

SLOTDASH

User Manual — Version 4.4

Race control, timing and display for slot car tracks with Bepfe pulse electronics

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1 Introduction

SlotDash is the complete race software for club slot car tracks: timing via the Bepfe pulse electronics, race control (admin), a big live display (dashboard), results, rankings, records and printouts. SlotDash fully replaces the classic Rennbahnmanager (WinRBM) — the terminology (series race, slot mode, F1 mode, track call ...) is deliberately the same, so WinRBM veterans will feel at home right away.

System requirements

- Windows PC (older machines are fine), screen resolution 1024×768 or higher
- Bepfe pulse electronics on a serial port (COM port)
- **No internet required** — SlotDash runs completely offline
- Optional: printer (default printer for silent result printing), second screen for the dashboard

GOOD TO KNOW

All data (drivers, races, records) is kept in a local database on the race PC. Nothing is transmitted to the internet.

2 Installation & Starting the Program

1. Copy `SlotDash.exe` from the USB stick to any folder on the race PC (e.g. `C:\SlotDash\`).
2. Double-click `SlotDash.exe` — that's all: no installation, no registration, no additional software.
3. SlotDash starts a local server, opens the display window in full screen (kiosk) and automatically searches for the Bepfe box.

File locations

- **Database:** `%APPDATA%\SlotDash\slotdash.db` — survives updates of the EXE. Copying this one file is a complete backup.
- **Logs:** `%APPDATA%\SlotDash\logs\` — including `slotdash.log` and the crash-safe race recording `race_events.jsonl`.

Updating to a new version

1. Copy the new `SlotDash.exe` over the old one (rename the old one first, e.g. `SlotDash_alt.exe` — it remains runnable as a fallback).
2. Start it — any required database adjustments run automatically, all data is preserved.

Exiting the program

In the admin, choose “**Exit program**” at the bottom left. SlotDash first switches off all track power (safety) and then closes all windows.

Demo version

`SlotDash_Demo.exe` simulates the entire box (cars, start lights, false starts) and uses its **own** database — ideal for practising and testing without corrupting real records. In addition, the demo version can play back raw recordings in real time (replay).

3 Hardware Setup (Bepfe Box)

1. Switch off the PC, connect the Bepfe pulse electronics to the serial port.
2. Connect the power supply of the electronics, wire the photocells according to the wiring diagram.
3. Switch on the PC, start SlotDash.

SlotDash searches for the box **automatically**: first on the last port used, then COM1, then all available ports. The ongoing search also detects the box if it is plugged in or moved to another port later. The connection status is shown at the top right of the admin (e.g. **COM1** in green) and on the dashboard start screen.

Connecting manually

Settings → **Connection to the Bepfe box**: pick a port from the list and press **Connect**, or use “**Search for box automatically**”. **Disconnect** pauses the automatic search until you connect manually again.

Function test

- Cover/uncover the photocells one by one — in practice mode the corresponding lane counts one crossing.
- Emergency panel (chapter 12): power individual lanes and test the start light lamps.

IMPORTANT

Do not extend the serial cable between the pulse electronics and the PC — with a cable that is too long, signals are misinterpreted.

4 First-Time Setup

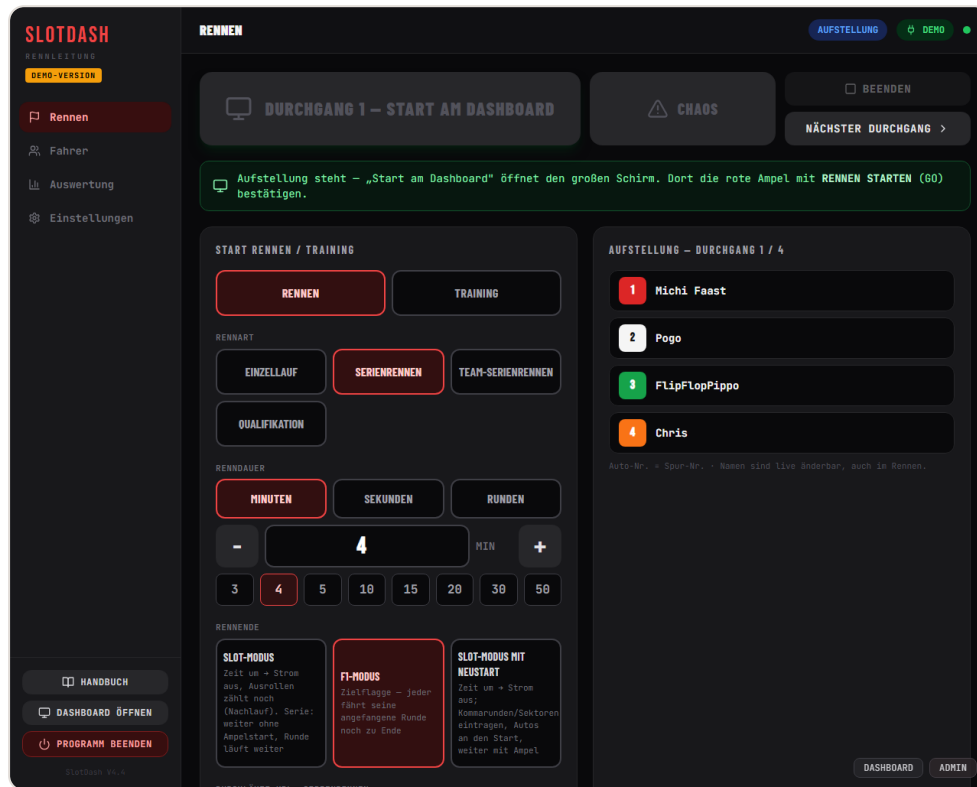
On the very first start, SlotDash takes you straight to **Settings**. Set once:

