swimBoard 7

Professional Led Display Scoreboard Software

USER MANUAL

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LANGUAGE SUPPORT



swimBoard supports all languages. You can use special characters from any language such as Arabic, Chinese, Hebrew, and other Asian alphabets in the application.

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1. Introduction

1.1 What swimBoard 7 Does

swimBoard 7 runs the scoreboard and the results of a swimming meet from one Windows PC. It holds the meet program, drives the LED wall, screen or video output, collects the hand times from the timekeepers' phones, and prints the results.

- It holds the meet: sessions, events, heats, lanes, swimmers, records and officials. The program comes from a Lenex file, an Excel or CSV list, or from typing.
- It seeds heats, semifinals and finals by the World Aquatics rule (SW 3).
- Every official works on a phone: timekeepers, Starter, Finish Judge, stroke and turn judges, Chief Timekeeper, Recorder and Referee. No app is needed, only a browser on the same network.
- It works out the official time of every lane from up to three watches, by the World Aquatics rule.
- It shows the race live on the board: splits, the leader, finish times and places, Unofficial and then Official.
- It shows info screens between races: start list, heat and event results, podium, records and more, as full pages or as lower thirds over a camera picture.
- It calculates World Aquatics Points, finds records and medals, adds up team scores, and prints the reports in the World Aquatics layout as PDF or on paper.

1.2 What It Does Not Do

Read this before you plan a meet.

- There is no touchpad and no reaction-time hardware. The program connects to no timing equipment and no starting block. Reaction times are not measured and not shown.
- All times are hand times. Each one is a press on a phone, or a time read from a stopwatch and typed in. The result reports mark them HT.
- A record set with hand times is shown and tagged by the program, but a world record set this way cannot be ratified. Check the rules of your federation for other records.
- The program does not keep the record list up to date. A broken record is tagged in the results; you change the Records page by hand.
- The World Aquatics Points need a current table of base times. The factory table has end dates (section 8.8).
- The report layout follows World Aquatics result sheets, but the reports carry no federation logo and are not an approval by any federation.

1.3 How a Meet Runs

1. Prepare the meet on the Program tab: meet data, events, entries, records and officials (chapter 8).
2. Start the judges' server and give each official a PIN or a QR code (chapter 9).
3. Call a heat. Phones and boards follow it.
4. The Starter gives the start; the timekeepers press for splits and the finish (chapter 10).
5. The Referee works through the checklist and approves the heat (chapter 11).
6. Show results on the board (chapter 12) and print the reports (chapter 13).

1.4 About This Guide

Chapters 1 to 3 get you started. Chapter 4 explains the main window, chapter 5 is the reference of every screen and button, chapter 6 shows every judge's phone, and chapter 7 plays five sample meets step by

step. Chapters 8 to 18 go into each subject in depth, in the order of the work of a meet. Names of buttons and pages are written as they appear in the English version of the program. The pictures show the demo meet of the program with fictional names. Some pictures come from a test copy that uses another network port, so an address in a picture can end in 19071 where yours ends in 1907.

2. Installation and First Start

2.1 Requirements

Item	Requirement
Windows	64-bit Windows. The setup does not install on a 32-bit system.
.NET Framework	4.7.2 or later
Microsoft Edge WebView2 Runtime	Required: every board and every report preview is drawn with it (section 18.4)
Rights	Administrator rights for the setup. The desktop shortcut starts the program as administrator.
Board output	A second monitor, a projector, an LED wall controller or an NDI receiver
Network	A Wi-Fi router for the phones (chapter 9)
Phones	One phone per seat you want to use, with a current browser

2.2 Installing

1. Close swimBoard 7 if it runs, then run swimBoard7Setup.exe and follow the wizard.
2. The program goes to C:\swimBoard7. The folder cannot be changed.

The setup also installs the board fonts, adds four Windows firewall rules for port 1907 (named "swimBoard 1907 TCP IN", "UDP IN", "TCP OUT" and "UDP OUT"), and creates two desktop shortcuts: swimBoard7 and swimBoard7 Help. In Apps & Features the program is listed as Swimming Scoreboard Software.

An update is installed over the old version; your meet, settings, designs, translations and licence stay. To uninstall, use Apps & Features. Copy C:\swimBoard7 to a safe place first if you want to keep your meets.

2.3 First Start: The Demo Meet

Start the program with the desktop shortcut. A status card appears while it loads; reading the licence can take up to 30 seconds on a slow PC. Then the main window fills the screen and the board window opens.

A new installation starts with the demo meet, Coastal Open Swimming Meet. It is fictional: 50 m pool, 8 lanes, 3 watches per lane, splits every 50 m, with heats and finals of four events and one timed-final relay, 32 swimmers, two meet records and five named officials. No race has been run. Use it to practise; chapter 10 walks through a race.

Other values of a new installation:

Setting	First Start Value
Board window	Left 0, Top 0, 960 x 540 pixels
Display mode	Standard (St)
Language	The language of the Windows regional format, else English
Remote control and judges' server	Off, operator PIN 123456

Setting	First Start Value
Keyboard shortcuts	Off (the default keys are already assigned)
Board sorted by place after the race	On
NDI sender name	SW7_NDI
Licence	DEMO

To clear the demo meet, press New Meet in the banner of the Race tab (section 8.2). The demo meet is saved as a backup.

> **Note:** Run only one copy of the program. Two copies would write the same files, and only one can use port 1907.

2.4 Licence

swimBoard 7 runs with a licence key, which is bound either to the PC or to a USB stick. The key file is sw7license.xml: in C:\swimBoard7 for a PC licence, in the root folder of the stick for a USB licence. The licence is read only when the program starts. Keys belong to sport number 28 (swimming); a key made for another Board7 program does not work here.

Open Settings > License.

To enter a PC licence:

1. Click the copy button next to the Computer ID.
2. Send the Computer ID to the vendor and order the licence (arslan.ziya@gmail.com).
3. Paste the key into License Key. The box turns lime when the key fits this PC.
4. Click Save. The program asks you to restart.

To create a USB licence, plug in the stick, open Create USB License, choose the stick, send the USB ID to the vendor, paste the key you receive and click Save. Plug the stick in before you start the program.

The ? button next to License opens License Info: validity, largest board size, expiry date and model. The icon at the right end of the menu bar shows the state; rest the mouse on it for "No License", "USB License Found" or "CPU License Found".

2.5 DEMO Mode

Without a valid licence the program runs in DEMO mode. Race functions, phones and reports work. These marks appear:

- On the live board, the clock, the meet name and the swimmer names read DEMO for one second in every ten.
- Info screens and the media output carry a DEMO label.

An expired licence, or a PC clock set back before the last start, gives DEMO without a message. Open License Info and check the Windows date.

> **Note:** Do not type into the License Key box on a licensed PC. A key that does not fit puts the running session into DEMO at once.

2.6 Files and Folders

Folder or File	Contents
start.xml	Settings and keyboard keys

Folder or File	Contents
sw7license.xml	The PC licence
common\data\meet.xml	The running meet, saved less than a second after every change
common\data\meets	Backups of earlier meets
common\data\pointsbase.txt	Your base times for the points, if you loaded a table
common\data\reports	Reports written through the HTTP API
common\vizrt	Board designs
common\xml	Language files
logs	One log per day, sw7_yyyy-MM-dd.log
API_Commands.txt	The HTTP API reference
open_firewall_1907.bat	Repeats the firewall step of the setup

All paths are inside C:\swimBoard7.

3. Quick Start: Your First Heat in Ten Minutes

This chapter takes you through one heat of the demo meet, on one PC, with no phones. Nothing here can harm your data: a fresh installation holds a fictional demo meet, and you can start again at any time with New Meet (section 5.4).

3.1 Put the Board Where the Audience Can See It

1. Connect the LED wall or a second monitor and extend the Windows desktop to it.
2. On the Race tab, click LED Output in the banner.
3. In the window that opens, click the button of that screen, for example Screen 2 · 1920 x 1080. The board moves there at once.
4. Close the window. The place is remembered.

For an LED wall that is only part of a video output, type Left, Top, Width and Height by hand. The board follows every digit you type.

3.2 Follow the NEXT Line

Everything you need during the meet is on the Race tab. Look at the yellow NEXT line above the lanes: it always says what comes next, and its button does it.

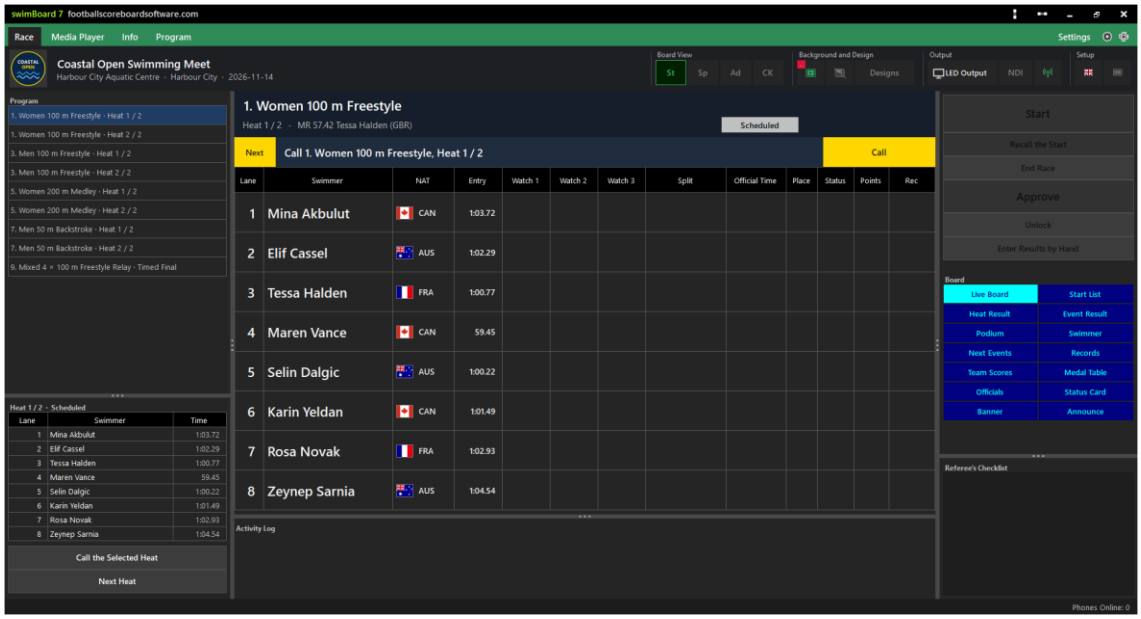


Figure 1. The Race tab before the first heat. The NEXT line offers to call the first heat.

1. Click the yellow button on the NEXT line (Call). The heat goes to the blocks. Board and phones follow.
2. Click it again (Start). The clock runs.
3. Type a time into the Official Time column of a lane, for example 5790 for 57.90 or 10234 for 1:02.34, and press Enter. Do this for each lane. The board shows each time as you type it.
4. Click End Race. The race is finished, the board shows Unofficial.
5. Click Approve on the NEXT line. Places, points and record tags are written, the board shows Official.
6. Click Next Heat, and go on.

That is the whole cycle. Each heat of a meet is the same: Call, Start, times, End, Approve.

> **Note:** Times typed on the PC use the same keypad rule as the phones: the last two digits are hundredths. You can also type 1:02.34, 1.02.34 or 62.34.

3.3 Where to Go Next

You Want To	Read
Know what a button does	Chapter 5, Screen Reference
See what a judge sees	Chapter 6, The Judges' Phones
See a whole meet played out	Chapter 7, Sample Meets
Set up your own meet	Chapter 8, Preparing a Meet
Understand a rule the program applies	Chapter 10 and Chapter 11
Get out of trouble during a race	Section 7.3 and Chapter 18

4. Main Window

4.1 The Full-Screen Control Form

The main window fills the screen and follows its size; there is no fixed panel. On a narrow window the less important columns of the lanes table drop out (Club first, then Points, Rec, Entry). Ten lanes always fit, because the rows share the height.

Every area can be resized. Drag the vertical splitters between the program, the lanes and the action column, and the horizontal splitters above the Selected Heat list, the Activity Log and the Referee's Checklist. Drag a column border in any table to change its width. The layout is kept on this PC (common\data\layout.xml), also after a restart. Double-click a splitter to put it back; right-click a column header and choose Reset Column Widths for the factory widths.

The Selected Heat list shows the heat selected in the program before you call it. The Activity Log shows every action of the meet with its time and seat, the newest on top.

The menu bar holds the tabs Race, Media Player, Info, Program and Settings. In the Sp, Ad and CK display modes a further tab with that name appears. The Race tab is the screen you use during the meet.

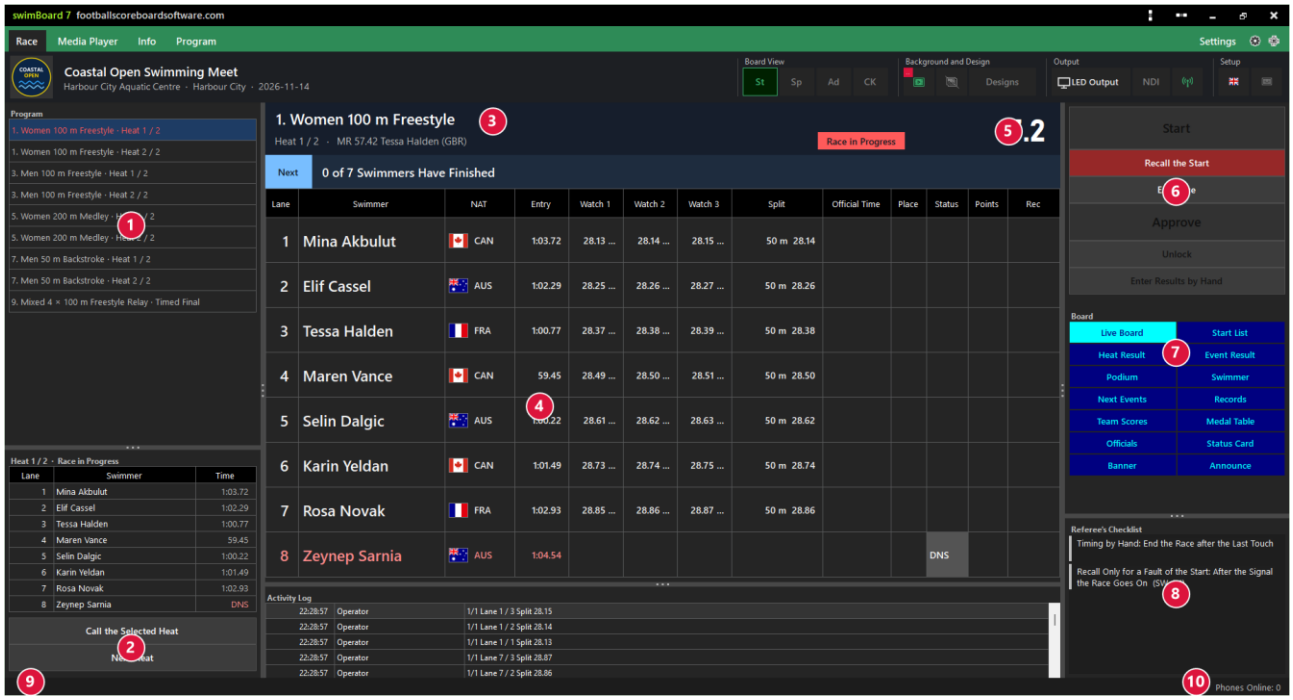


Figure 2. The Race tab during a race.

No.	Area	What It Does
1	**Program**	Every heat of the meet. The colour shows the state: silver scheduled, gold on the blocks, red racing, orange unofficial, green official. The called heat has a blue row.
2	**Call the Selected Heat, Next Heat**	Call the heat selected in the list (or double click it), or the next heat of the program.
3	**Heat band and NEXT line**	Event, heat, record line and state. Under them the NEXT line says what the rules ask for now, with the button that does it (section 4.2).
4	**Lanes**	Lane, swimmer, NAT, club, entry time, the three watches, last split, official time, place, status, points and record tag.
5	**Clock**	The running time in tenths; after the race, the fastest time.

No.	Area	What It Does
6	**Race actions**	Start, Recall the Start, End Race, Approve, Unlock, Enter Results by Hand. Only the actions that apply now are active. Approve turns gold when nothing stops it.
7	**Board**	Every info screen, Banner and Announce. Live Board takes a screen off. The one on air is light blue.
8	**Referee's Checklist**	Open reports with the Disqualify and Reject buttons, then the further steps, warnings and rule notes. Double-click a line that has an action. Before the first start it also lists what the program still lacks.
9	**Message line**	A refusal shows here, in plain words, for example "A race is running".
10	**Network**	Phones Online: the number of phones heard in the last seconds, or Judges' Server Is Off.

Every action on this screen goes through the same rules as the phones. If an action does not apply, nothing changes and the message line says why.

4.2 The NEXT Line

The program follows the meet and always shows the next step. The line reads what the state of the race and the rules ask for, names the rule where one applies, and its button does the step.

Moment	The NEXT Line Says
Nothing called	Call the first heat
On the blocks	Start the race. Open reports of a false start come first. A heat nobody can swim is closed by hand.
In the water	How many swimmers have finished; End Race when all have touched
After the race	Decide the reports, enter the missing times, then approve
Approved	Call the next heat. The last heat of an event: show the result or the podium.
Event complete	Create the swim-off of a tie on the line, or seed the next round
End of the program	Print the Results Book

A heat that waits for approval stays in the checklist while the next heats run; its line calls it back when no race is running.

4.3 The Lanes Table

- NAT: the flag stands in front of the country code. A code without a flag is unknown (common\images\flags\country\codes.csv lists them).
- Watch 1, 2, 3: the final time of each watch. A split is shown with three dots after it.
- Official Time: the time from the watches. It is gold when someone typed an official time.
- Place: shown as soon as the lane has a time. It is live until the approval.
- To type a time, select a Watch or Official Time cell, type 1:02.34, 62.34 or the digits 10234, and press Enter. Clear the cell to remove the time.
- Click the Status cell, or right click a row, for the lane menu: OK (Swam), DNS, DNF, DSQ with its reasons, and Use the Watches Again.

4.4 The Banner

The banner above the race area shows the board logo and the meet at the left and the output tools in four groups at the right.

The LED Output button in the Output group opens a small form for the place and size of the board: Left, Top, Width, Height, the same values as Settings > Screen Properties. The board moves as you type or use the arrows, and the values are saved. A button per screen puts the board on that whole screen.



Figure 3. The banner of the Race tab.

No.	Control	What It Does
1-4	**St, Sp, Ad, CK**	The display mode (section 4.5).
5	**Background video**	Chooses the video behind the board. The small x removes it.
6	**Middle layer image**	Chooses an image over the background.
7	**Designs**	Opens the design gallery (section 12.5).
8	**LED Output**	Opens the form for the place and size of the board.
9	**NDI**	Starts or stops the NDI stream of the board.
10	**Remote Control**	Opens Settings > Remote Control. Green while the server runs.
11	**Language**	Opens the language settings.
12	**Keyboard**	Opens the Keyboard Hook Manager (chapter 15).
13	**Logo**	Click to choose the board logo.

Editors and dialogs open as normal windows: move them, resize them, maximize them. They remember their size and place. Maximized, the main window leaves the taskbar free, and it does not stay on top of other programs.

4.5 Display Modes

Mode	Use	Output
St, Standard	Full board on a screen, projector or LED wall	The board window
Sp, Sponsored	The Standard board with a sponsor band	The board window, with a band at the bottom or the top
Ad, Advertisement	A narrow board column, banners and a large area for video, camera or screen capture	The Ad board window
CK, Chroma Key	Compact board and lower thirds on a key colour, for a vision mixer	The CK board window

Switch the mode with the St, Sp, Ad and CK buttons, or from the operator's phone. The choice comes back at the next start. Leaving Ad or CK stops the source that ran there. The setting Source on mode switch (Settings > Screen Properties) can restart it when you come back.



Figure 4. The Sponsored board and the Advertisement board.

The Sp, Ad and CK tabs hold the pages of each mode:

Page	What It Holds
Sp	Sponsors (sliding images), Scrolling Text (four text slots) and Settings (place and height of the band, 64 pixels at the bottom by default).
Ad	Media Player (six playlists), Camera (a camera or an NDI source), Screen Capture, Banner (content of banner 1 and 2), Settings (position and size of the board column and banners).
CK	Info (Scoreboard, Hide, the info screens as lower thirds, Hide Lower Third), Media Player, Camera, Screen Capture, Settings (key colour: transparent, green, blue, magenta).

