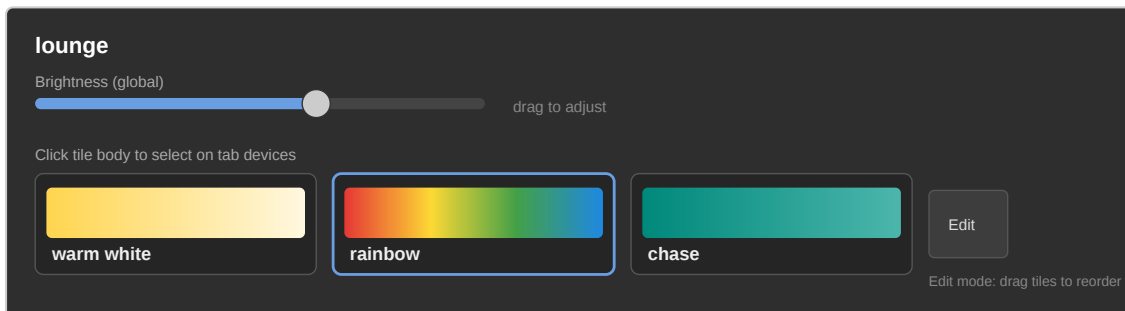

Tabs

- **Select a tab**: click its button in the top bar. The main area shows that tab's preset strip and controls.
- **Edit mode — open tab settings**: **right-click** a tab button to change its name, **device IDs** (comma-separated), and which presets appear on the tab. Device

identifiers are matched to each device's **name** when the app builds `select` messages for the driver.
- **Tabs modal** (Edit mode): create new tabs from the header **Tabs** button. New tabs need a name and device ID list (defaults to `1` if you leave a simple placeholder).
- **Brightness slider** (per tab): adjusts **global** brightness sent to devices (`b` in the driver message), with a short debounce so small drags do not flood the link.

Presets on the tab strip

- **Run and Edit mode**: click the **main part** of a preset tile to **select** that preset on all devices assigned to the current tab (same logical action as a `select` in the driver API).
- **Edit mode only**:
  - **Edit** beside a tile opens the preset editor for that preset, scoped to the current tab (so you can **Remove from tab** without deleting the preset from the profile).
  - **Drag and drop** tiles to reorder them; order is saved for that tab.

Schematic: tab title, brightness slider, and a row of preset tiles; Edit mode adds an Edit control and drag handles for reordering.
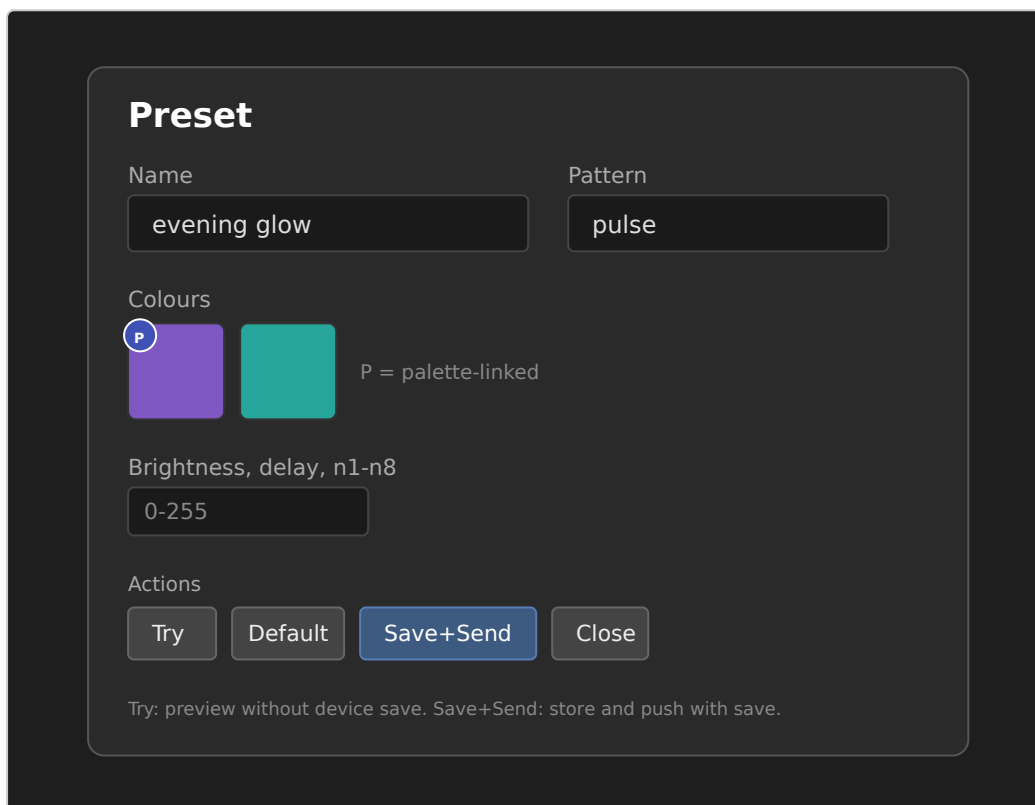
The slider controls global brightness for the tab's devices. Click the coloured area of a tile to select that preset.