1. **Club** — appears in the title of every printout.
2. **Track name** — the active track/class (additional profiles: chapter 11).
3. **Lanes** — 2 to 8.
4. **Minimum lap time** — crossings on the same lane that follow each other faster than this count as double triggers and are ignored. Enter a value just below the fastest real lap (e.g. 4.0 s).
5. **Language** — Deutsch, English, Italiano, Español or Français; takes effect immediately.

Confirm with **Save** — then create the first line-up under **Race**.

5 The Cockpit (Race Control)

The admin area is the control centre. Reached via the **ADMIN** button at the bottom right or by clicking the dashboard start screen. On the left the menu (**Race · Drivers · Results · Settings**), at the top the status bar with the race phase and box connection.



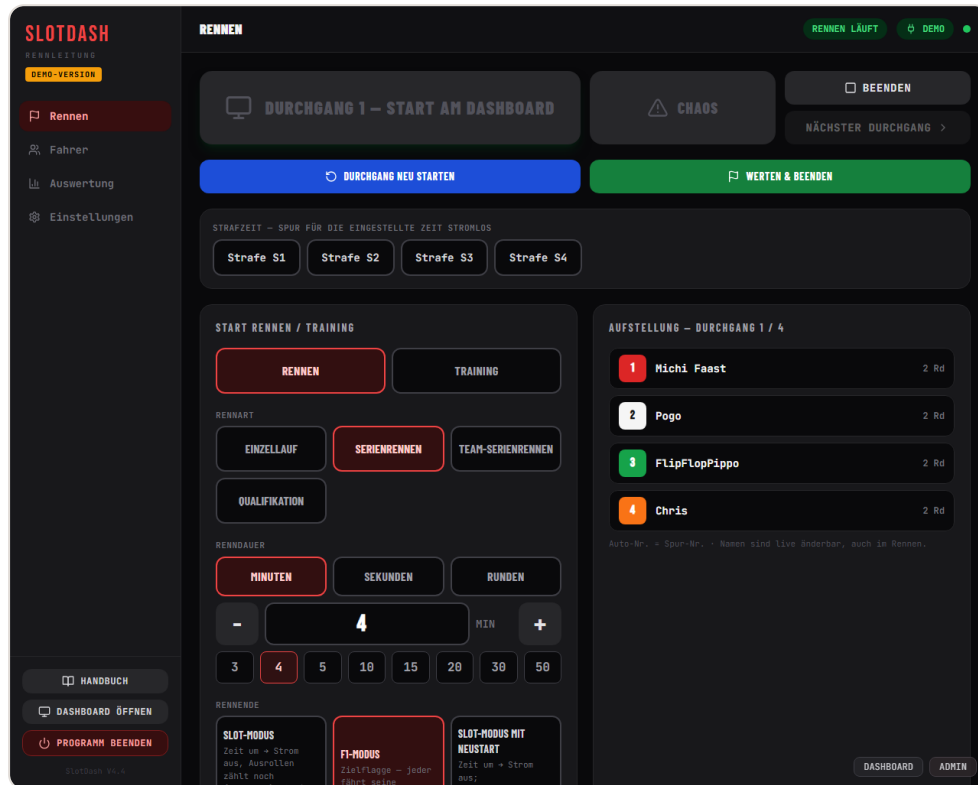
The cockpit: control bar, “Start race / practice” and the line-up of the next heat

The big buttons (always at the top)

BUTTON	FUNCTION
Start on dashboard (green)	Becomes armed as soon as a line-up has been created. Opens the big screen — there, START RACE starts the light sequence.
Track call (red)	All track power off immediately, race halted. Continue releases it again (optionally with 3-2-1-GO). Can also be operated from the dashboard.
Stop	Hard abort after confirmation — no result, nothing is saved.
Next heat	Series: to the next heat (the line-up appears, drivers move lanes).