For NDI output use a green, blue or magenta key colour: NDI carries no transparency.

4.6 Board Output

The boards appear in a window of their own. Set its place and size in Settings > Screen Properties.

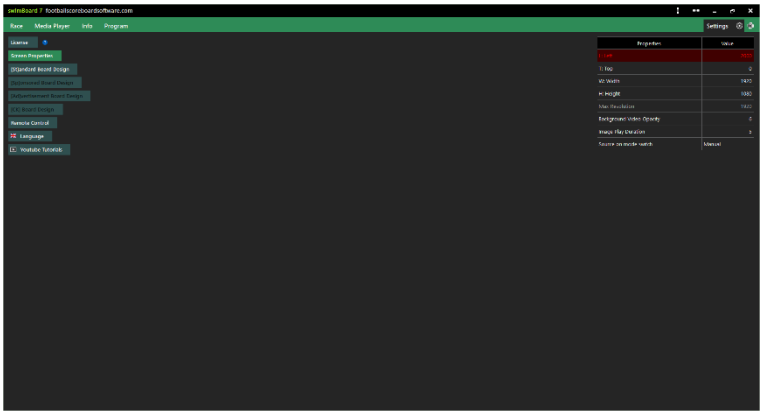


Figure 5. Settings > Screen Properties.

Row	Meaning
L, T	Left and top of the board window, in pixels of the Windows desktop
W, H	Width and height of the board, up to Max Resolution of the licence
Background Video Opacity	0 to 10: how strongly the background video shows
Image Play Duration	How long a picture stays in a playlist, in seconds
Source on mode switch	Manual or Restore (section 4.5)

For an LED wall, connect the LED controller as a second display, extend the Windows desktop to it, and set L, T, W and H to the position and size of that display. Keep the Windows display scaling of that monitor at 100 %.

The NDI button sends the board into the network as a video stream, with the sender name SW7_NDI. It is green while it sends, amber when the stream stopped (click it to restart) and grey when NDI cannot be used on this PC.

4.7 Media Player, Info, Settings

Media Player plays videos, pictures and web pages on the board output: six playlists at the top, more through the list icon, and web pages through URL. Add Clip and Delete Clip change the list; Start plays it. The Race tab goes back to the scoreboard.

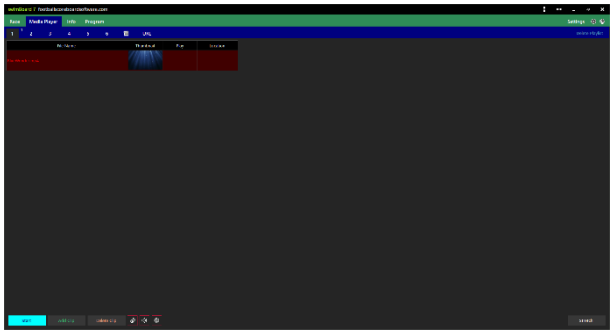


Figure 6. The Media Player tab.

The Info tab opens the editors of the info screens (chapter 12), and Banner, Announce and Sponsors. Banner and Announce are full-screen text pages, for example a welcome or the start time of the next session. Sponsors holds the logos used by the Sp band, the Ad banners and those two pages.

The Settings tab holds License, Screen Properties, the design editors of the display modes, Remote Control, Language and a link to the video tutorials. Only the design editor of the active display mode is enabled.

5. Screen Reference

Every screen of the program, with every control on it. Numbers in the tables match the numbers on the pictures. Chapter 4 explains the Race tab as a whole; this chapter is the one to open when you ask "what does this button do?"

Button colours. The same colours mean the same thing on every screen:

Colour	Meaning
Light blue (aqua) with navy text	Shows something on the board now
Navy with light blue text	Takes it off the board again (Hide, Stop)
Light blue with a white frame	That screen is on the board now
Green	The action to take, or the selected item
Dark teal or dark grey	Opens an editor or a page; nothing goes on air
Very dark, grey text	Not available now

5.1 Title Bar and Tabs

The strip at the top of the main window.

Control	What It Does
Tall window icon	Docks the main window to the right edge at full height, or back to 640 x 480. Left from the family's small layout; you rarely need it.
Wide window icon	The same across the bottom of the screen
Minimise	Minimises the window. The board stays on air.
Maximise	Switches between maximised and normal. The program starts maximised.
Close (X)	Asks for confirmation, then saves and closes the program
Race	The race screen (section 5.2)
Media Player	Video and picture playlists on the board (section 5.7)
Info	Info screens and their editors (section 5.6)
Program	Everything about the meet (section 5.4)
Sp, Ad or CK	Appears only in that display mode (section 5.8)
Settings	Licence, screen, designs, remote, language (section 5.9). While a clip plays this button shows the playing position, for example ▶ 0:12.
Chip icon	Shows the licence: chip = this PC, USB = USB stick, lock = no licence. It cannot be clicked.

5.2 Race Tab: The Race Screen

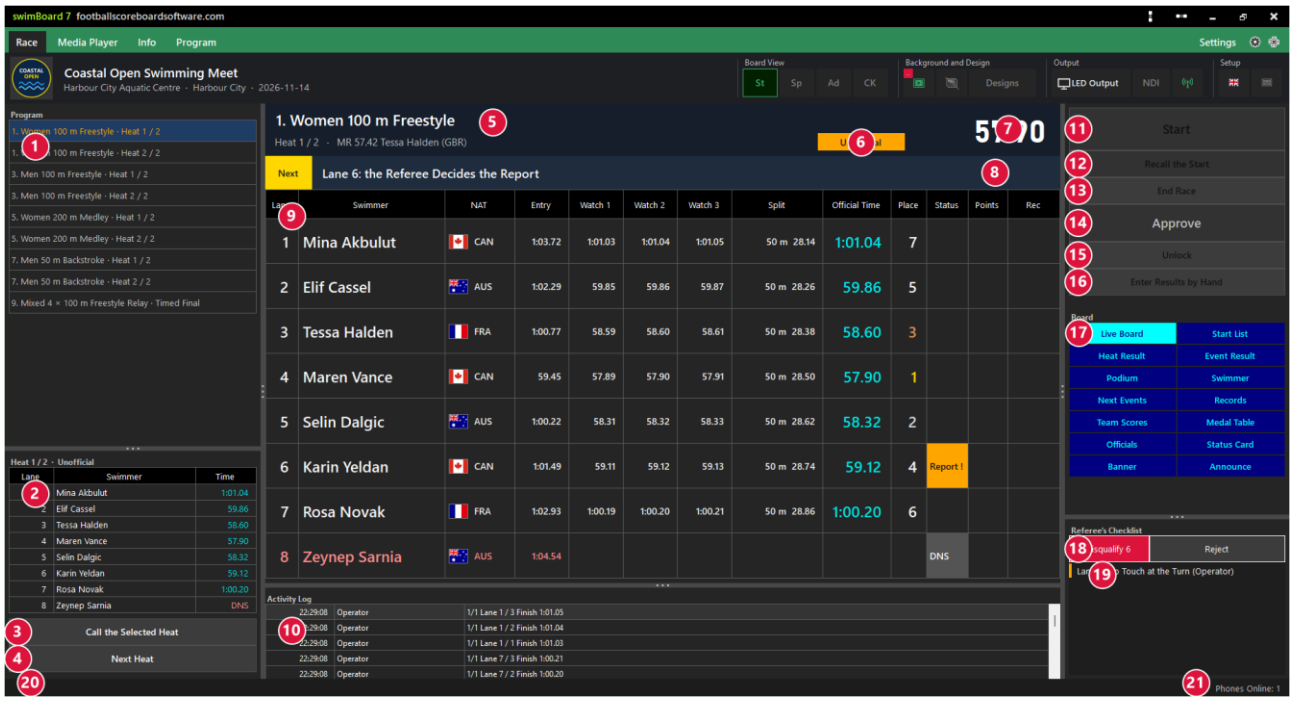


Figure 7. The Race tab just after a race: a report to decide in lane 6.

No.	Control	What It Does
1	**Program**	All heats. Colour = state: silver scheduled, gold on the blocks, red racing, orange unofficial, green official. The called heat has a blue row. A click selects a heat, a double click calls it.
2	**Selected Heat**	The heat you selected in the program, before you call it: lanes, names, entry times, or results if it was swum
3	**Call the Selected Heat**	Brings the selected heat to the blocks. Refused while a race is running.
4	**Next Heat**	Calls the next heat of the program
5	**Heat band**	Event, heat and record line. The line shows the record as it stands now, also one broken earlier in this meet.
6	**State plate**	Scheduled, On the Blocks, Race in Progress, Unofficial, Official
7	**Clock**	Tenths while racing. After the race, the fastest time of the heat.
8	**NEXT line**	What the rules and the race ask for now, the rule number, and the button that does it (section 4.2)
9	**Lanes**	See section 5.3
10	**Activity Log**	Every action with time and seat, the newest on top
11	**Start**	Starts the clock. Available when the heat is on the blocks.
12	**Recall the Start**	Only for a fault of the start. Asks first, then drops every press and returns the heat to the blocks. A DNS and a false start stay.
13	**End Race**	Closes the race. Times can still be typed, reports decided. With End the Race When Every Lane Has a Time on, this happens by itself.
14	**Approve**	The Referee's approval. Gold when nothing stops it, grey when the checklist has something open. Writes places, points and records and locks the heat.
15	**Unlock**	Asks first, then reopens an approved heat for a correction. Approve it again afterwards.
16	**Enter Results by Hand**	For a heat that has no race on the clock: timed on paper, or nobody can swim. Asks first (section 7.4).
17	**Board buttons**	Fourteen buttons, see the table below

No.	Control	What It Does
18	**Disqualify, Reject**	Appear for the first open report; the button names the lane
19	**Referee's Checklist**	Reports, further steps, warnings and rule notes. Double-click a line that has an action.
20	**Message line**	Why an action was refused, in plain words
21	**Phones Online**	Number of phones heard in the last seconds, or Judges' Server Is Off

Board buttons. A click puts the screen on the LED; the screen on air is light blue. Chapter 12 shows each one.

Button	Shows
Live Board	Back to the live board
Start List	The called heat with lanes and entry times
Heat Result	The called heat by place
Event Result	All heats of the event together. Click again for the next page, ten rows each.
Podium	First three of the event
Swimmer	The selected lane: card with entry, time, place, points, splits
Next Events	The events to come
Records	Records of the event as they stand
Team Scores	Team points
Medal Table	Medals per team
Officials	The named officials
Status Card	Opens its editor: Warm-Up, Delay, Break, Medal Ceremony, End of Session or your own text, with a count-down
Banner	Opens the Banner editor (section 5.6)
Announce	Opens the Announce editor (section 5.6)

5.3 The Lanes Table and Its Menu

Column	Content	Editing
Lane	Lane number	Click, then a right click for the menu
Swimmer	Name, or relay team	A double click sends the swimmer to the LED
NAT	Flag and country code	
Club	Club. Gives way first on a narrow screen.	
Entry	Entry time	
Watch 1, 2, 3	Each watch. "..." = a split so far. Blue = typed. Orange = this watch stands out from the others by 0.30 s or more.	Click, type, Enter
Split	Distance and last official split	
Official Time	The official time by the three-watch rule. Gold = typed over the watches.	Click, type, Enter. Empty = back to the watches.

Column	Content	Editing
Place	Live place. First three in gold, silver, bronze.	
Status	DNS, DNF, DSQ, or an orange Report ! for an open report	A click opens the menu
Points	World Aquatics points, after the approval	
Rec	Record tag, for example MR, after the approval	

The lane menu opens with a right click on a lane, or a click on its Status cell.

Item	What It Does	When
Send the Swimmer to the LED	Shows the Swimmer card of this lane	Always
Change the Swimmer	Opens the dialog below	Up to the start
Swap with Lane	Exchanges this lane with the lane you choose	Up to the start
Clear the Lane	Empties the lane	Up to the start
Scratch: Call the Reserve	A withdrawal. In a semi-final or final the next reserve comes in and the round is seeded again; otherwise the lane becomes DNS.	Up to the start; every heat of the round must still be unstarted
OK (Swam)	Takes a DNS, DNF or DSQ back	Heat called
DNS: Did Not Start	Marks the lane	Heat called
DNF: Did Not Finish	Marks the lane	Heat called
DSQ: Disqualified	Sub-menu of reasons. Sets DSQ at once, without a judge's report.	Heat called
Use the Watches Again	Removes a typed official time	Heat called

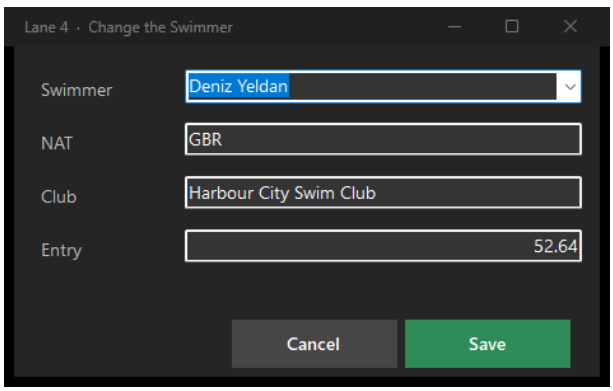


Figure 8. The Change the Swimmer dialog. Pick a swimmer of the meet or type a new name.

Field	What It Does
Swimmer	Pick from the list, type to search, or type a new name: a new swimmer joins the meet
NAT	Three-letter country code
Club	The club
Entry	Entry time
Team, Swimmers (relay)	Team name and the swimmers, separated by commas
Save, Cancel	Save puts the swimmer in the lane. Esc is the same as Cancel.

The banner above the lanes:



Figure 9. The banner of the Race tab.

No.	Control	What It Does
1	**Logo**	Click to choose the meet logo; it appears on the board. Point at it for the red × that removes it.
2	**St**	Standard board
3	**Sp**	Sponsored board: the Standard board with a sponsor band (section 5.8)
4	**Ad**	Advertisement board: board plus video, camera or banners (section 5.8)
5	**CK**	Chroma Key: graphics for a video mixer (section 5.8)
6	**Background video**	Chooses a video behind the board. The red × removes it. Opacity: Settings > Screen Properties.
7	**Middle layer**	Chooses a picture between video and board. The red × removes it.
8	**Designs**	Opens the design gallery (section 5.10)
9	**LED Output**	Opens the LED Output window (section 5.11)
10	**NDI**	Starts and stops an NDI stream of the board, named SW7_NDI. Green = running, amber = stopped by an error, click to restart.
11	**Remote**	Opens Remote Control. Green = the judges' server runs.
12	**Language**	Shows the active flag; opens the Language window
13	**Keyboard**	Opens the Keyboard Hook Manager. Green = shortcuts are on.

5.4 Program Tab

Six pages. All of them save by themselves.

Meet

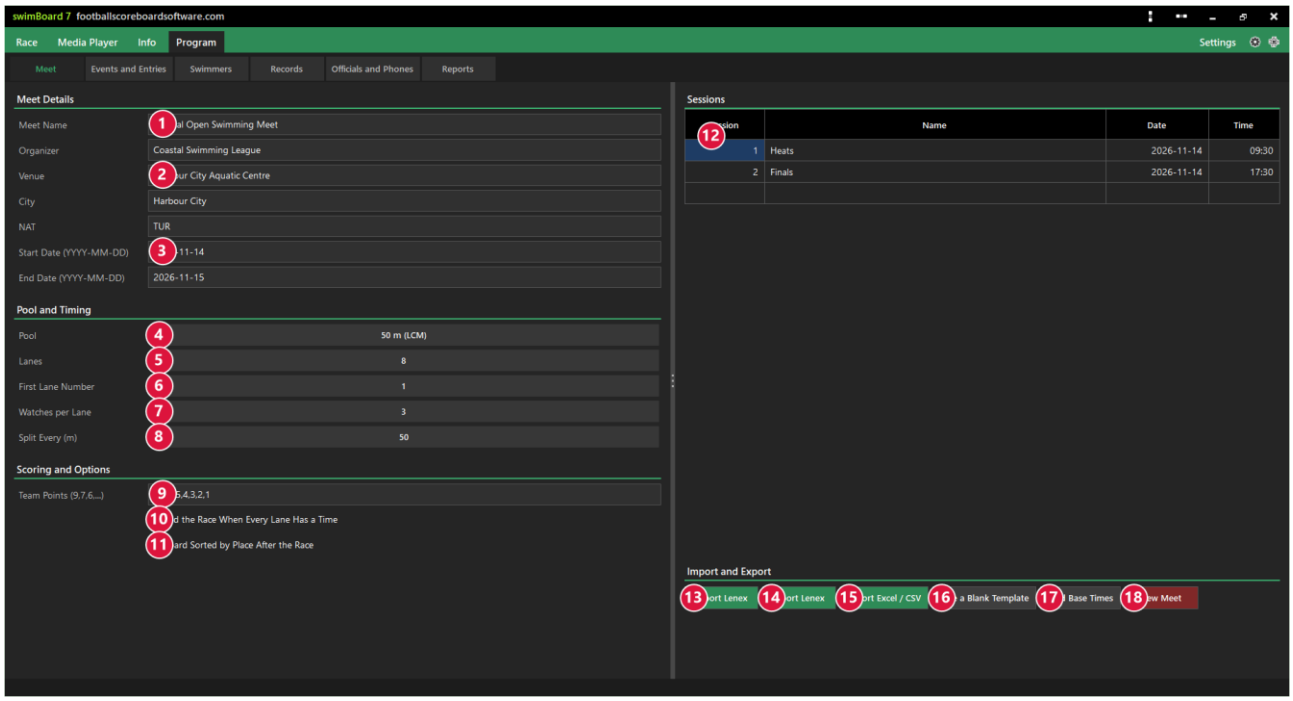


Figure 10. Program > Meet.

No.	Control	What It Does
1	**Meet Name, Organizer**	Shown on the board and on each report
2	**Venue, City, Nation**	The header of the reports
3	**Start Date, End Date**	Year-month-day
4	**Course**	50 m or 25 m. Selects the records and the base times.
5	**Lanes**	Lanes of the pool
6	**First Lane**	0 or 1: a 10-lane pool is often numbered 0-9
7	**Watches per Lane**	1 to 3. Timekeeper seats and watch columns follow.
8	**Split Every**	Metres between split presses
9	**Team Points**	Points per place, separated by commas. Empty = no team score. Tied places share their points.
10	**End the Race When Every Lane Has a Time**	The race closes by itself after the last time
11	**Board Sorted by Place After the Race**	Live board rows change from lane order to place order
12	**Sessions**	Number, name, date and time of each session
13	**Import Lenex**	Reads a .lef or .lxf meet file
14	**Export Lenex**	Writes the meet with results for the federation
15	**Import Excel / CSV**	Reads a start list
16	**Save a Blank Template**	Writes an empty start list to fill in
17	**Load Base Times**	Replaces the table of World Aquatics base times
18	**New Meet**	Asks first, then starts an empty meet

Events and Entries

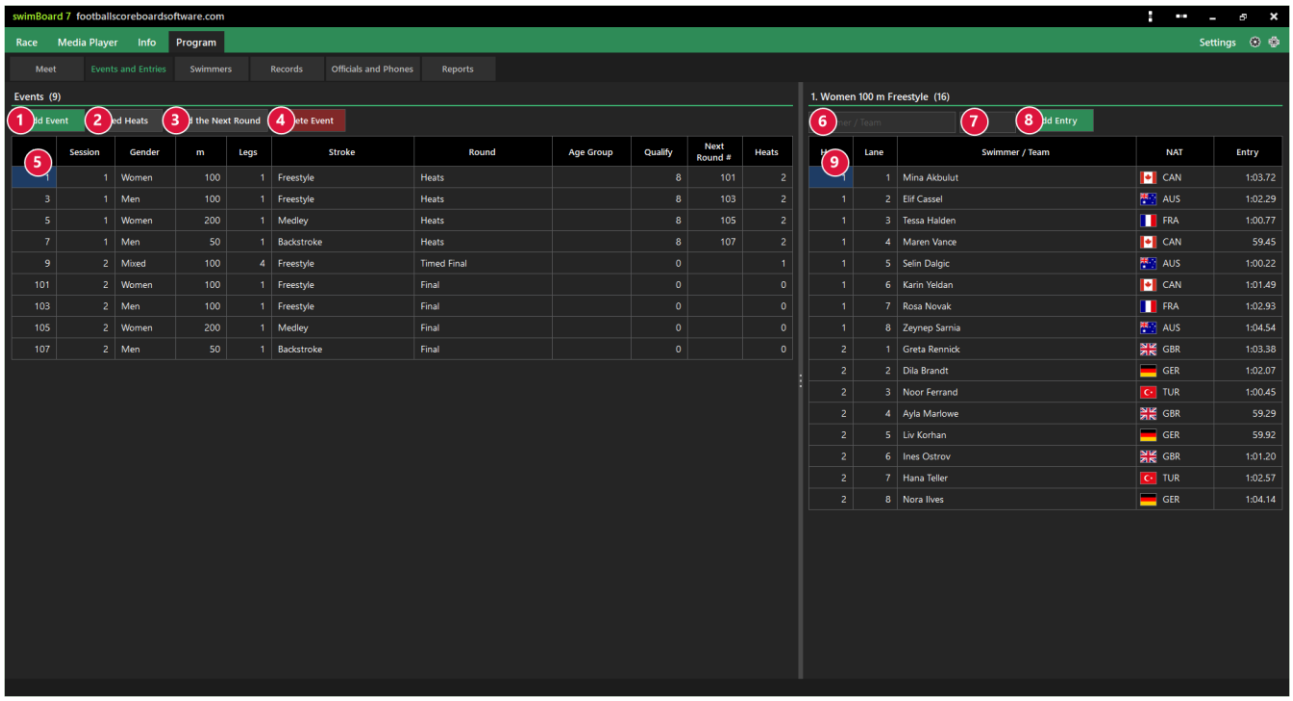


Figure 11. Program > Events and Entries.