The **Presets** header button (Edit mode) opens a **profile-wide** list: **Add** new presets, **Edit**, **Send** (push definition over the transport), and **Delete** (removes the preset from the profile entirely).

Preset editor

- **Pattern**: chosen from the dropdown; optional **n1–n8** fields depend on the pattern (see **Pattern-specific parameters** in API.md).
- **Colours**: choosing a value in the colour picker **adds** a swatch when the picker closes. Swatches can be **reordered** by dragging. Changing a swatch with the picker **clears** palette linkage for that slot.
- **From Palette**: inserts a colour **linked** to the current profile's palette. Linked slots show a **P** badge; if you change that palette entry later, presets using it update.
- **Brightness (0–255)** and **Delay (ms)**: stored on the preset and sent with the compact preset payload.

- **Try**: sends the current form values to devices on the **current tab**, then selects that preset — **without** `save` on the device (good for auditioning).
- **Default**: updates the tab's **default preset** and sends a **default** hint for those devices; it does not force the same live selection behaviour as clicking a tile.
- **Save & Send**: writes the preset to the server, then pushes definitions with **save** so devices may persist them. It does **not** auto-select the preset on devices (use the strip or **Try** if you want that).
- **Remove from tab** (when you opened the editor from a tab): removes the preset from **this tab's list only**; the preset remains in the profile for other tabs.

Preset

Name
evening glow

Pattern
pulse

Colours

P = palette-linked

Brightness, delay, n1-n8
0-255

Actions

Try   Default   Save+Send   Close

Try: preview without device save. Save+Send: store and push with save.

Schematic: preset editor with name, pattern, colour swatches (one with a P badge for palette-linked), and action buttons.

Try previews without persisting on the device; **Save & Send** *stores the preset and pushes definitions with save.*

Profiles

- **Apply**: sets the **current profile** in your session. Tabs and presets you see are scoped to that profile.
- **Edit mode — Create**: new profiles always get a populated **default** tab. Optionally tick **DJ tab** to also create a `dj` tab (device name `dj`) with starter DJ-oriented presets.
- **Clone** / **Delete**: available in Edit mode from the profile list.
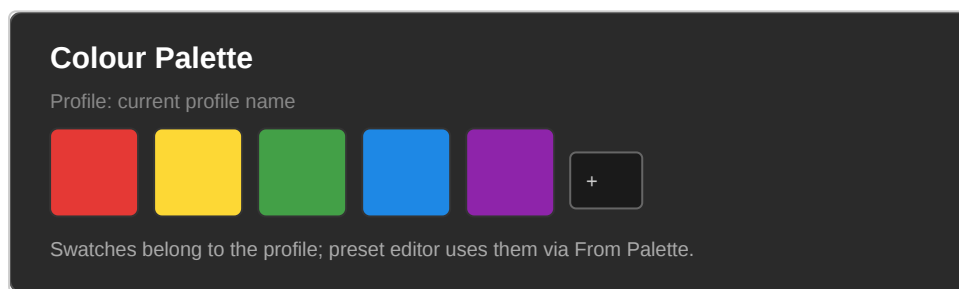
Send Presets (Edit mode)

Send Presets walks **every tab** in the **current profile**, collects each tab's preset IDs, and calls `POST /presets/send` per tab (including each tab's **default** preset when set). Use this to bulk-push definitions to hardware after editing, without clicking **Send** on every preset individually.

Patterns

The **Patterns** dialog (Edit mode) is a **read-only reference**: pattern names and typical **delay** ranges from the pattern definitions. It does not change device behaviour by itself; patterns are chosen inside the preset editor.

Colour palette

Colour Palette (Edit mode) edits the **current profile's** palette swatches. Those colours are reused by **From Palette** in the preset editor and stay in sync while the **P** link remains.

Schematic: palette modal with a row of swatches for the current profile.

Add or change swatches here; linked preset colours update automatically.

Mobile layout

On narrow screens, use **Menu** to reach the same actions as the desktop header (Profiles, Tabs, Presets, Help, mode toggle, etc.).

Schematic: narrow layout with Menu and the same header actions in a dropdown.

Preset tiles behave the same once a tab is selected.

Further reading

- **API.md** — REST routes, session scoping, WebSocket `/ws`, and LED driver JSON (`presets`, `select`, `save`, `default`, pattern keys).
- **README** — `pipenv run run`, port 80 setup, and high-level behaviour.