While a heat is running

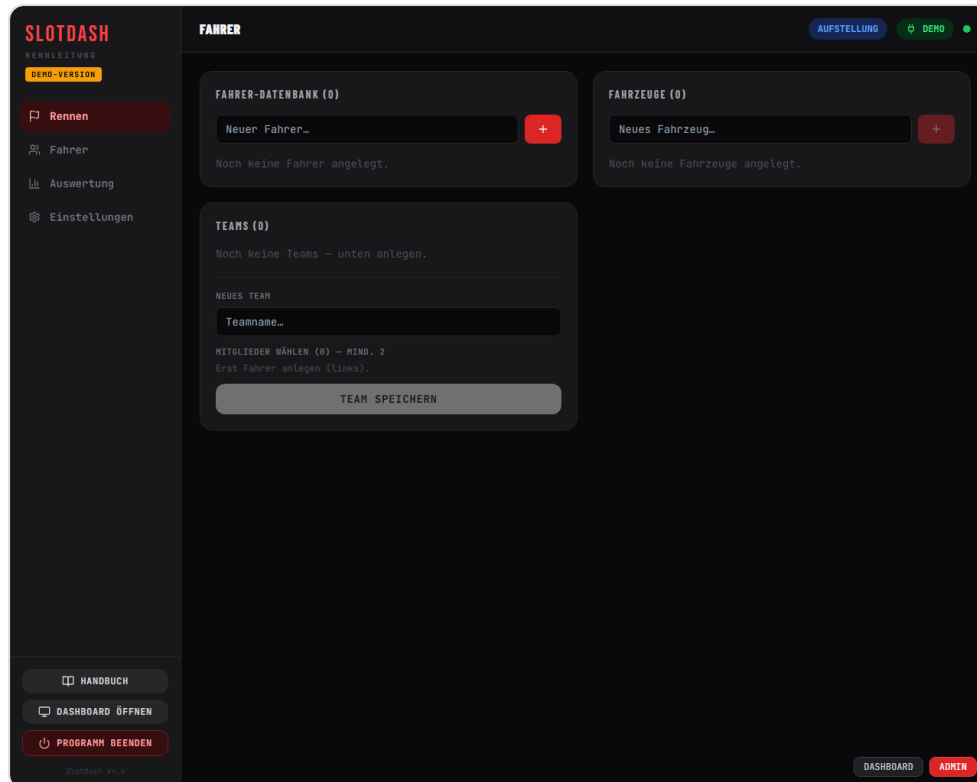
- **Restart heat** — the running heat is discarded and restarted with the same line-up (e.g. drivers were on the wrong lanes).
- **Score & finish** — score the heat immediately with the current standings (e.g. after a crash).
- **Penalty** — one button per lane: the lane loses power for the configured time (chapter 11, “Manual penalty”). The dashboard shows **PENALTY TIME** on the lane.
- **Live standings** — table with position, laps, last and best lap.



Cockpit during a heat: track call button, per-lane penalty and live standings

Managing drivers & teams (“Drivers” menu)

- **Driver database:** create, delete; each driver can be assigned a **car**.
- **Teams:** name + at least 2 members — for team series races.
- **Cars:** cars with up to 5 free setup fields (motor, tyres, gear ratio ...).



Driver database with car assignment, teams and car management

6 Setting Up a Race

Race menu, “**Start race / practice**” card. The layout follows the WinRBM dialog: first **race or practice**, then race type, race length, race end.

6.1 Race types

RACE TYPE	HOW IT WORKS
Single race	One heat, drivers are assigned directly to the lanes.
Series race	Every driver drives every lane exactly once; the laps of all heats are added up. This evens out differences in lane length and cornering.
Team series race	Like a series race, but with teams — every team drives every lane once, and the team name is scored.
Qualifying	Each driver individually, one after another, on one lane, fixed duration, start without lights. Criterion: fastest lap. The result sorts the participant list for the race.
Head-to-head (2 lanes only)	Everyone races everyone on both lanes: (participants × participants) – participants heats.
Practice	Free (no end) or as timed practice (chapter 6.5).

6.2 Race length and race end

Race length: minutes, seconds or laps — with quick-select buttons. **Race end** depends on the basis:

BASIS	MODE	MEANING
Laps	First to finish	The first driver to complete the full lap count ends the race immediately for everyone.
	F1 mode	Chequered flag — everyone finishes the lap they are on, then their lane loses power.
	Everyone full distance	Everyone drives the full lap count; the time needed for it is scored.
Time	Slot mode	Time up → power off immediately; coasting cars still count (overrun). In a series, racing continues without lights — the lap in progress carries on across the lane change.
	F1 mode	Time up → chequered flag, everyone finishes their lap.
	Slot mode with restart (series only)	Like slot mode, but the cars return to the start and every heat begins with the lights; the lap in progress is recorded as a partial lap (chapter 9).