No.	Control	What It Does
1	**Add Event**	Adds a row to the event list
2	**Seed Heats**	Seeds the selected event by the rules of SW 3, with a draw for equal times. Refused once a race of the event has started.
3	**Build the Next Round**	Sends the qualifiers of the selected event to its next round. The NEXT line offers the same.
4	**Delete Event**	Asks first, then removes the event
5	**Events table**	Number, session, gender, distance, legs, stroke, round, age group, places through to the next round, number of the next round, heats. Click a cell to edit.
6	**Swimmer / Team**	Name for a new entry; suggestions from the swimmers of the meet
7	**Entry**	Entry time of the new entry
8	**Add Entry**	Puts the entry in the first free lane of the seeding order
9	**Entries table**	Heat, lane, name, nation with flag, entry time of the selected event

Swimmers

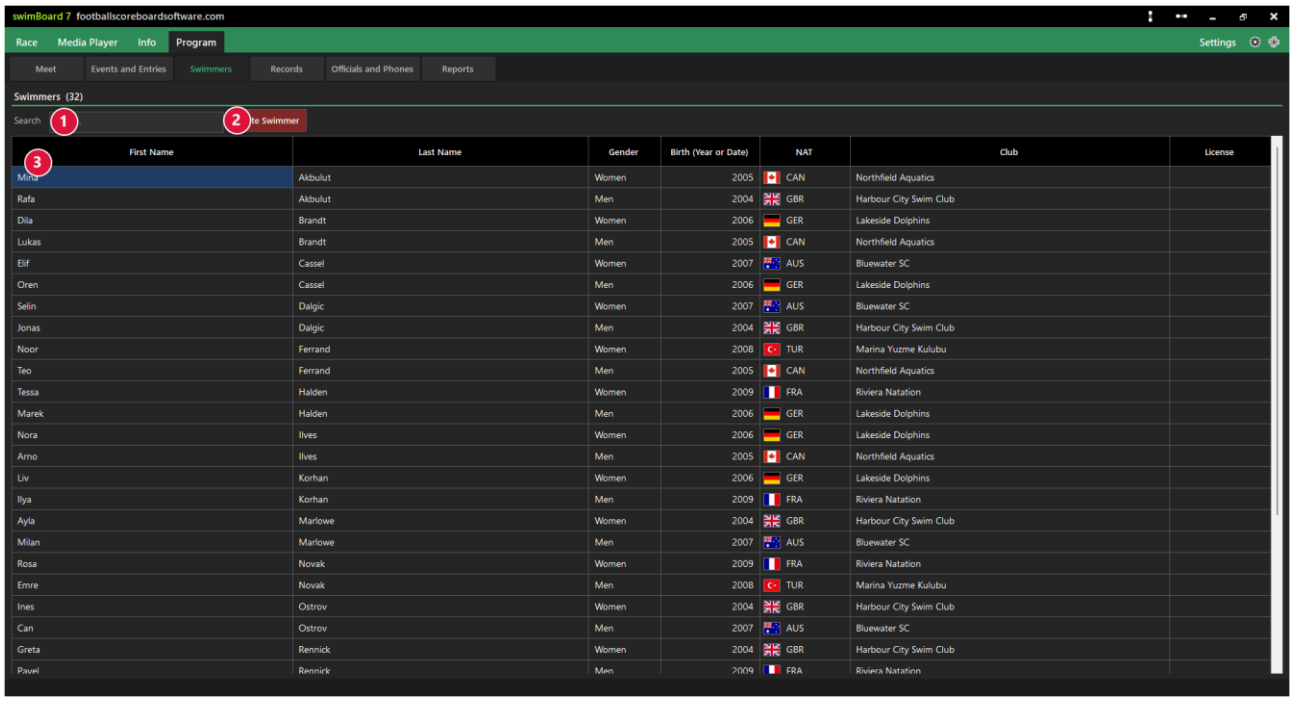


Figure 12. Program > Swimmers.

No.	Control	What It Does
1	**Find**	Filters the list while you type
2	**Delete Swimmer**	Asks first, then removes the selected swimmer. Refused while the swimmer stands in a heat.
3	**Swimmers table**	First name, last name, gender, birth (year or date), NAT, club, licence. The flag appears as soon as the country code is right.

Records

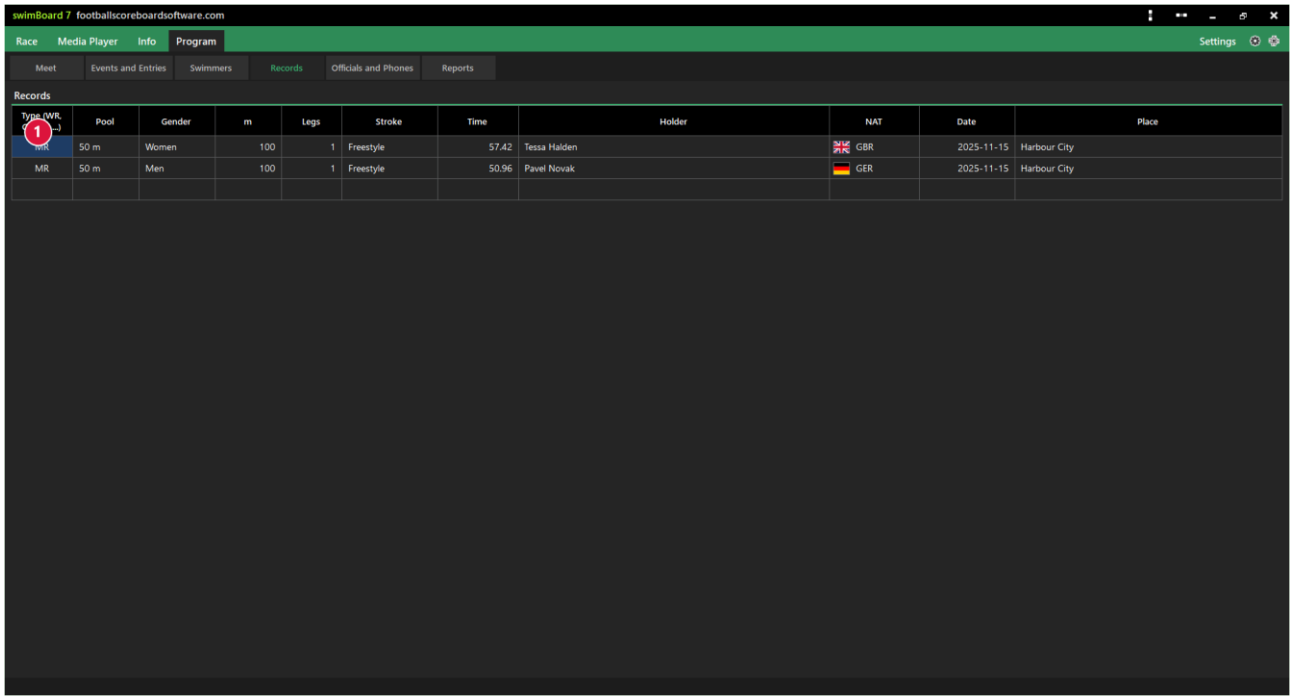


Figure 13. Program > Records.

No.	Control	What It Does
1	**Records table**	One row per record: type (WR, CR, NR, MR or your own), pool, gender, distance, legs, stroke, time, holder, nation, date, place. The last row is free for a new record.

Officials and Phones

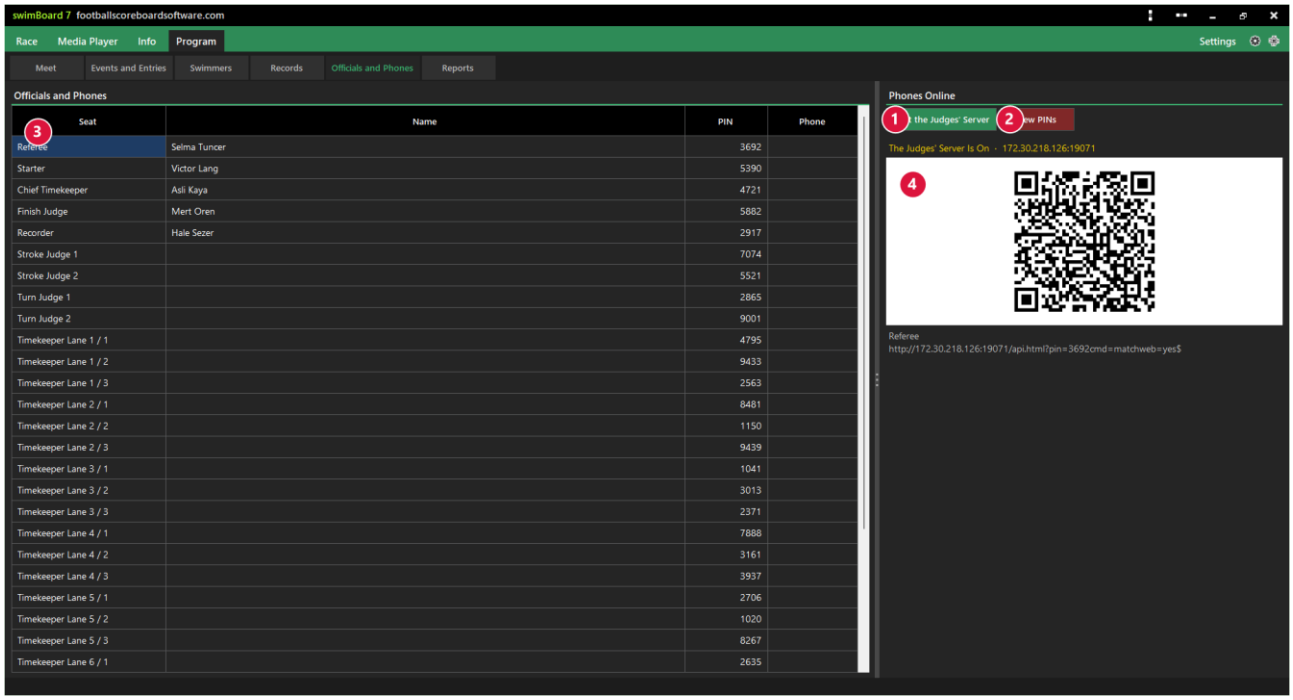


Figure 14. Program > Officials and Phones.

No.	Control	What It Does
1	**Start the Judges' Server**	Starts or stops the server the phones connect to
2	**New PINs**	Asks first, then gives each seat a new PIN. Printed sheets become invalid.
3	**Seats table**	Seat, the official's name (it goes on the reports), PIN, and whether the phone is connected
4	**QR code**	Log-on code of the selected seat

Reports

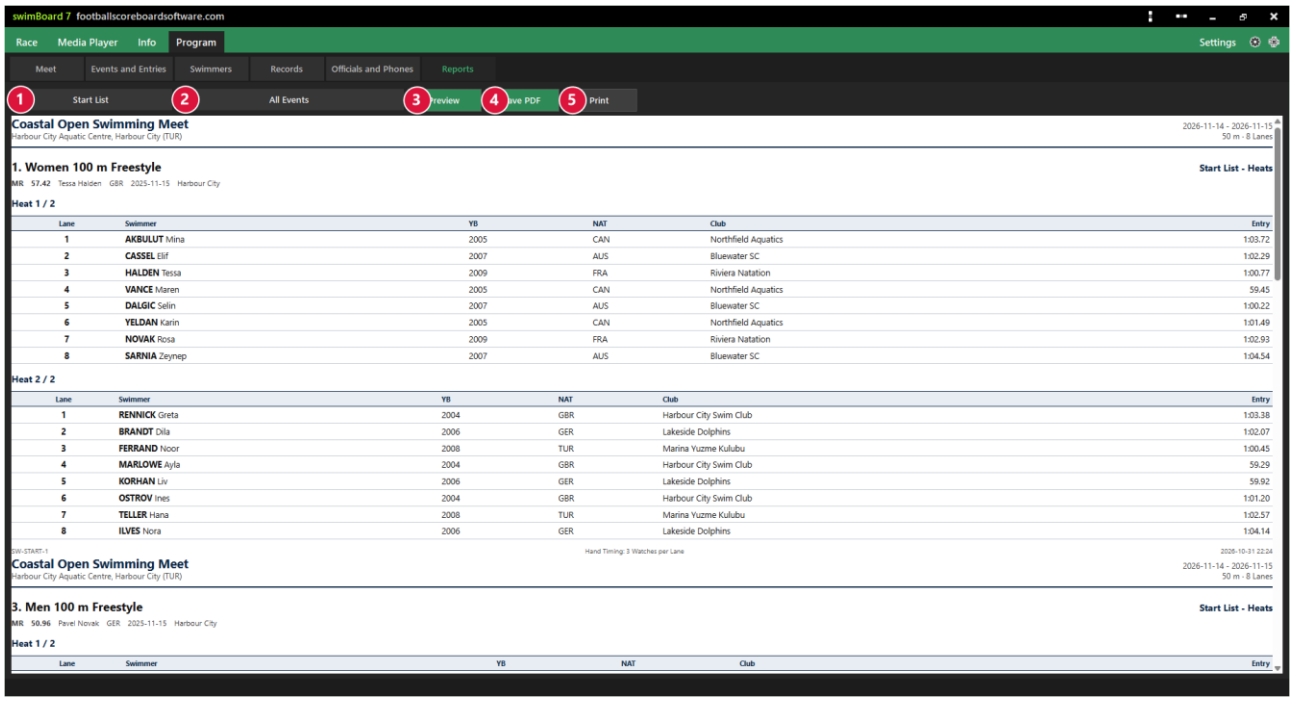


Figure 15. Program > Reports.

No.	Control	What It Does
1	**Report**	The kind of report (section 13.2)
2	**Event**	One event, or All Events
3	**Preview**	Shows the report on this page
4	**Save PDF**	Writes an A4 PDF
5	**Print**	Opens the print dialog

5.5 Page Buttons in the Program Tab

The page buttons at the top of the Program tab (Meet, Events and Entries, Swimmers, Records, Officials and Phones, Reports) switch the pages above. The splitter between two tables can be dragged. A double click on it restores it. A right click on a column header offers Reset Column Widths.

5.6 Info Tab

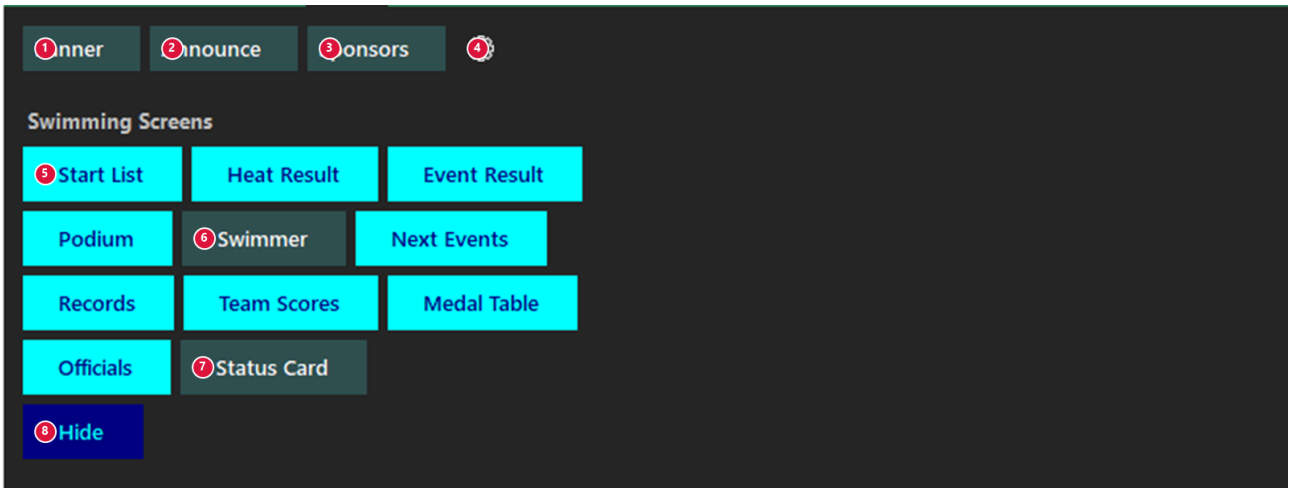


Figure 16. The Info tab.

No.	Control	What It Does
1	**Banner**	Opens the Banner editor
2	**Announce**	Opens the Announce editor
3	**Sponsors**	Opens the Sponsors list
4	**Cog**	Shows or hides the background choice of the info screens: the board's background, black, or a file you choose. Banner and Announce have their own.
5	**Light blue screen buttons**	Show that screen at once: Start List, Heat Result, Event Result (again = next page), Podium, Next Events, Records, Team Scores, Medal Table, Officials
6	**Swimmer**	Opens its editor: Lane, Show, Hide
7	**Status Card**	Opens its editor (below)
8	**Hide**	Takes the info screen off; the live board returns. Also ends Banner and Announce.

Banner Editor

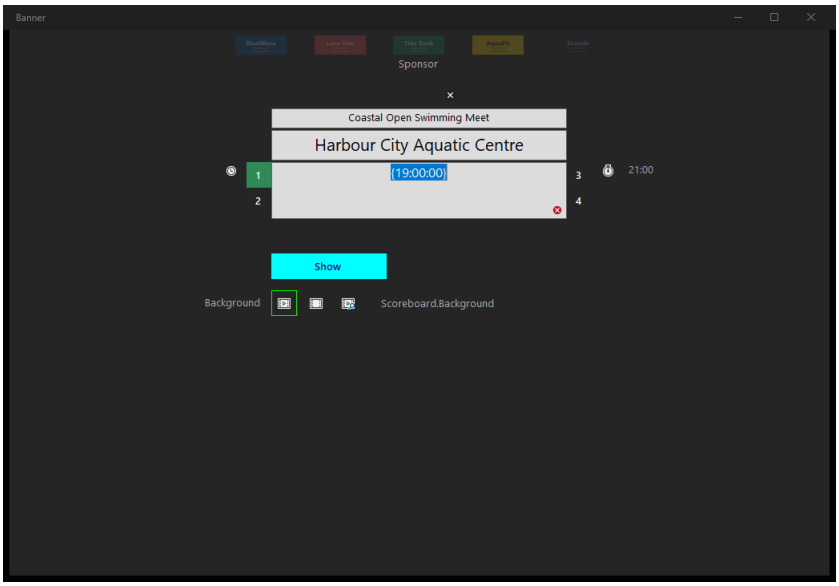


Figure 17. The Banner editor.

A full-screen title for a break: two lines and a big middle text.

Control	What It Does
Line 1, Line 2	The two upper lines
Middle text	The big text. Four versions, chosen with 1 to 4. A switch loses text not yet shown.
Clock button	Beside the middle text while you type in it: puts the time of day in the text
Timer button and time box	Puts a count-down to the time in the box in the text, for example to 21:00
Red ×	Clears that box
Sponsor pictures	The first five sponsors; click one to use it on the banner. × removes it.
Background buttons	The board's background, black, or a chosen file
Show	Saves the text and puts the banner on the Standard board. Use Info > Hide to take it off.