6.3 Series race: participants, groups, rounds

- Select **participants** by clicking them in the driver list; create new drivers directly in the field.
- Sort the **order** with the arrow buttons — it determines the group split (fastest first → group A). After a qualifying session or a race: **“Apply order”**.
- **Groups:** With more drivers than lanes, SlotDash splits automatically (8 drivers / 4 lanes → 2 groups of 4; 7 → 4+3). **Special case:** exactly one driver more than lanes (e.g. 5/4) stays ONE group — a rest lane rotates through, and everyone sits out once. Racing starts with the last group; the group change (“when group finished” or “after every heat”) is set in the settings. The preview shows the split before you create the race.
- **Rounds of the complete series race** (1–99): run the full rotation multiple times (endurance racing). The total duration is displayed.
- **Carry over the result of the last race:** checkbox — the laps of the previous race keep counting (e.g. sprint + main race as one classification).

“Create line-up” creates the race — the line-up appears on the right and on the dashboard. Names can be changed at any time, even during the race.

6.4 Qualifying in detail

1. Race type **Qualifying**, choose the qualifying lane and duration per driver, set participants + starting order.

2. Each run starts from the dashboard **without lights** ("START QUALIFYING"); when time runs out, the power is switched off.
3. Between drivers: **Next heat** (or repeat the run).
4. At the end you get the ranking by fastest lap — when creating the series race, press **"Apply order from qualifying"**.

6.5 Timed practice

Practice → **timed practice**: set practice time and break time. When the time is up, the power goes off, the break countdown runs on the dashboard, and the practice then restarts **automatically**. **CONTINUE** starts earlier, **Stop** aborts. Option **"Show best lap only"**: per lane, only the best lap in giant digits.

7 Start Procedure

1. Line-up ready → press **START RACE** on the dashboard.
2. The red start lights come on one after another (light phase duration adjustable).
3. After the last light: **fixed start time** (GO immediately) or **random time** (unpredictable hold time, as in an F1 start).
4. **GO** — lights out, race on. With light variants that include green, the green lamp now stays lit as long as the race is running.



Start sequence: the red start lights come on one after another

False start

If a car moves during the light phase, the configured policy applies:

- **Penalty** (default): The lane loses power immediately and is automatically released again after the penalty time. The standstill is visibly included in the first lap time.
- **No detection**: Power only comes on with GO — a false start is technically impossible.
- **Abort**: The start is aborted, back to the line-up.

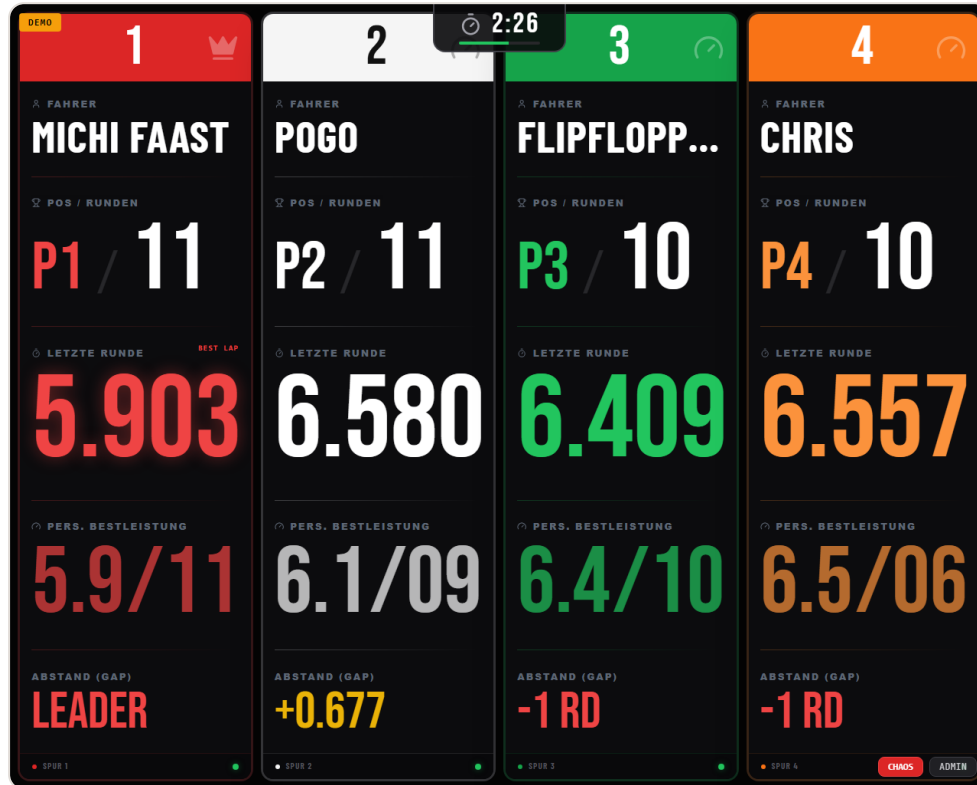
Light variants (lamp hardware)

VARIANT	SEQUENCE
5× red (default)	5 red lamps one after another, all off with GO.
4× red + green	4 red one after another; with GO they go out and the green lamp (output 5) lights up.
1× red / 1× green	Red (output 1) is lit for the light phase; with GO it switches to green (output 2).

Practice and qualifying always start **without** lights. From heat 2 on, a slot-mode series continues without a start procedure (optionally with a big 3-2-1-GO).

8 The Dashboard (Big Screen)

The dashboard is the display for drivers and spectators — one column per lane, in the official SRA lane colours. Per lane, from top to bottom:



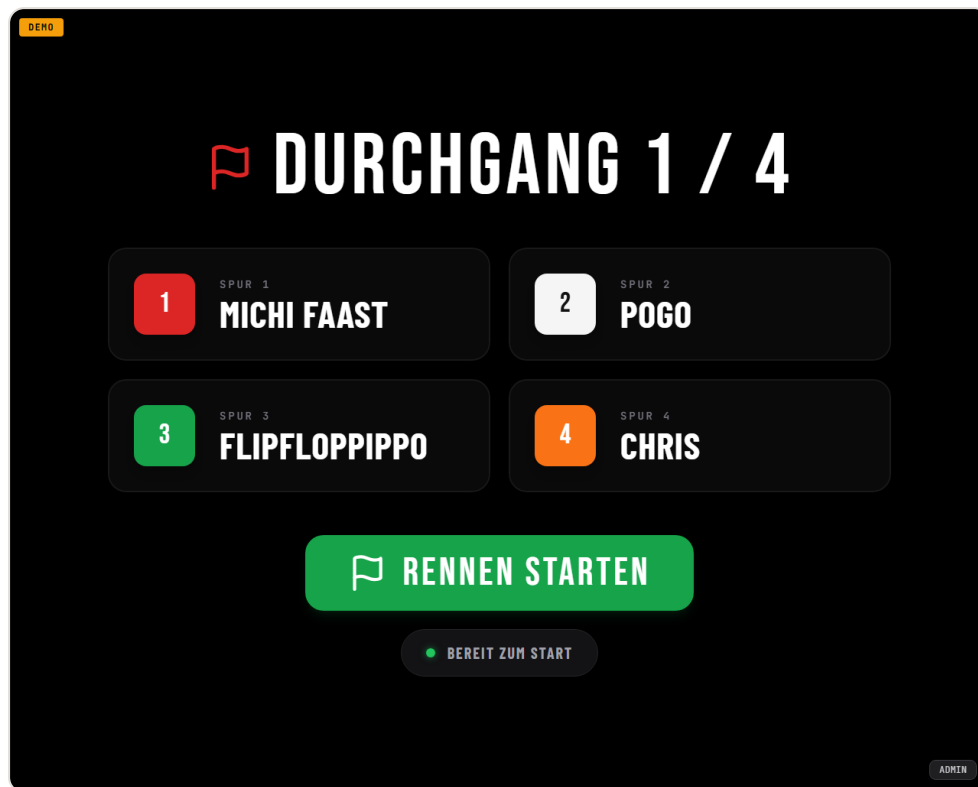
The dashboard during a race: position, laps, last lap, best lap with lap number (5.9/11), gap and remaining time at the top

- **Lane number** (crown = leader)
- **Driver name**
- **Position / lap count**
- **Last lap** — flashes briefly on every new lap; the fastest lap of the race glows with a “Best Lap” marker
- **Personal best** in the format `7.609/02` — best lap and the lap on which it was set
- **Gap** — LEADER, laps behind (–2 lap) or time behind

Additional displays

- **Remaining time** at the top centre: time left with a draining bar (timed races) or “Lap x/y” (lap races).
- **Overlays:** GO!, 3-2-1, TRACK CALL, chequered flag/FINISH per lane, FALSE-START PENALTY, PENALTY TIME, practice break with countdown.
- **Sounds:** light-sequence steps, GO, track call, race end, new best lap, penalty — can be switched off in the settings. No sound files are needed.

- **Bottom-right corner:** context-dependent TRACK CALL/CONTINUE or PRINT, and the ADMIN button (hidden in full screen).