Announce Editor

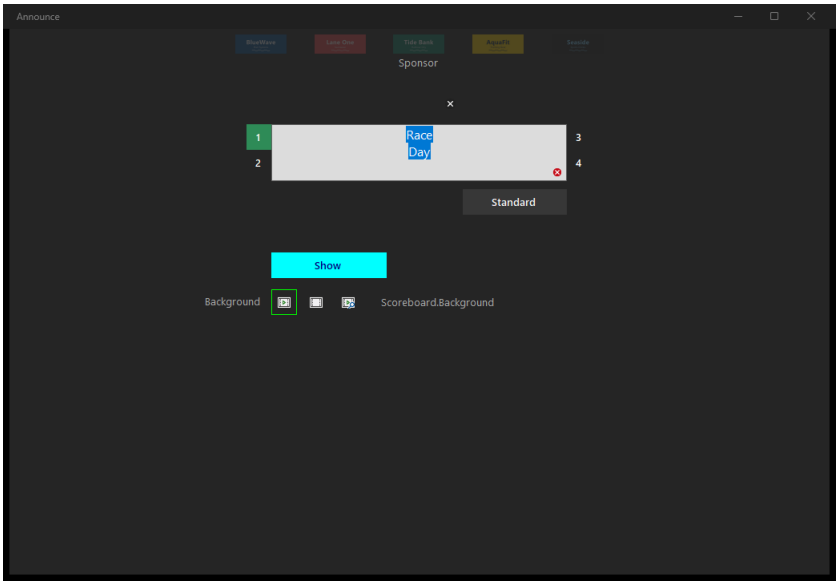


Figure 18. The Announce editor.

One big announcement. Works like the banner, plus a text style: Standard, Gradient, Shape, Stripe-H, Stripe-V, Stroke. With a style other than Standard a cog opens the font, size, shadow and colour settings, with a save button.

Status Card Editor

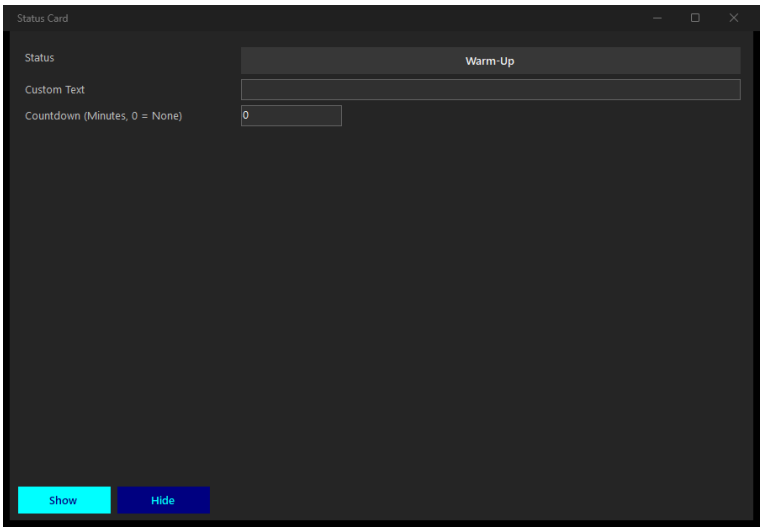


Figure 19. The Status Card editor.

Control	What It Does
Status	Warm-Up, Delay, Break, Medal Ceremony, End of Session, Custom
Custom Text	The card's text for Custom; a second line for the others
Countdown (Minutes, 0 = None)	A count-down on the card from the moment you click Show
Show	Puts the card on the board
Hide	Takes it off

Changes are saved as you type.

Sponsors List

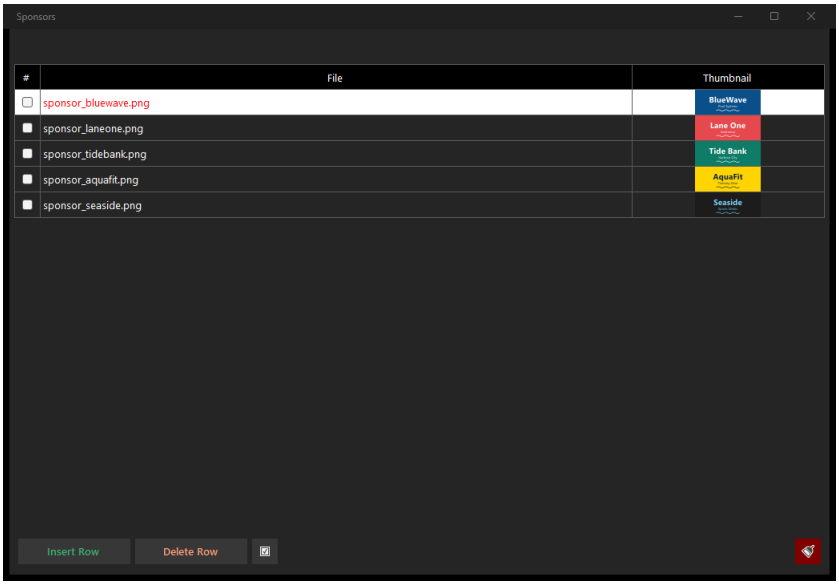


Figure 20. The Sponsors list.

Control	What It Does
List	Sponsor pictures. Drag a row to change the order. A file that is gone shows in red.
Insert Row	Adds pictures

Control	What It Does
Delete Row	Removes the selected row
Set Default	Makes the selected picture the sponsor logo of the board
Clear All	Empties the list at once, without asking

5.7 Media Player Tab

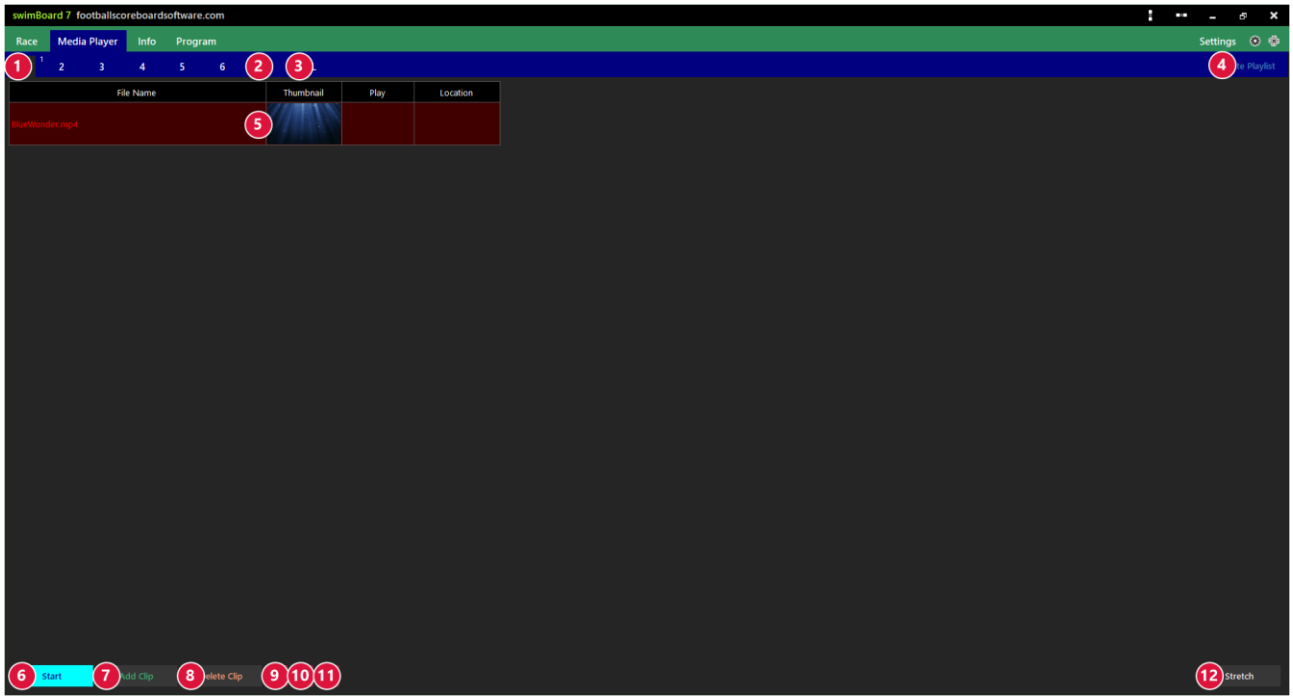


Figure 21. The Media Player tab.

No.	Control	What It Does
1	**1 to 6**	Playlists, with the number of clips above each
2	**List icon**	Opens the list of playlists 7 to 20
3	**URL**	Opens a list of web addresses; Load shows a page on the board
4	**Delete Playlist**	Empties the list at once, without asking
5	**Clips**	File, thumbnail, Play button, position. Drag a row to change the order. A file that is gone shows in red.
6	**Start**	Plays from the selected clip on. While running: Finish stops it.
7	**Add Clip**	Adds files
8	**Delete Clip**	Removes the selected clip
9	**Return**	After the last clip, back to the scoreboard
10	**Sound**	Sound on or off. Lime frame = on.
11	**Repeat**	Starts the list again after the last clip
12	**Display mode**	How the picture fills the screen: Stretch, Center, Cover Center, Original, Size to Fit and others

The Play button on the selected row plays one clip; a second button pauses it. Return and Repeat go back to off when the program restarts.

5.8 Sp, Ad and CK Tabs

These appear in their display mode.

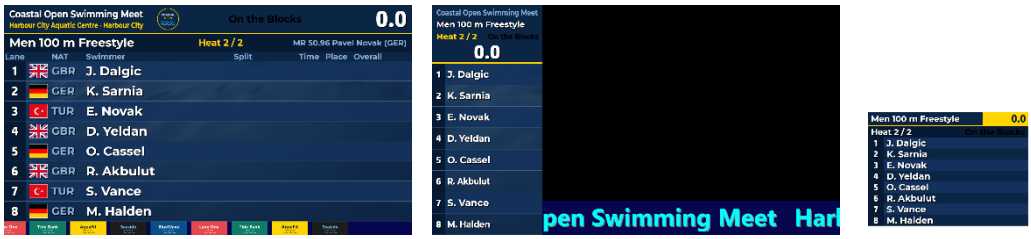


Figure 22. The boards: Sponsored with its band, Advertisement with a banner, and Chroma Key on a transparent background.

Sp Tab

Page	Control	What It Does
Sponsors	Pictures button	Opens the Sponsors list
	Cog, Save	Picture height, padding, position, speed, direction
	Apply	Runs the sponsors as a sliding band
Scrolling Text	1 to 4	Four texts; each line is one item
	Cog, Save	Font, size, speed, direction, three colours
	Apply	Runs the text in the band
Settings	Top, Bottom	Where the band sits
	Pixel	Height of the band
	Apply	Applies position and height

Ad Tab

Page	What It Does
Media Player	A playlist on the Ad screen: 1 to 6, Play, Start, Add Clip, Delete Clip, Delete Playlist, sound, display mode
Camera	Camera or NDI source. Start shows a preview only; Show puts it on the board; Stop ends it.
Screen Capture	A part of a screen on the board. Select Rectangle draws the area with the mouse (Esc cancels). Start goes on air at once.
Banner	Two banners, each with sponsors, scrolling text or a playlist
Settings	Scoreboard, 1. Banner, 2. Banner, Multimedia: place, size, dock and visibility. Apply takes effect.

CK Tab

Page	Control	What It Does
Info	Scoreboard	Puts the scorebug on the output
	Hide	Takes the scorebug off
	Screen buttons	Same as the Info tab, as lower thirds
	Hide Lower Third	Takes the lower third off; the scorebug stays

Page	Control	What It Does
Media Player, Camera, Screen Capture		As on the Ad tab, on the CK output
Settings	Key colour	Transparent, Green, Blue or Magenta, for your video mixer. R, G, B, A show the values.

5.9 Settings Tab

Button	What It Does
License	Licence page (below)
? beside it	Shows what the licence allows and until when
Screen Properties	Position and size of the board and more (below)
[St], [Sp], [Ad], [CK] Board Design	Open the design editor (section 5.10). Only the button of the active display mode is available.
Remote Control	The judges' server (below)
Language	The Language window (below)
Youtube Tutorials	Opens the tutorials in your browser

License

Control	What It Does
Computer ID	The ID of this PC. The copy button copies it; send it with your order.
License Key	Paste the key. Green = valid for this PC, grey = not valid, pink = expired.
Save	Stores the key
Create USB License	Opens the USB window: choose a stick, copy its USB ID, paste the key issued for it, Save. The licence then moves with the stick.
Web address	Opens the web site

Screen Properties

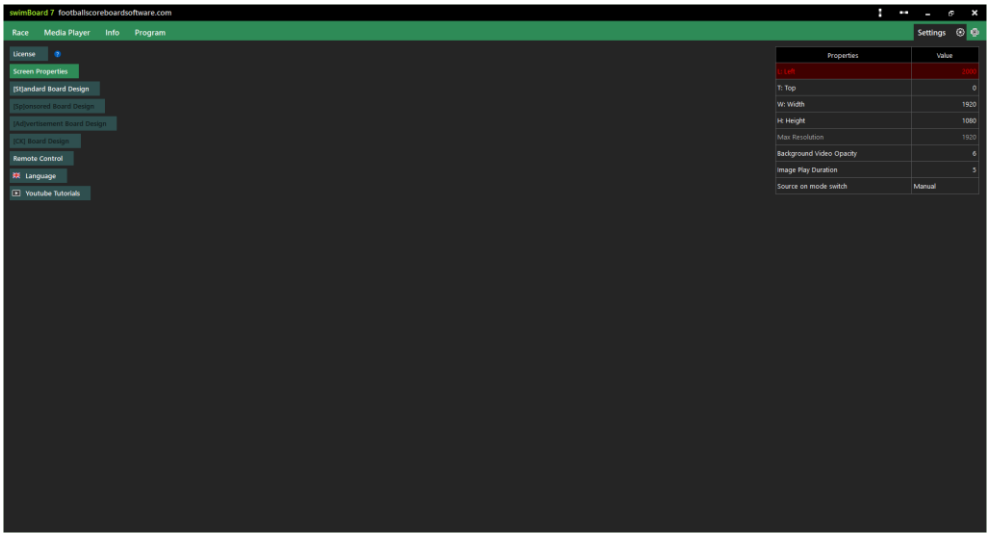


Figure 23. Settings > Screen Properties.

Click a value, type, press Enter.

Row	Meaning
L: Left, T: Top	Position of the board in pixels. Can be negative for a screen left of the main one.
W: Width, H: Height	Size of the board
Max Resolution	Set by the licence; cannot be changed here
Background Video Opacity	0 to 10, whole numbers
Image Play Duration	Seconds per picture in a playlist, 1 to 120
Source on Mode Switch	Manual: a source stops when you change the display mode. Restore: it comes back when you return.

Remote Control

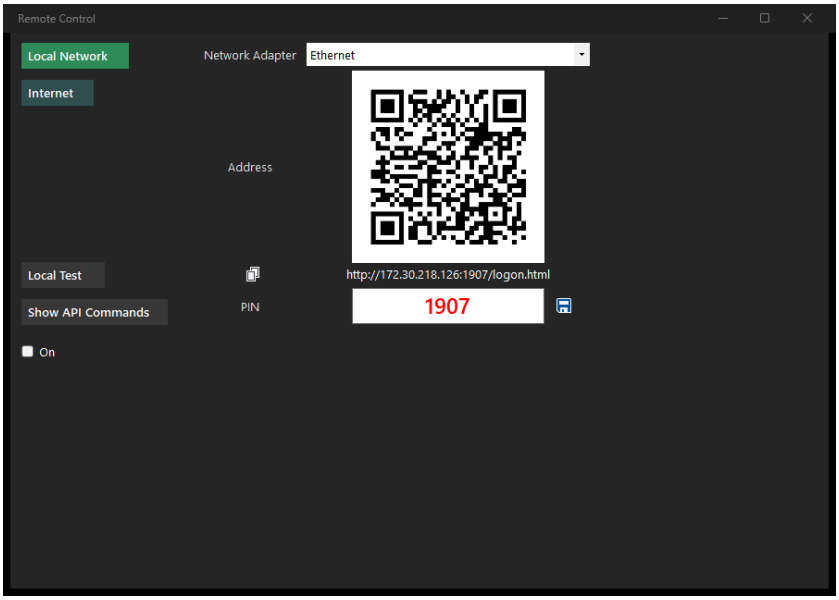


Figure 24. The Remote Control window.

Control	What It Does
Local Network	Link and QR code for phones on this network
Internet	Link through the public address. You must forward port 1907 on the router yourself.
Network Adapter	The network card whose address goes in the link
Address, copy button, QR code	The link. Phones scan the code.
Local Test	Opens the link on this PC
Show API Commands	Opens the list of API commands
PIN, save button	The operator's PIN
On / Off	Starts or stops the server

Language

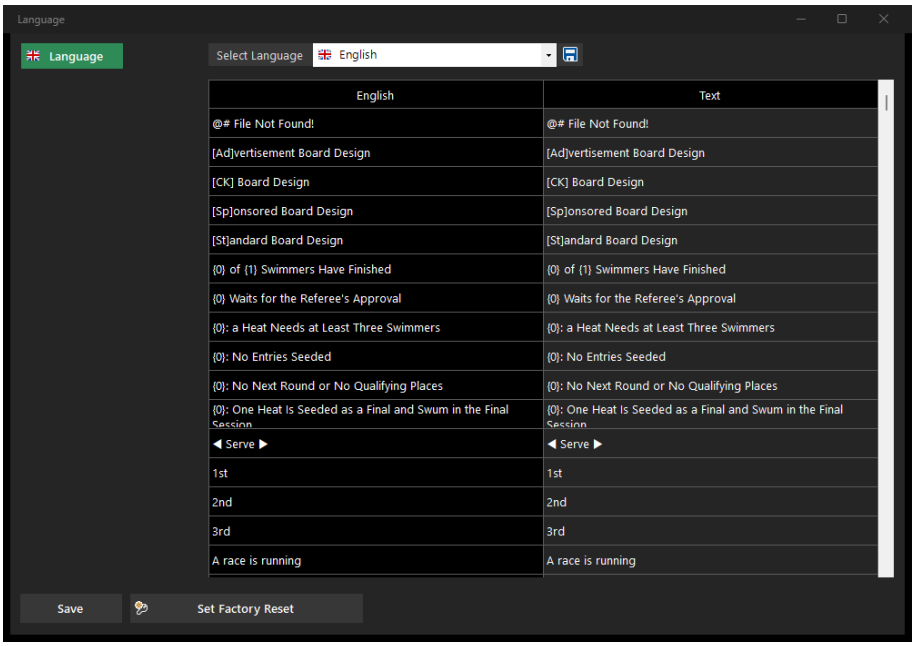


Figure 25. The Language window.

Control	What It Does
Select Language	Choose the language; the table shows all its texts
Save button beside it	Makes it the program language. Restart the program to apply it.
Text column	Edit any text
Save	Stores your edits
Set Factory Reset	Restores all texts. Your edits are lost.

5.10 Design Gallery and Design Editor

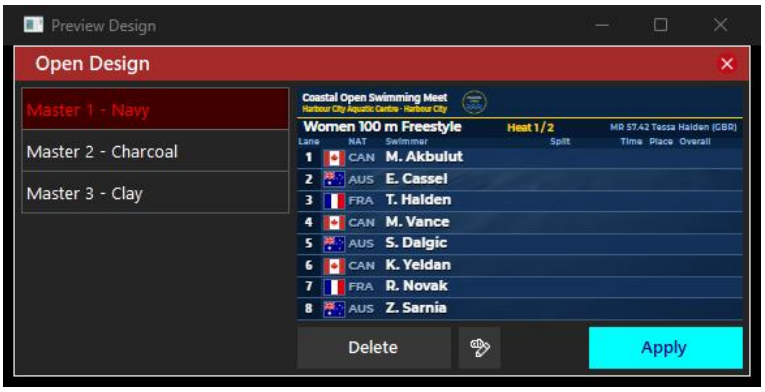


Figure 26. The design gallery, opened with Designs in the banner.

Control	What It Does
List	Factory masters (Navy, Charcoal, Clay) and your own designs. A click shows a live preview.
Delete	Removes your own design, after asking. Masters cannot be deleted.
Rename	Renames your own design
Apply	Makes it the working design, with its info screens

Control	What It Does
X	Closes without a change

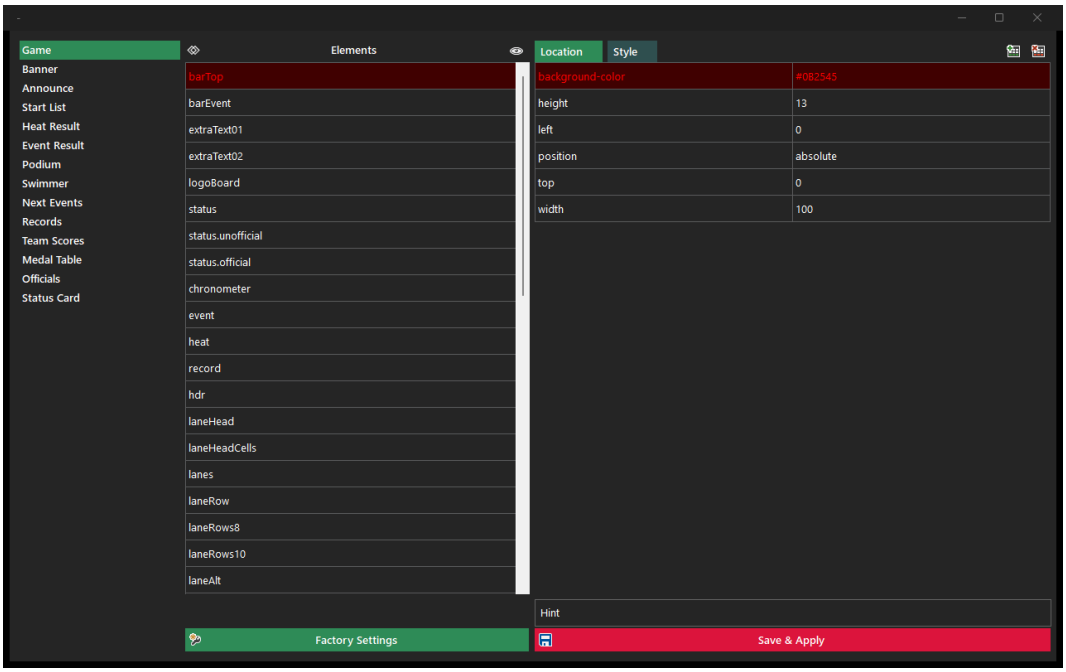


Figure 27. The design editor.

Control	What It Does
Screen list	Game (the live board), Banner, Announce and each info screen
Elements	The parts of that screen. A red dotted frame shows the part on the board.
Location, Style	Position and size, or fonts and colours
Eye	Shows or hides the element
Insert Row, Delete Row	Adds or removes a property
Colour and font buttons	Appear on those rows and open the pickers
Hint	Allowed values of the selected property
Save & Apply	Stores the change and shows it on the board
Factory Settings	Asks, then restores this screen
Save Design As	Stores your design under a name for the gallery. Not available in CK.

5.11 LED Output and Keyboard Windows

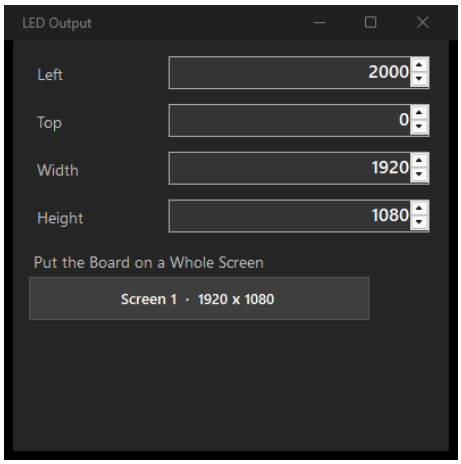


Figure 28. The LED Output window.

Control	What It Does
Left, Top, Width, Height	Position and size of the board. It follows at once; the values are saved a moment later.
Screen buttons	One per screen of this PC: put the board on that whole screen

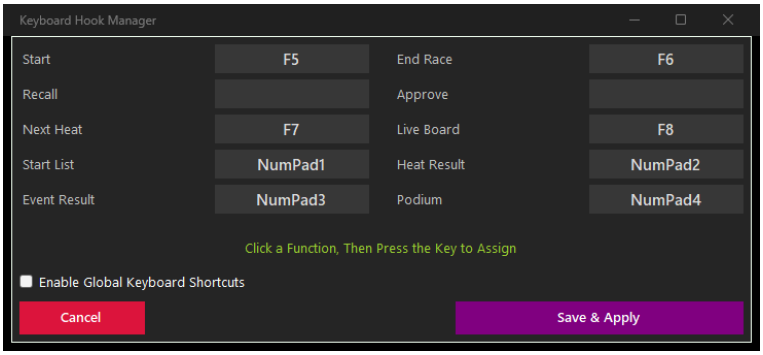


Figure 29. The Keyboard Hook Manager.

Control	What It Does
Key boxes	Click a box, then press the key. A right click clears it.
Enable Global Keyboard Shortcuts	The main switch. Off on a new installation.
Save & Apply	Stores the keys and closes
Cancel	Closes without a change

Defaults: F5 Start, F6 End Race, F7 Next Heat, F8 Live Board, NumPad1 Start List, NumPad2 Heat Result, NumPad3 Event Result, NumPad4 Podium. Recall and Approve have no key on purpose.

The keys work while another program has the focus, so choose them with care.

6. The Judges' Phones

Each official logs on with one phone, tablet or laptop. There is nothing to install: the page opens in the browser. The page shows only what that seat may do.

6.1 Log On

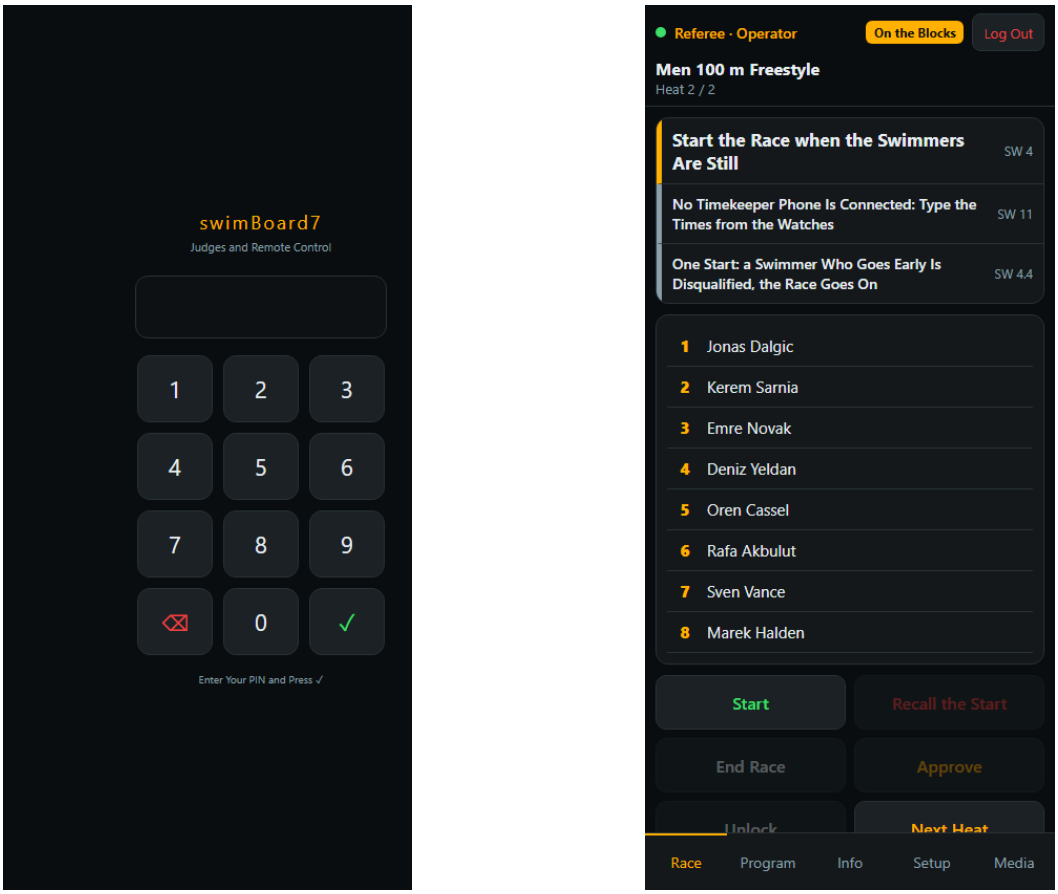


Figure 30. The log-on page, and the operator's page after logging on.

Control	What It Does
Keypad	Type the PIN of your seat. A QR code from the Judges' Access sheet fills it in for you.
⌫	Deletes a digit
✓	Logs on

Every page has at the top: a dot (green = connected, red = no connection), your seat and name, the state of the heat, Log Out, the event and heat, and the running clock. At the bottom small print shows how well the clock is synchronised.

6.2 Timekeeper

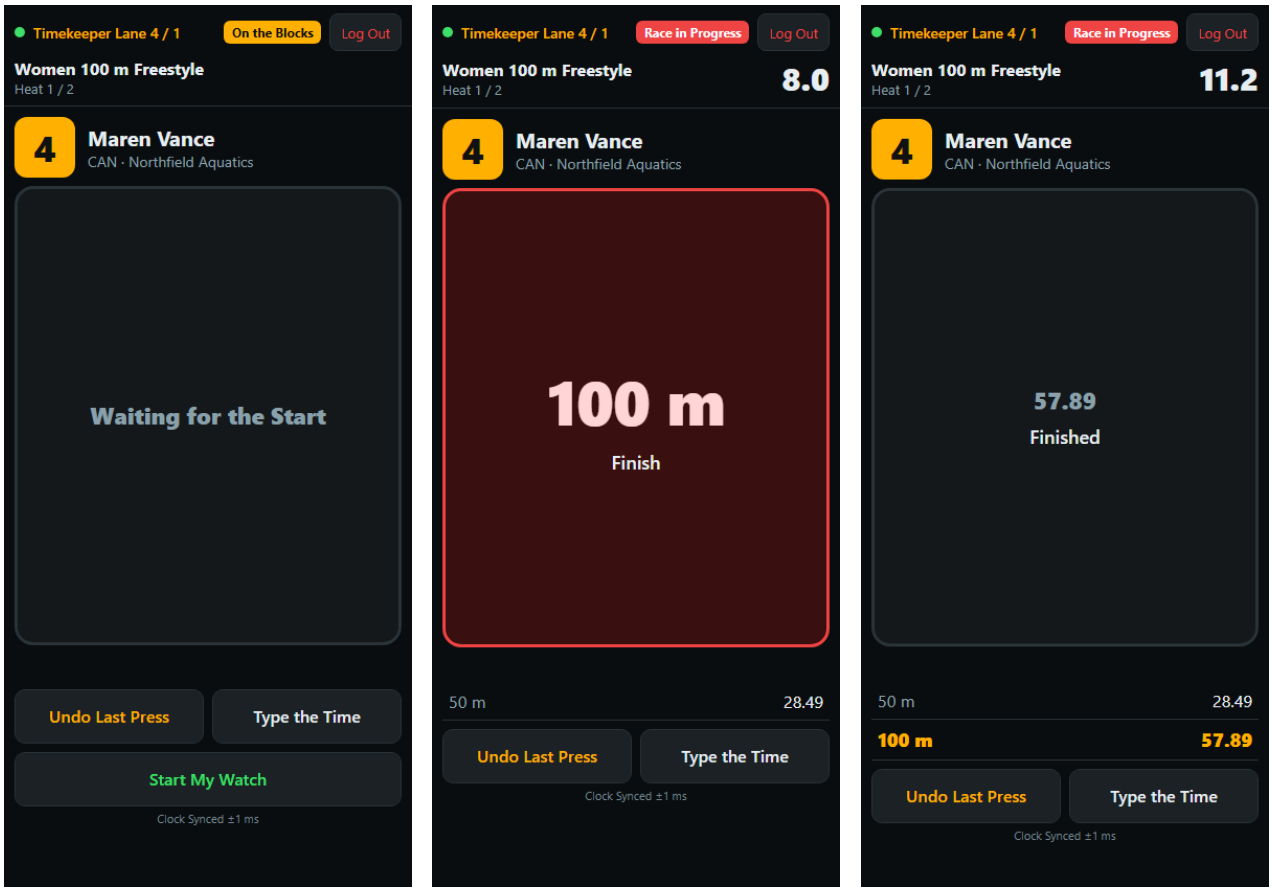


Figure 31. Waiting for the start, the final press, and finished. In a relay the button counts the distance.

Control	What It Does
Lane badge and name	Your lane, swimmer, nation and club. Check this before each heat.
Big button	Press at each split and at the finish. It shows the distance of the next press: green for a split, red for the finish. The time is taken on the phone at the moment of the touch, so a slow network changes nothing.
Times below	Your own splits and final time
Undo Last Press	Takes back the last press
Type the Time	Types the time from a stopwatch, on a keypad: 10234 = 1:02.34
Start My Watch	Before the start, when no start signal reaches the phone: starts your watch at the gun. Your first press starts the race on the PC at that moment.

> **Note:** A press that cannot be sent waits on the phone (Waiting to Send) and goes out when the network is back. Two presses less than 4 seconds apart count as one.

6.3 Starter

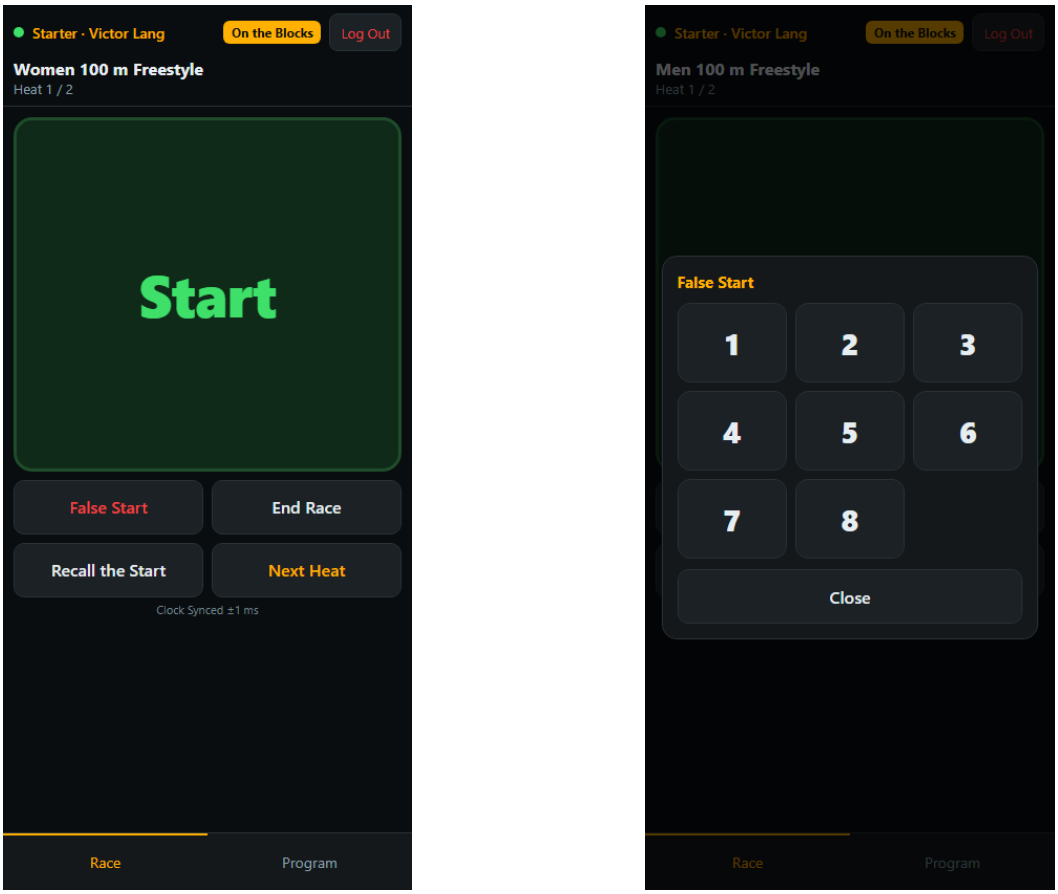


Figure 32. The Starter, and the False Start sheet.

Control	What It Does
Start	Starts the race at the moment of the touch. Green when the heat is on the blocks.
False Start	Choose the lane. The report goes to the Referee.
End Race	Closes the race
Recall the Start	For a fault of the start only. Asks first.
Next Heat	Calls the next heat
Program tab	All heats; tap one to call it

6.4 Finish Judge

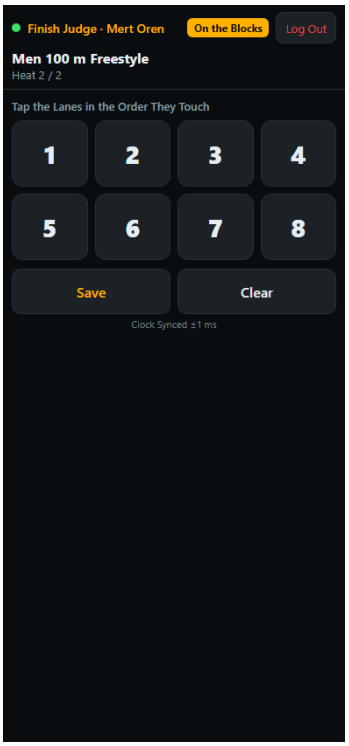


Figure 33. The Finish Judge.

Control	What It Does
Lane buttons	Tap in the order of touch. A number shows the order; another tap takes the lane out.
Save	Sends the order to the Referee
Clear	Starts again

6.5 Stroke and Turn Judges

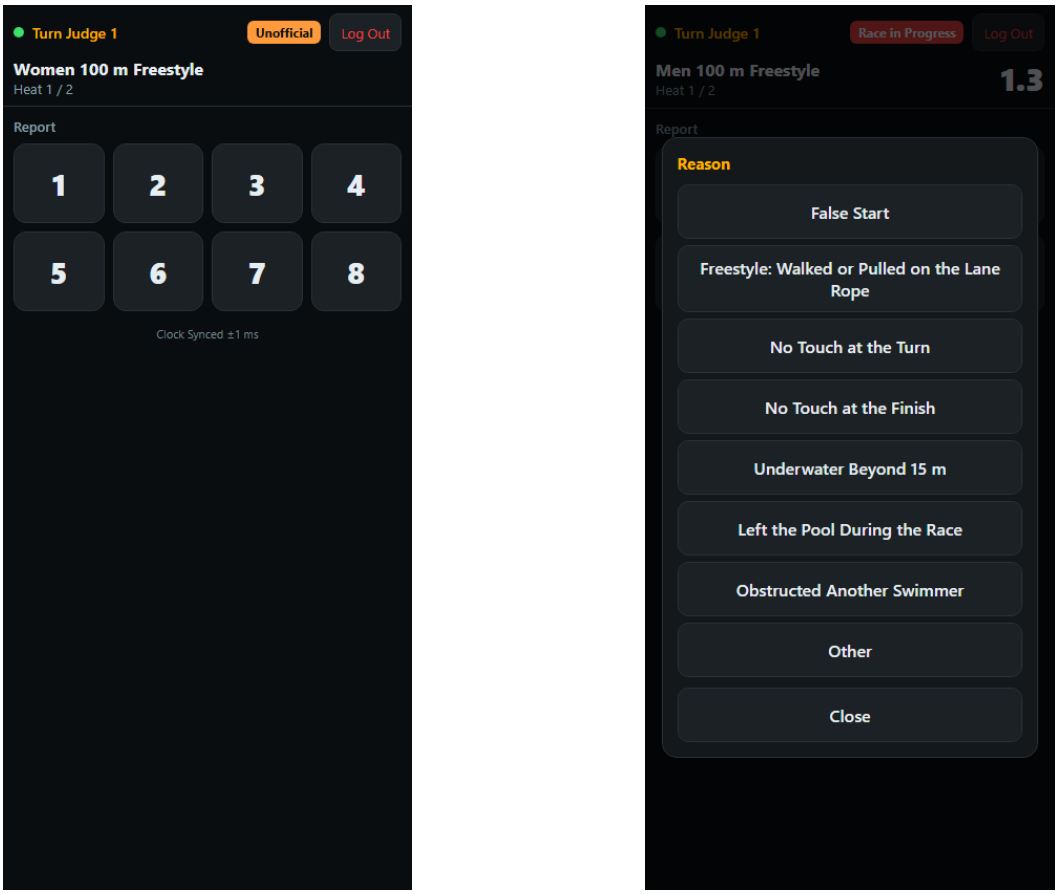


Figure 34. The lanes, and the reasons of a breaststroke, butterfly or freestyle event.