Before the start: line-up of the heat with lane colours and start button

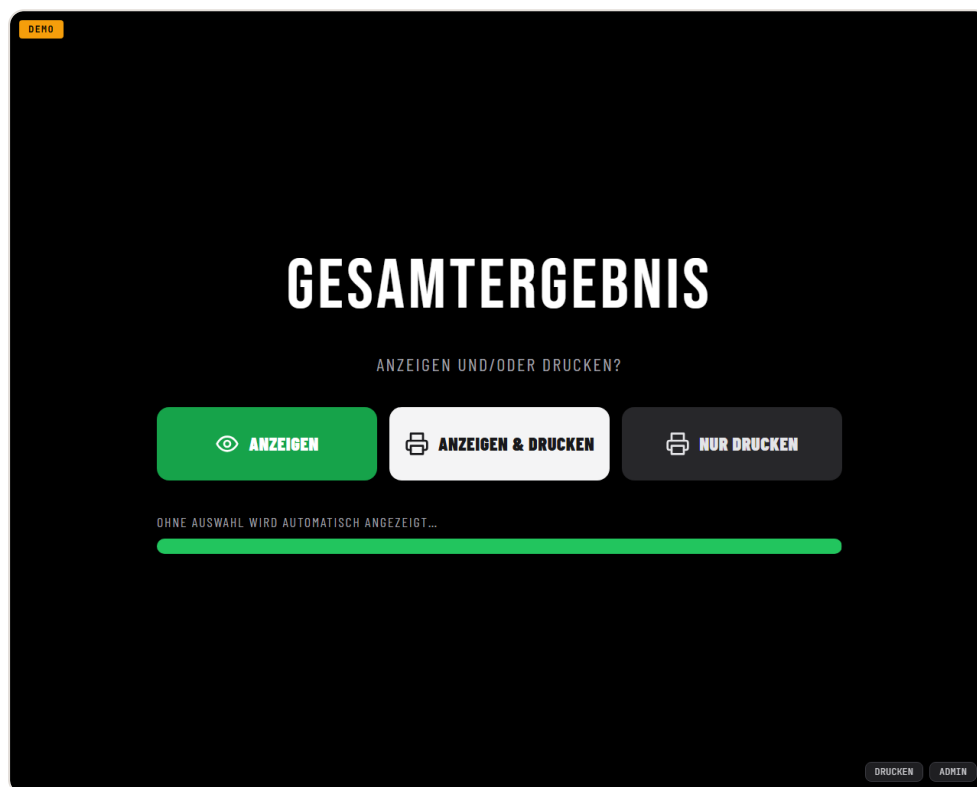
TIP

The lane order of the display can be mirrored (lane 1 on the right) — Settings → “Lane order swapped”, to match the direction you view the track from.

9 Race End, Corrections & Printing

Sequence at the end of a race

1. **Heat result** — the result of the last heat, large, with a countdown bar (duration adjustable).
2. **Print/display choice** — **Show**, **Show & print** or **Print only** (silently to the default printer). If nothing is selected, the overall result appears automatically.
3. **Overall result** — ranking across all heats, fastest lap, best heat.



Print/display choice at the end of a race

DEMO  **GESAMTERGEBNIS**

P1	MICHI FAAST	39 RD GESAMT 248.564 · BESTE 5.863
P2	POGO	39 RD GESAMT 255.835 · BESTE 5.934
P3	FLIPFLOPPIPPO	38 RD GESAMT 254.747 · BESTE 6.213
P4	CHRIS	37 RD GESAMT 249.724 · BESTE 6.067

SCHELLSTE RUNDE **5.863 · MICHI FAAST** SCHNELLSTER LAUF **30 RD · MICHI FAAST**

[DRUCKEN](#) [ADMIN](#)

Overall result: ranking across all heats with fastest lap and best heat

Between the heats of a series, the dashboard shows the heat result with **NEXT RACE** and **REPEAT HEAT**.

DEMO  **ERGEBNIS**

P1	1	MICHI FAAST	30 RD 5.863
P2	2	POGO	30 RD 6.066
P3	3	FLIPFLOPPIPPO	29 RD 6.258
P4	4	CHRIS	28 RD 6.451

NÄCHSTES RENNEN >  **LAUF WIEDERHOLEN**

[ADMIN](#)

Between heats: heat result with "Next race" and "Repeat heat"

Corrections

- **Lap correction:** one field per driver with the lap count of the last heat, entered on the keyboard with 2 decimal places — = 10 laps + partial lap/section 55 (slot mode) or penalties/measurement errors. Then press **“Regenerate race result”**.
- **Repeat heat:** discards the last heat completely (including from the database) and puts the same line-up back on the grid — possible even after the series has ended.
- **Break limit:** If a break between heats is set in the settings, the next heat starts automatically after the countdown.