Control	What It Does
Lane buttons	Tap the lane of the infraction
Reason list	Choose the reason. Only reasons of the stroke being swum appear.
List below	Your reports with the decision: ✓ confirmed, ✗ rejected

6.6 Referee

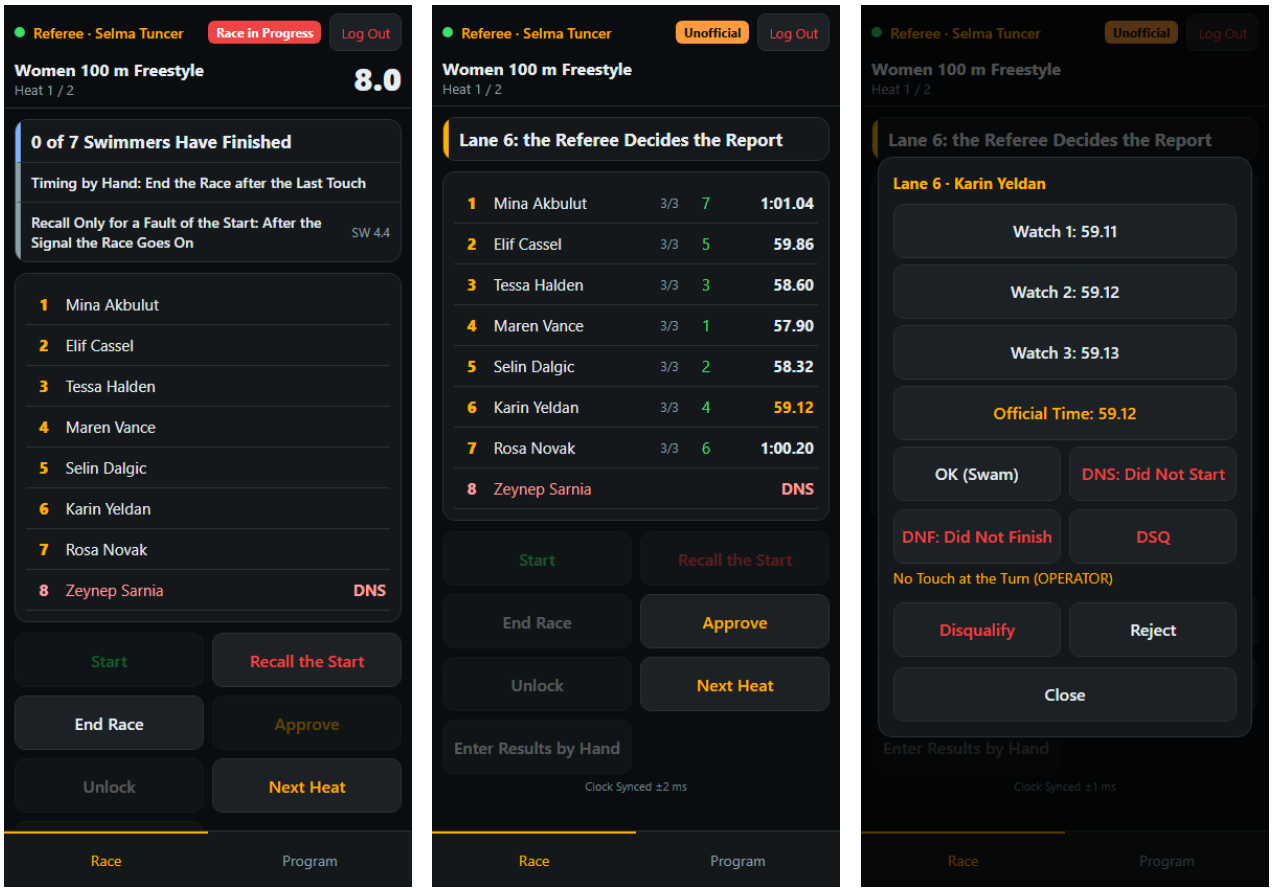


Figure 35. During the race, after it, and a lane sheet with an open report.

Control	What It Does
Guide box	The same steps as the NEXT line and the checklist of the PC
Lanes table	Lane, swimmer, watches in (2/3), place, time. A ! marks an open report. Tap a lane for its sheet.
Start, Recall the Start, End Race	As on the PC
Approve	The approval. Refused while something is open.
Unlock	Reopens an approved heat, after asking
Next Heat	Calls the next heat
Enter Results by Hand	For a heat without a race on the clock
Program tab	All heats; tap one to call it

The lane sheet:

Control	What It Does
Watch 1, 2, 3	Shows the time; tap to type or correct it
Official Time	Tap to type it; save it empty to go back to the watches
OK (Swam), DNS, DNF, DSQ	Sets the status. DSQ asks for the reason.
Scratch: Call the Reserve	Before the start, for the Referee and the Recorder
Disqualify, Reject	The decision on the open report
Close	Closes the sheet

6.7 Chief Timekeeper and Recorder

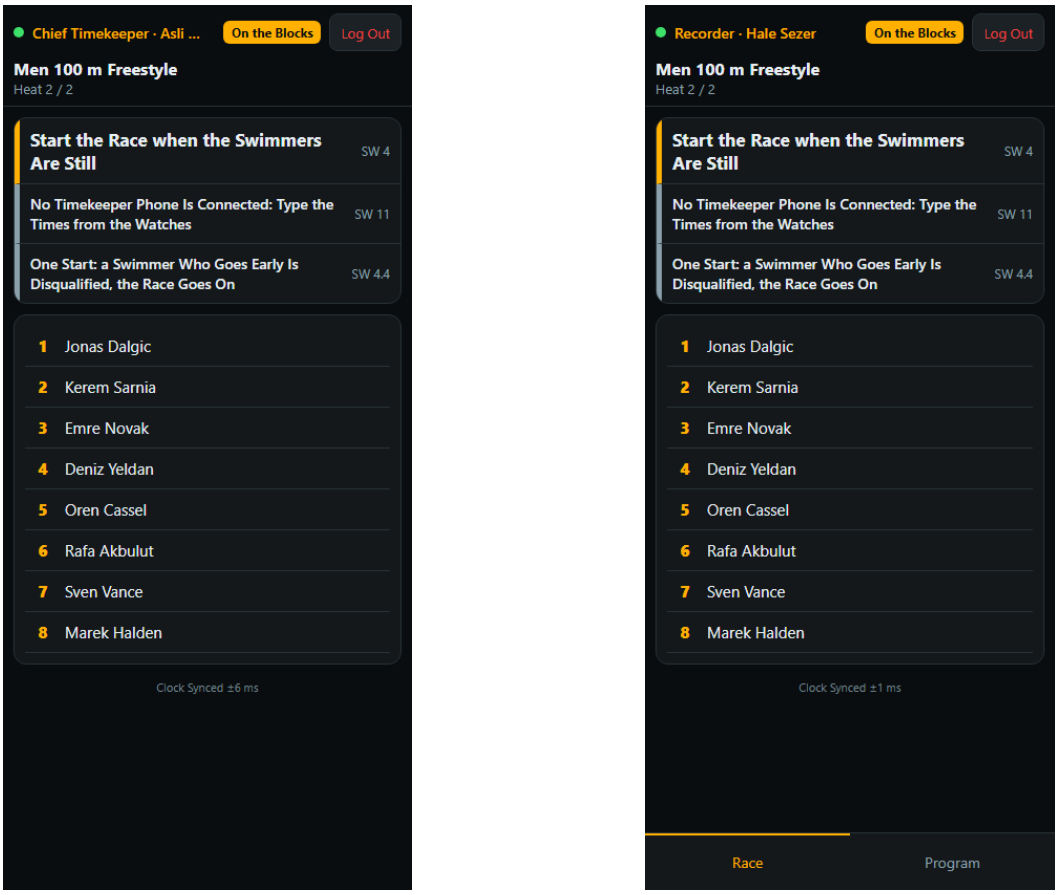


Figure 36. The Chief Timekeeper and the Recorder.

Both see the lanes table and the guide. They can type watches and official times, and set DNS and DNF through the lane sheet. The Recorder can also call heats, enter results by hand, and scratch a swimmer. A disqualification, the approval and unlocking stay with the Referee.

6.8 Operator

The operator logs on with the remote PIN (Settings > Remote Control) and may do everything the Referee does, plus:

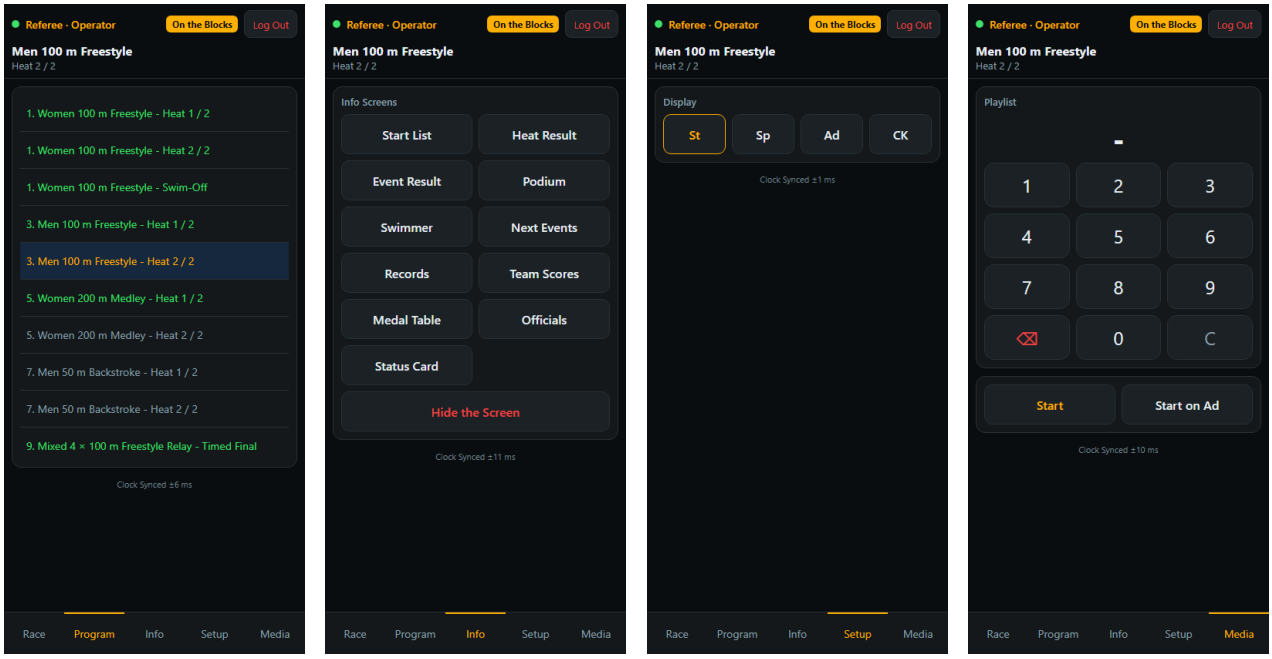


Figure 37. The tabs Program, Info, Setup and Media.

Tab	What It Does
Race	As the Referee
Program	All heats; tap one to call it
Info	One button per info screen. Hide the Screen brings the live board back.
Setup	Display mode: St, Sp, Ad, CK
Media	Type a playlist number. Start plays it on the board, Start on Ad on the Ad screen.

7. Sample Meets

Five complete situations, each played on the program with the demo meet. The names are fictional; the pictures and times are from those runs, so you can follow along. Start with a fresh demo meet: the first scenario begins at the first heat.

Scenario	You Learn
7.1 One Heat with Phones	The normal cycle, with a turn report
7.2 From Heats to the Final	A new record, a tie, swim-offs, seeding, a withdrawal with a reserve, the podium
7.3 A Heat Where Everything Goes Wrong	False start, failed watch, late press, missing time, correction after approval
7.4 A Small Meet Without Phones	Times from stopwatches, typed by the operator
7.5 A Relay	Teams, relay swimmers, many splits
7.6 Before and After the Meet	Importing entries, the end of the meet

7.1 One Heat with Phones

Situation. Women 100 m Freestyle, Heat 1 of 2. Eight lanes, three timekeepers per lane. Zeynep Sarnia in lane 8 has withdrawn before the heat.

1. **Call.** The NEXT line reads Call 1. Women 100 m Freestyle, Heat 1 / 2. Click Call.

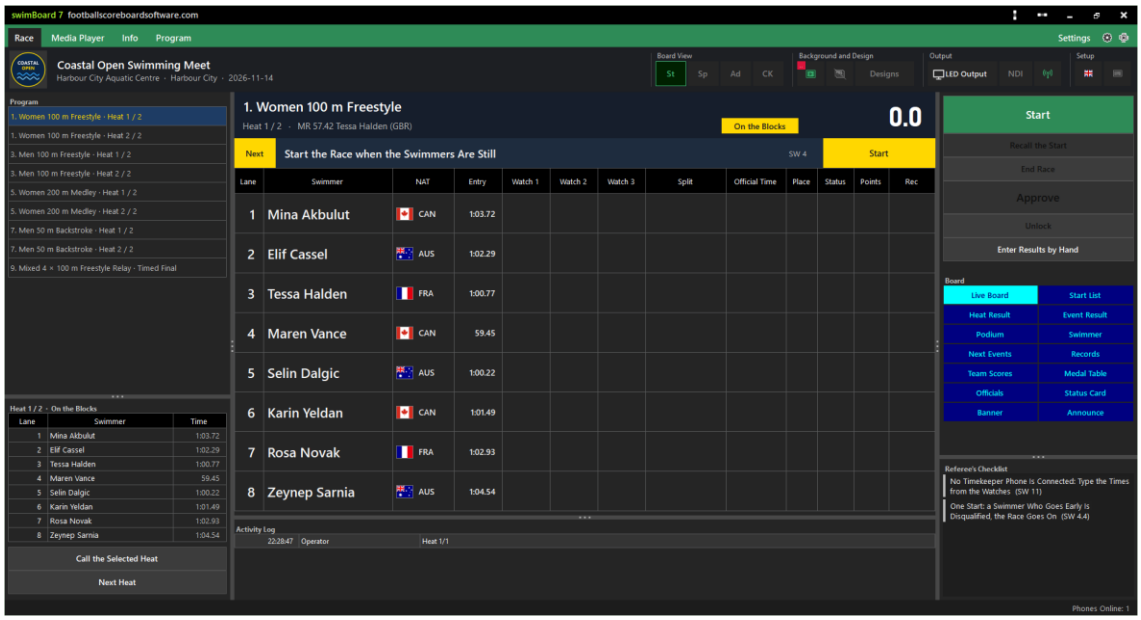


Figure 38. The heat on the blocks. Start is green, the NEXT line says to start when the swimmers are still.

The board shows the lanes and the clock at 0.0. Each timekeeper's phone shows the lane and the swimmer, and Waiting for the Start.

2. **The withdrawal.** Click the Status cell of lane 8, and choose DNS. The lane turns red and the timekeepers of lane 8 see DNS.
3. **Start.** The Starter taps Start at the gun. The clock runs on the PC, on the board and on every phone.

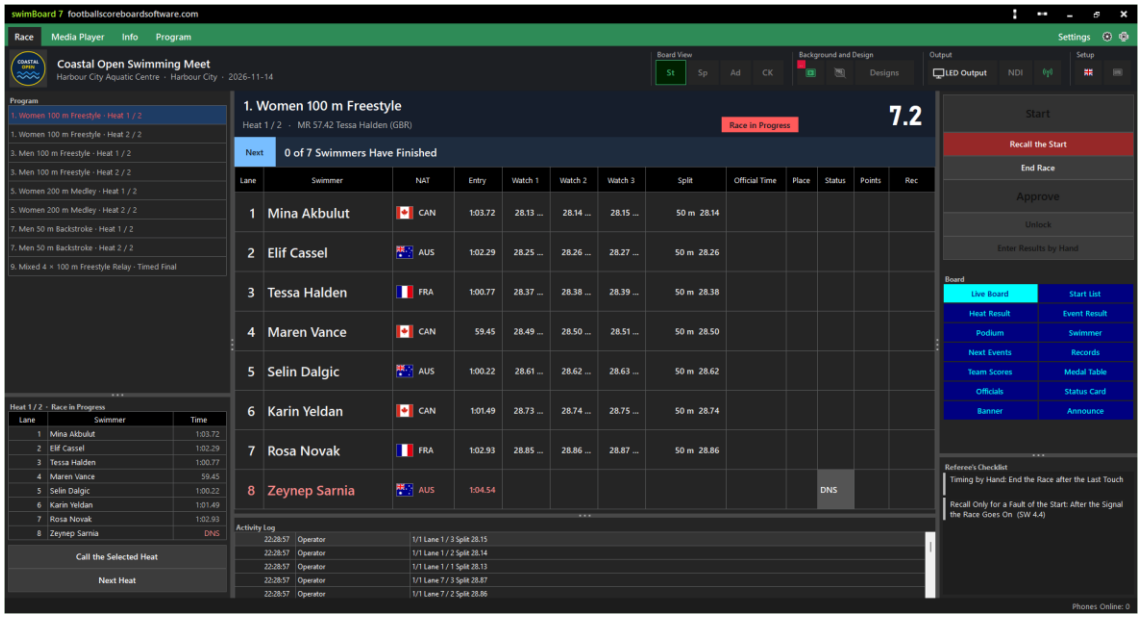


Figure 39. Race in progress. The first split has arrived.

4. **Splits and finish.** Each timekeeper presses once at 50 m and once at the finish. The big button says which: green 50 m, red 100 m. The board shows the split as it arrives and, at the finish, the time and place.

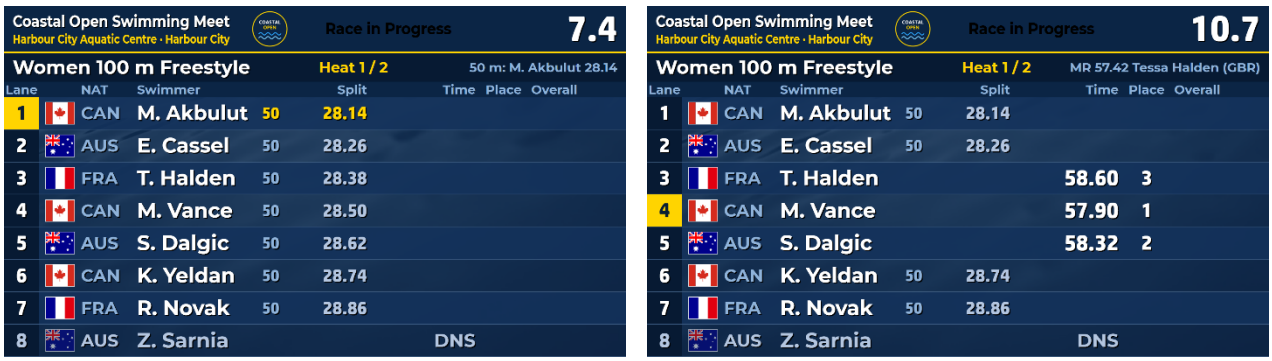


Figure 40. The board in the water, and as the first swimmers finish.

5. **A report.** The Turn Judge saw no touch in lane 6: taps 6, then No Touch at the Turn. On the PC the Status cell of lane 6 turns orange, and the Referee's phone shows the report.
6. **End.** When all swimmers have three watches in, the race ends by itself. The board shows Unofficial.

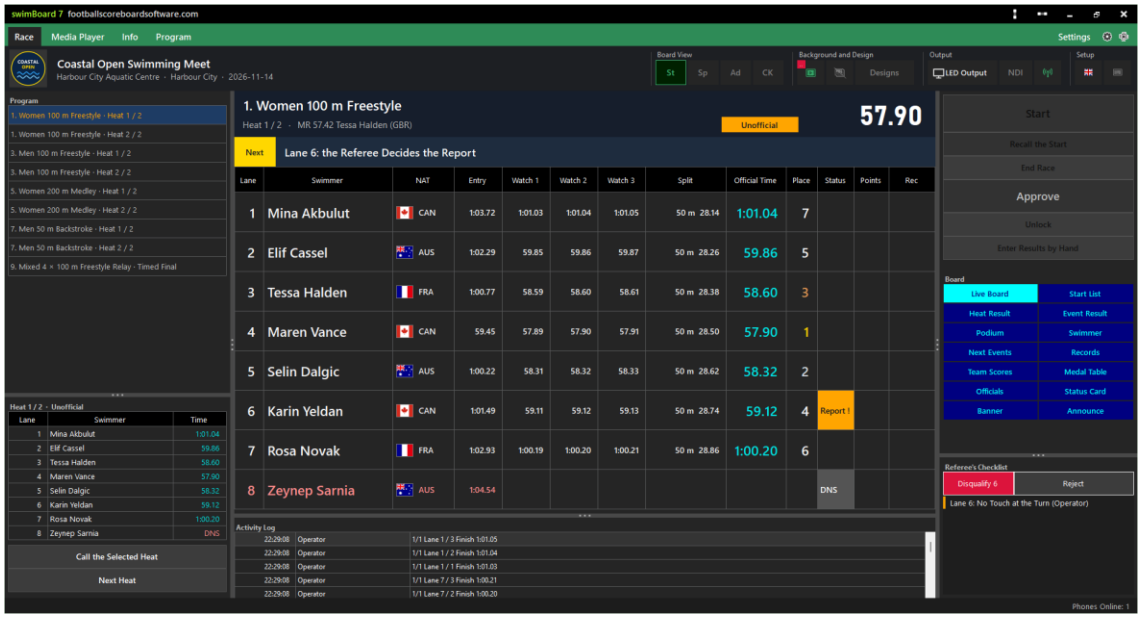


Figure 41. After the race: the NEXT line asks the Referee to decide the report in lane 6. Approve is grey.

7. **Decide.** The Referee speaks with the judge. The video shows the touch, so the Referee rejects the report: tap lane 6 on the phone, then Reject. On the PC the same buttons stand above the checklist.
8. **Approve.** The NEXT line now reads Check the Times and Approve the Result. The Referee taps Approve.

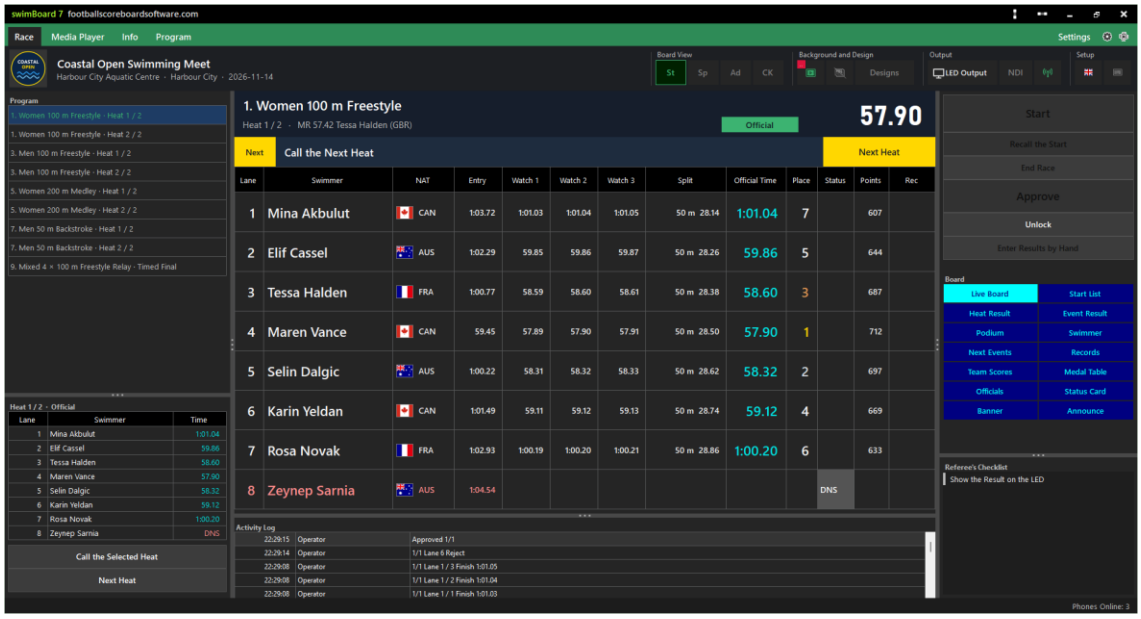


Figure 42. Approved. Places, points and the green Official plate. The NEXT line offers the next heat.

9. **Show the result.** Click Heat Result in the Board buttons. The board shows the heat by place. Click Live Board to go back; a start also brings the live board back by itself.

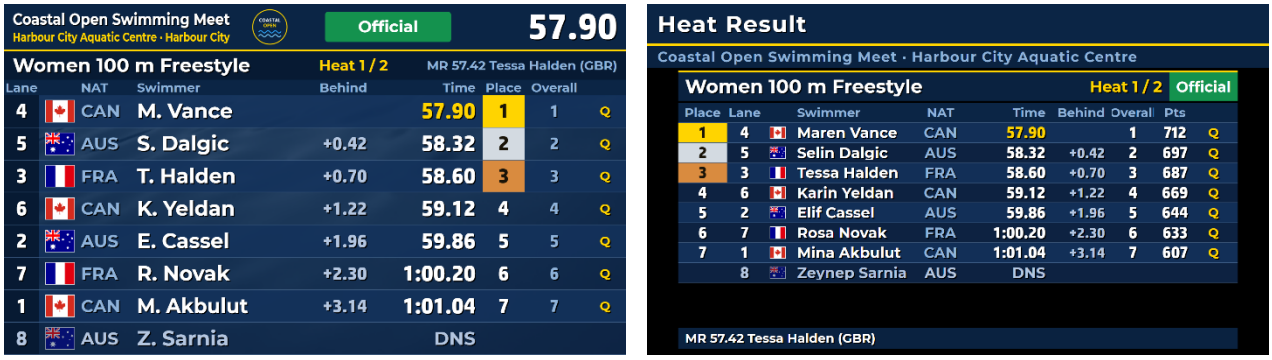


Figure 43. The live board, Official, and the Heat Result.

7.2 From Heats to the Final

Situation. Heat 2 follows. Eight swimmers go through to the final.

1. **Heat 2.** Click Next Heat and run the heat as above. Ayla Marlowe swims 57.30, under the meet record of 57.42. Noor Ferrand, Dila Brandt and others follow.
2. **A record and a tie.** On approval the record tag MR appears. The heats are now complete, and the program checks the qualifying line: Karin Yeldan (Heat 1) and Dila Brandt (Heat 2) both have 59.12 for the eighth place.

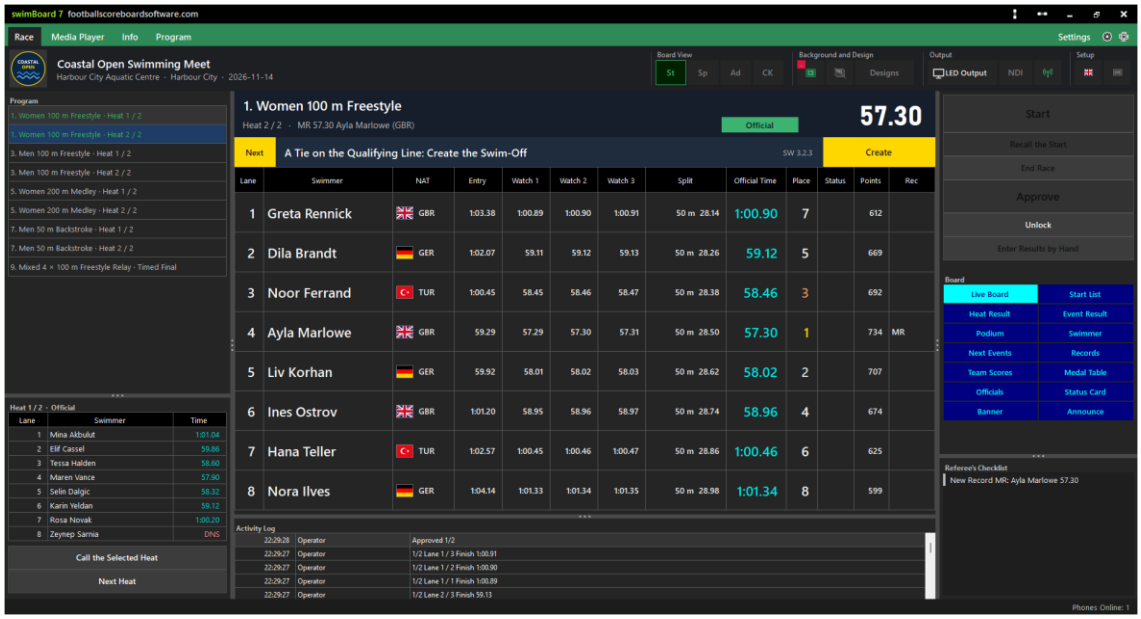


Figure 44. The NEXT line: A Tie on the Qualifying Line: Create the Swim-Off, with the rule SW 3.2.3.

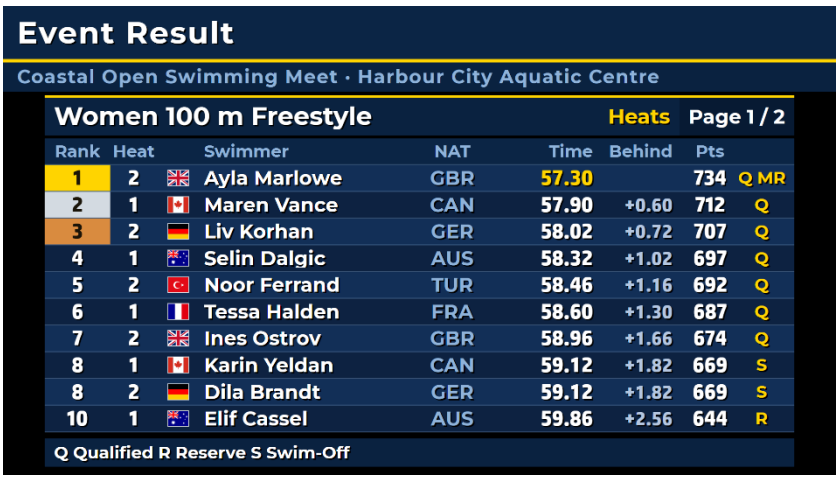


Figure 45. The Event Result on the board: the two tied swimmers carry S for swim-off, the first after them R for reserve.

3. **Create the swim-off.** Click Create. The swim-off joins the program right after the event. The lanes are drawn by lot.
4. **Swim it.** Click Next Heat. The heat shows the two swimmers. Run it like any race. Karin Yeldan swims 58.88, Dila Brandt 59.03.

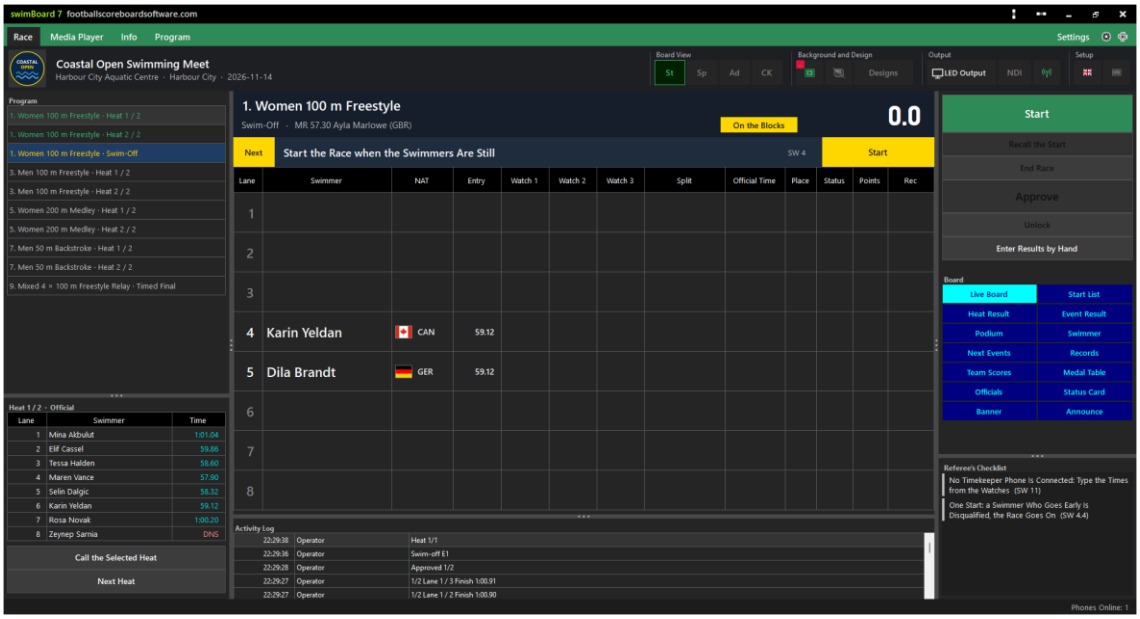


Figure 46. The swim-off on the blocks.

> **Note:** The times of the swim-off decide the place only. In the results the time of the heat, 59.12, stays. If the two had tied again, the NEXT line would ask for a further swim-off.

5. **Seed the final.** The NEXT line reads Seed Final - Women 100 m Freestyle. Click Seed Now. Karin Yeldan goes through with Q. Dila Brandt becomes the first reserve.

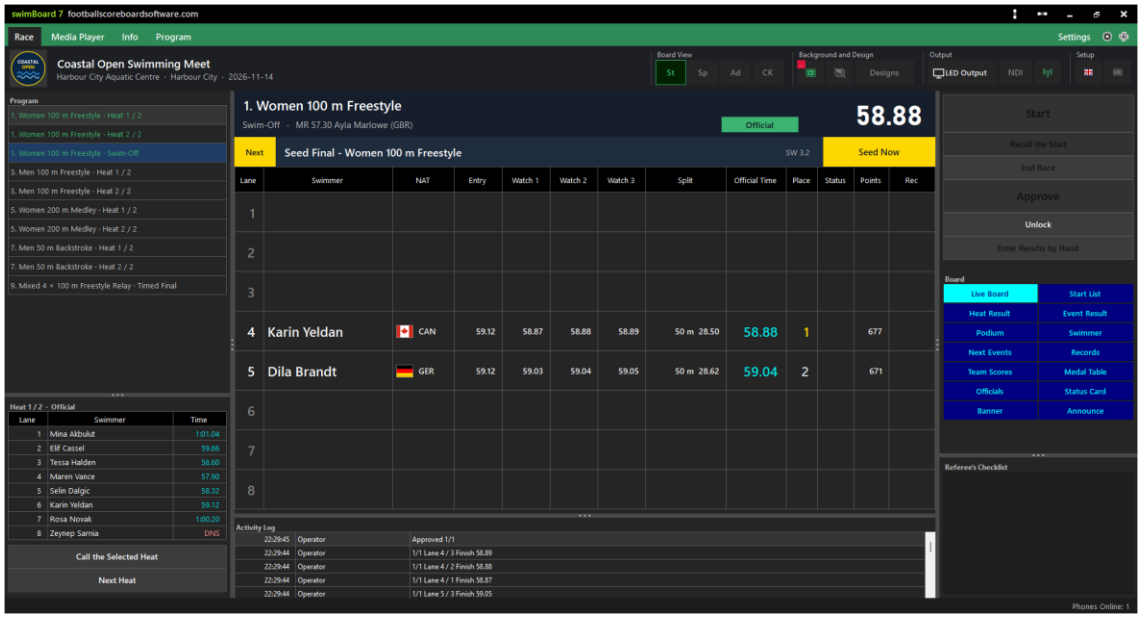


Figure 47. The final is ready to be seeded.

6. **Call the final.** In the running order of your meet the final comes in session 2. Select it in the program and click Call the Selected Heat.
7. **A withdrawal.** Before the final Selin Dalgic in lane 6 withdraws. Right-click lane 6 and choose Scratch: Call the Reserve. Dila Brandt comes in as the first reserve and the final is seeded again, with new lanes (SW 3.2.4).

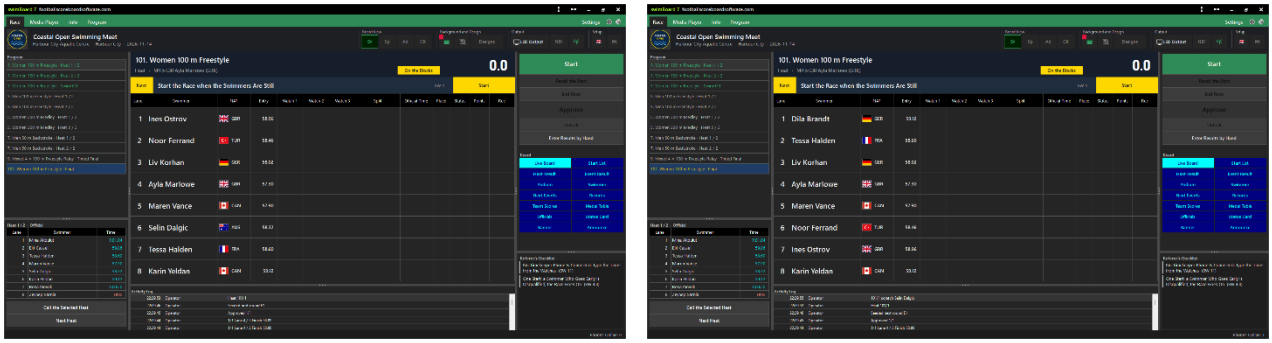
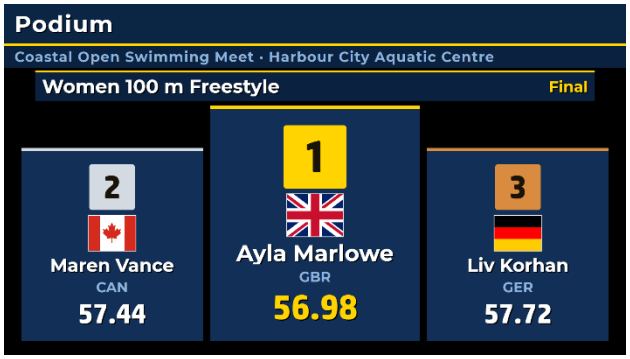


Figure 48. The final before and after the scratch: Dila Brandt in, the lanes seeded again.

8. **Race and approve.** Ayla Marlowe wins in 56.98, a new record again; the record line now shows her time.
9. **Podium.** The NEXT line offers Show the Podium on the LED. Then Event Result; click it again for the second page if the list is long.



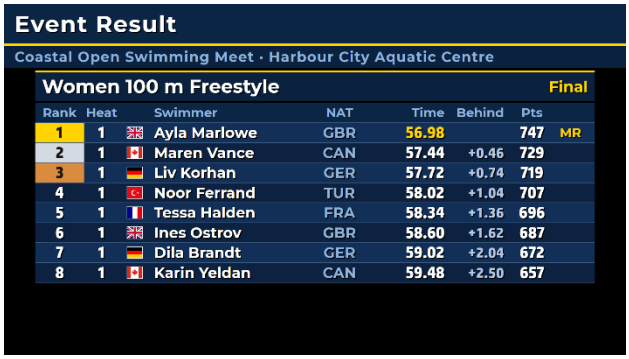


Figure 49. The Podium and the Event Result of the final.

7.3 A Heat Where Everything Goes Wrong

Situation. Men 100 m Freestyle, Heat 1. One heat, every kind of trouble.

1. **False start before the signal.** The swimmer in lane 3 dives before the signal. The Starter taps False Start and lane 3.