Print options and race name

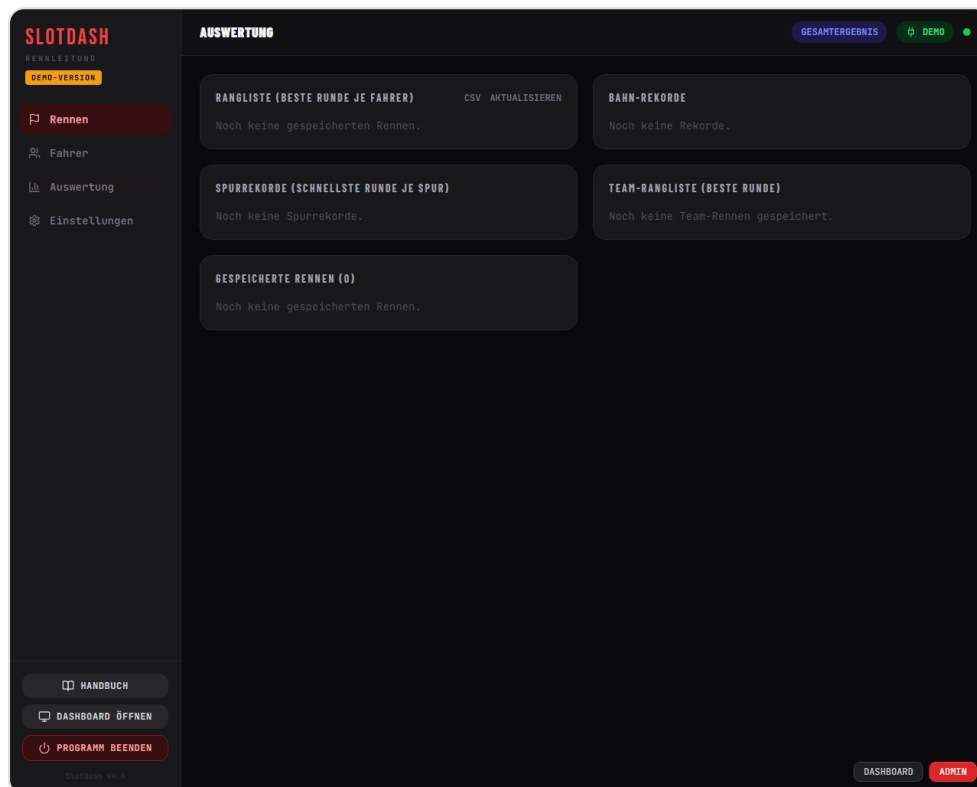
- The printout contains club/track, best lap, best heat, the overall classification with gaps (“First”/“Next”) and the lane overview. If a lane length is stored in the track profile, it also shows **distance and km/h** (real and to scale).
- **Print options** (checkboxes in the result window): short result (without lane overview), with lap times, with track best laps.
- **Naming the race:** input field in the result window — the name applies to all heats of the series and makes the race easy to find again in the results.

Saving

Every finished heat is saved immediately (crash-safe, survives a power failure). Alternatively, in the settings: **Ask first** (heats wait for “Save now”) or **Never**.

10 Results

- **Ranking (best lap per driver):** across all saved races of the active track — with CSV export for Excel.
- **Track records:** personal best lap per driver. Individually editable (pencil) and deletable; “Delete all” restarts the record list.
- **Lane records:** the fastest lap ever driven on each lane.
- **Team ranking:** best lap per team (team races only).
- **Saved races:** all races with name, date, race type and participants — rename, export as CSV (including all lap times), delete individually or all at once. Deleted races also disappear from the ranking.



Results: rankings, track records, lane records and saved races

NOTE

Rankings are fed by the **saved races**, the record lists by the **track/lane records** — test times therefore have to be deleted in both places.

11 Settings

Club & track

Club, track name, number of lanes, minimum lap time, language (Deutsch, English, Italiano, Español, Français).

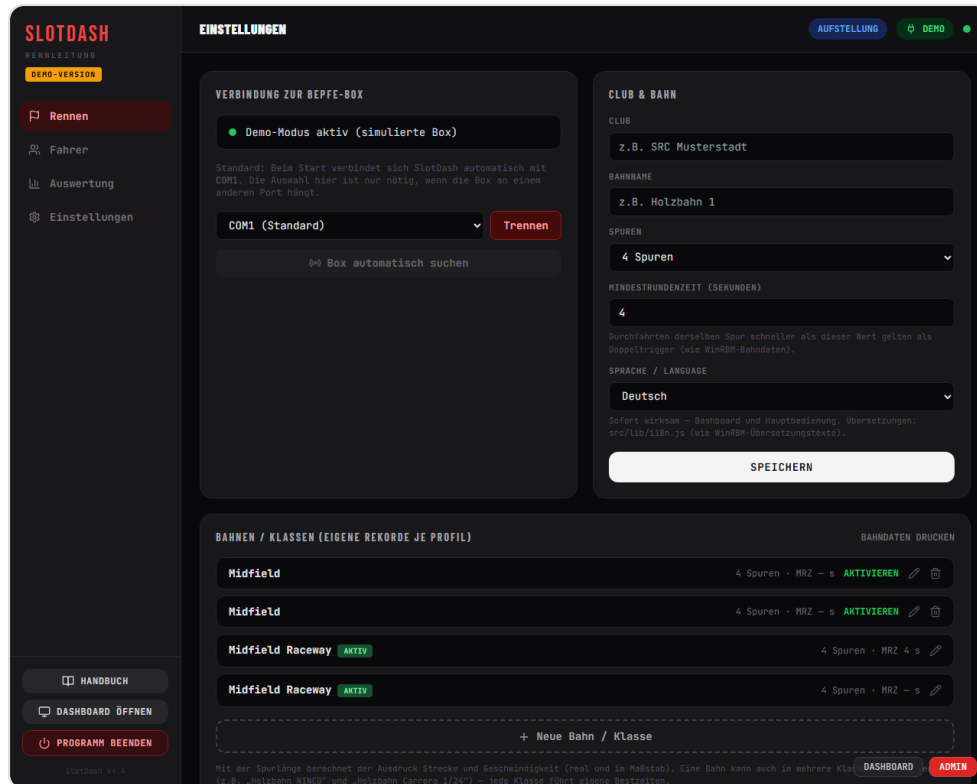
Tracks / classes

Multiple track profiles — or one track in several classes (e.g. “Holzbahn NINCO” and “Holzbahn Carrera 1/24”). Each profile has its own minimum lap time, number of lanes, optionally a lane length (for km/h) and a scale — and keeps its **own** records, rankings and races. **Activate** switches the profile and applies its lanes + minimum lap time. **“Print track data”** outputs profiles, best laps and lane records as a sheet.

Race procedure (WinRBM)

SETTING	EFFECT
Start light duration	Length of the light phase (seconds).
Start time before GO	Fixed (GO right after the last light) or random time min–max.
False-start detection	Penalty (+ penalty time) / Off / Abort.
Light control	5× red · 4× red + green · 1× red / 1× green.
Overrun for timed races	Measuring window after the time cut for coasting cars.
Result display duration	How long the heat result is shown.
Driver rotation	Rotation 1-3-5 (default) or 1-2-3.
Group change	When group finished / after every heat.
3-2-1-GO	Big digits at the end of a track call and when a slot-mode series continues.
Track power always on	Power released again after the result window (roll to the starting grid).
Manual penalty	Duration of the button-press penalty; “After start/finish” only activates it at the next crossing of the start/finish line.
Break between heats	0 = off; otherwise the next heat starts automatically after the countdown.
Sounds	Dashboard sounds on/off.
Saving heats	Always / Ask first / Never.
Lane order swapped	Display mirrored (lane 1 on the right).

All race-procedure settings take effect immediately — no restart needed.



Settings: connection, club & track, tracks/classes and race procedure

Log / errors

Shows the last lines of the server log right in the admin — e.g. why a race ended or a connection dropped.

12 Emergency & Troubleshooting

Manual track control (F4 / F5 / F6)

At the very bottom of the cockpit, collapsed: **Power ON** (F4), **Power OFF** (F5), **Box reset** and switching individual lanes (F6) — for car recovery, tests and special cases.

Frequently asked questions

PROBLEM	SOLUTION
No box found	Check cable/power supply, try a different COM port (Settings → Connection), "Search for box automatically". The red LEDs on the electronics must be lit.
Laps count double	Minimum lap time too low — raise it to a value just below the fastest real lap.
Laps missing	Check the photocell (hold it against the light — the input LED must react); minimum lap time must not be higher than the fastest real lap.
Car won't move at the start	False-start penalty active? (shown on the lane). Otherwise power the lane individually in the emergency panel.
Wrong result	Lap correction in the result window (chapter 9) — or "Repeat heat".
No printout	Check the default printer in Windows; "Print only" uses silent kiosk printing.
Test data in the lists	Results: delete races and best laps (chapter 10).
Program not responding	Check the console window, close the program via "Exit program" or, if necessary, Task Manager and restart — the data is stored crash-safe.

Backups

Regularly copy `%APPDATA%\SlotDash\slotdash.db` to a USB stick — that is the complete backup (drivers, races, records, settings).

in Deutsch, English, Italiano, Español and Français. Figures: SlotDash demo mode. Screenshots show the German interface.