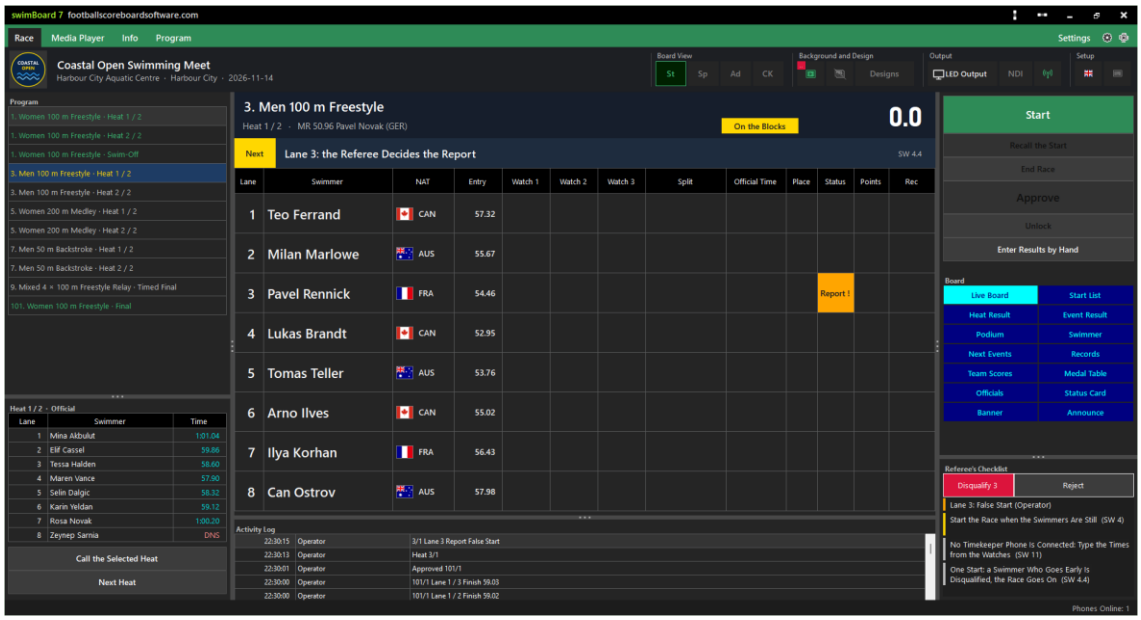


Figure 50. The false start stops the guide: the Referee decides first, rule SW 4.4.

The Referee confirms it: Disqualify 3. Lane 3 is DSQ. The others are called back and start again.

> **Note:** If the signal has already sounded, the race goes on and the swimmer is disqualified at the finish. Do not recall. Recall the Start is only for a fault of the start itself, and a DSQ for a false start stays through a recall.

2. **A stroke report.** During the race the Stroke Judge reports lane 5: Freestyle: Walked or Pulled on the Lane Rope.
3. **Three timing problems** arrive at the same time:

- the third watch of lane 2 fails: only two times;
- a timekeeper of lane 7 presses 0.64 s late;
- the timekeepers of lane 1 are lost: no time at all.

4. **After the race** the checklist lists everything, the most urgent first.

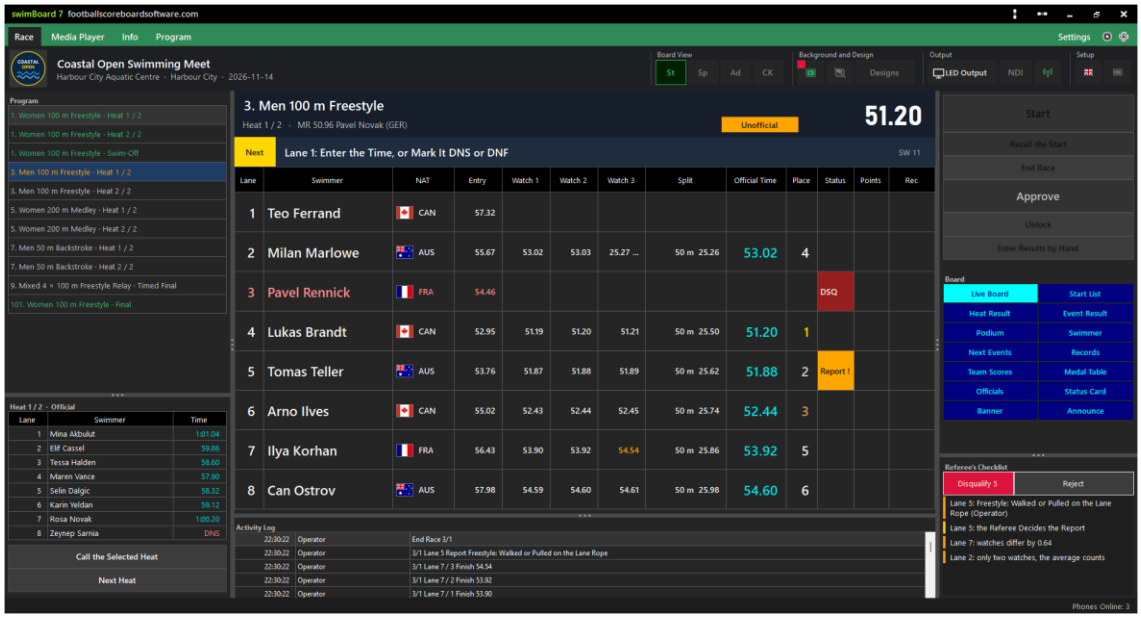


Figure 51. The NEXT line asks for the time of lane 1; the report of lane 5, the late watch in orange, and the two-watch warning follow.

Line	What the Rules Say	What You Do
Lane 1: Enter the Time	No approval without a time	Type the watches from the backup stopwatches, or mark DNF
Lane 5: the Referee Decides	No approval with an open report	Disqualify or Reject
Lane 7: watches differ by 0.64	Warning; the middle watch counts (SW 11.3)	Look at it. The official time is already right.
Lane 2: only two watches	Warning; the average counts, cut to hundredths	Nothing, unless a third time exists

5. **A typing slip.** The Chief Timekeeper types 1:12.40 for lane 1 instead of 54.40. The checklist answers: Lane 1: time far from the entry time. Correct it on the lane sheet; the warning goes.
6. **Approve.** The Referee approves.
7. **A correction after approval.** Ten minutes later the Referee learns that lane 4 did not touch at the finish. Click Unlock and confirm. Right-click lane 4 and choose DSQ, No Touch at the Finish. Approve again. Places and points are written anew.

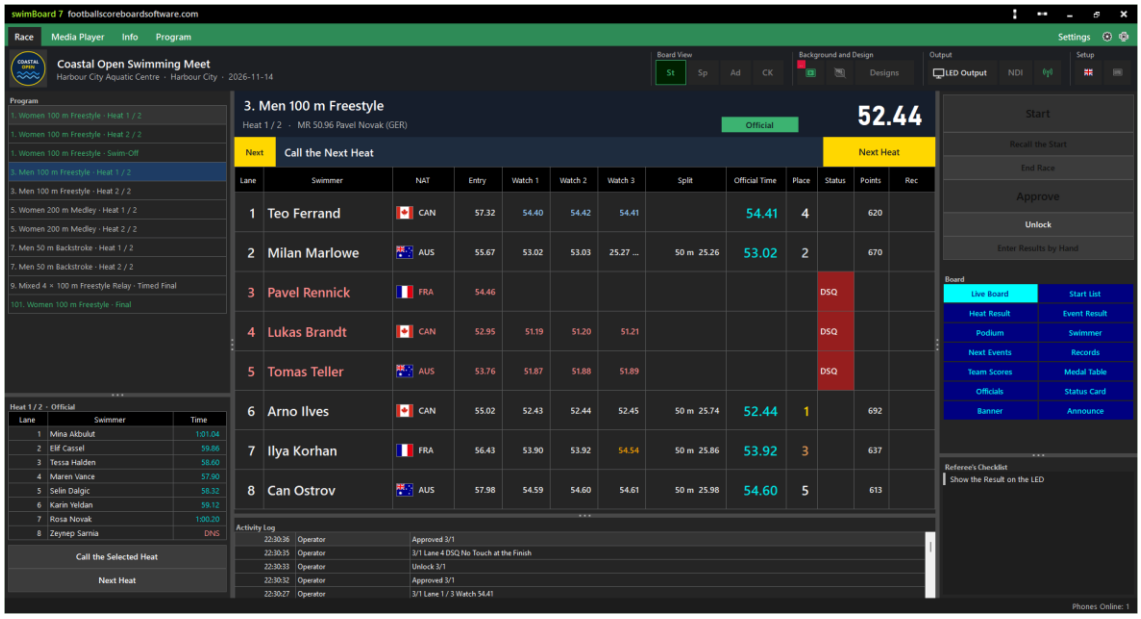


Figure 52. The corrected heat: lane 4 is DSQ, the others moved up.

> **Note:** If this heat already sent swimmers to the next round, the NEXT line asks to seed that round again, as long as it has not started.

7.4 A Small Meet Without Phones

Situation. A club meet: stopwatches and paper, one operator at the PC. Women 200 m Medley, Heat 1. Lane 7 does not start.

1. In Program > Meet set Watches per Lane to fit your timekeepers.
2. Call the heat and mark lane 7 DNS.
3. Click Enter Results by Hand and confirm. The heat goes straight to Unofficial. No clock runs.

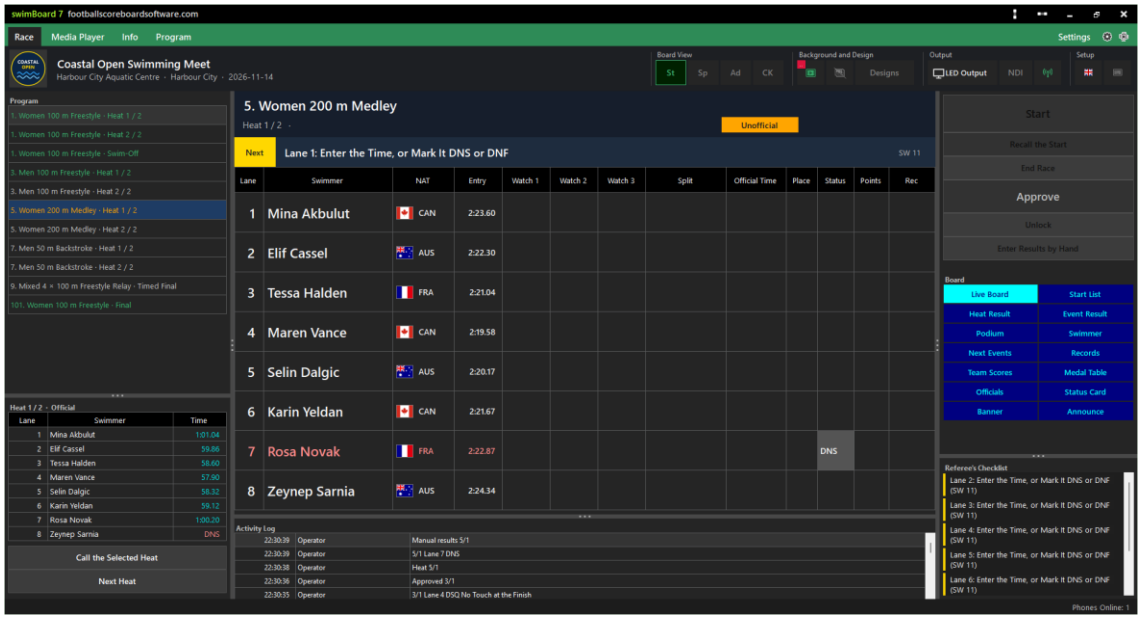


Figure 53. Results by hand: every lane asks for its time.

4. Click the Official Time cell of a lane, type the time and press Enter. Typing 22205 gives 2:22.05. The fastest come first if you want the audience to follow.

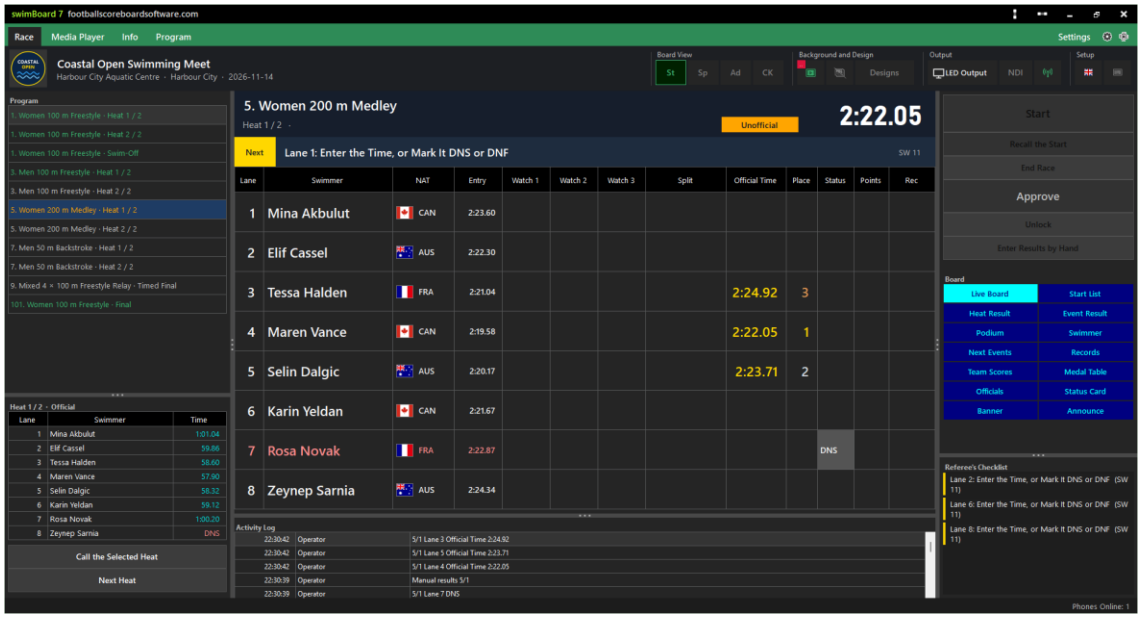


Figure 54. The first three times are typed. The board follows at once.

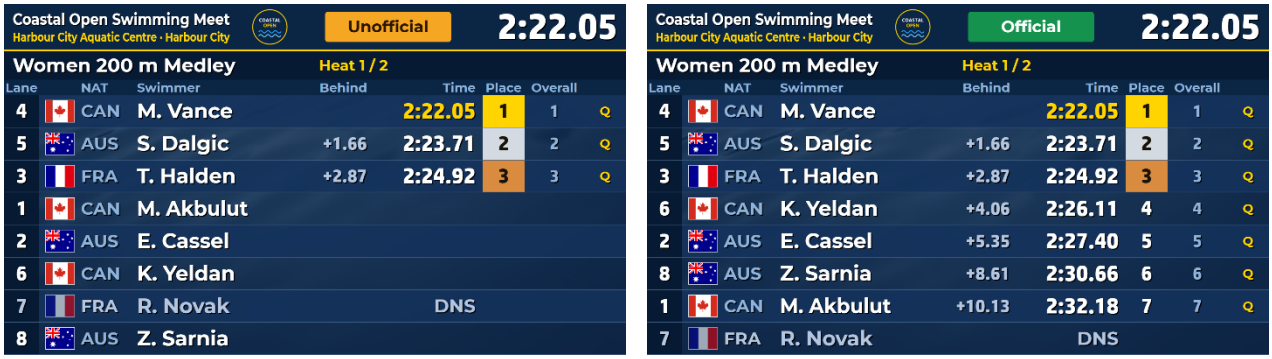


Figure 55. The board during typing, and after the approval.

5. When every lane has a time, the NEXT line asks for the approval. Approve.

> **Note:** You can also keep the race on the clock: Start at the gun, End Race at the end, and type the watches afterwards. Then the board shows the running clock. If you have several stopwatches, type them in Watch 1, 2 and 3: the program applies the three-watch rule for you.

7.5 A Relay

Situation. Mixed 4 × 100 m Freestyle, a Timed Final with six clubs.

1. Call the heat. The checklist warns: the Relay Swimmers Are Not Declared.

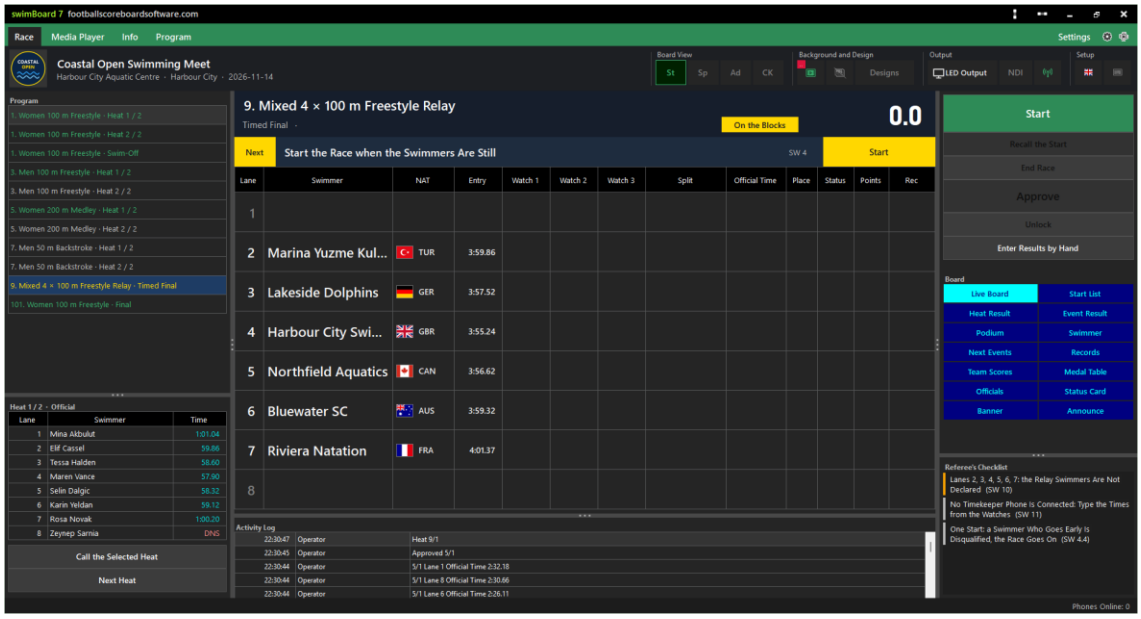


Figure 56. A relay on the blocks. The lanes show the teams.

2. Right-click a lane and choose Change the Swimmer. Enter the swimmers, separated by commas, and Save. The warning disappears lane by lane.
3. Start. With splits every 50 m a timekeeper presses seven times, then the finish. The big button counts: 50 m, 100 m, ... 400 m.
4. A take-over fault goes through a report like any other: the reasons Relay: Early Take-Over and Relay: Wrong Swimmer or Order appear only in relay events.
5. Approve. Relay team points count double.

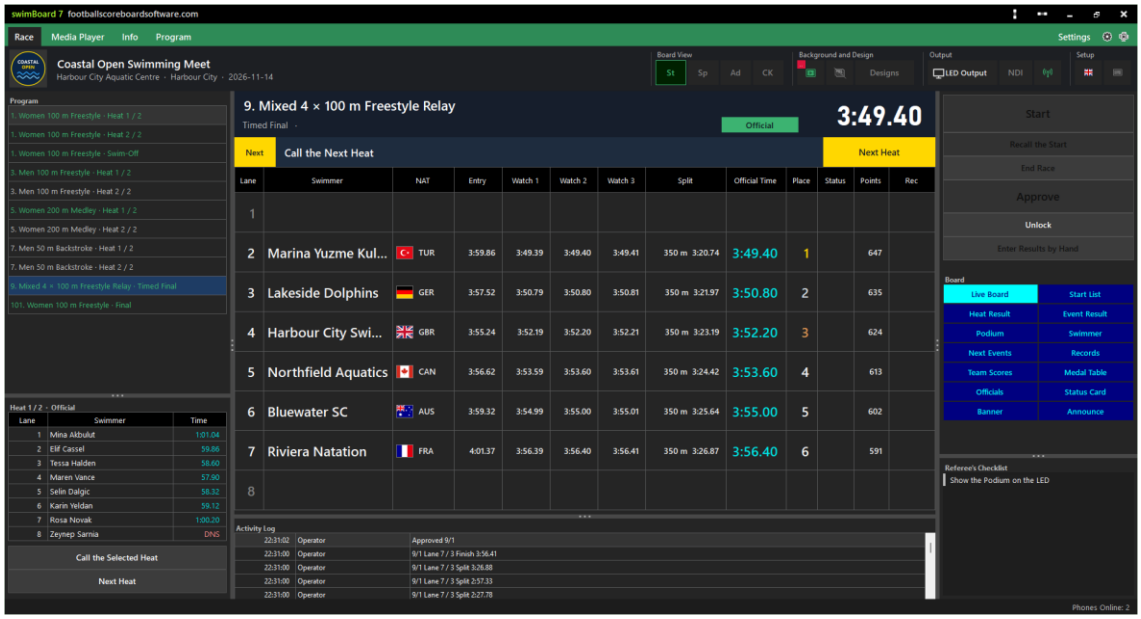


Figure 57. The relay approved.

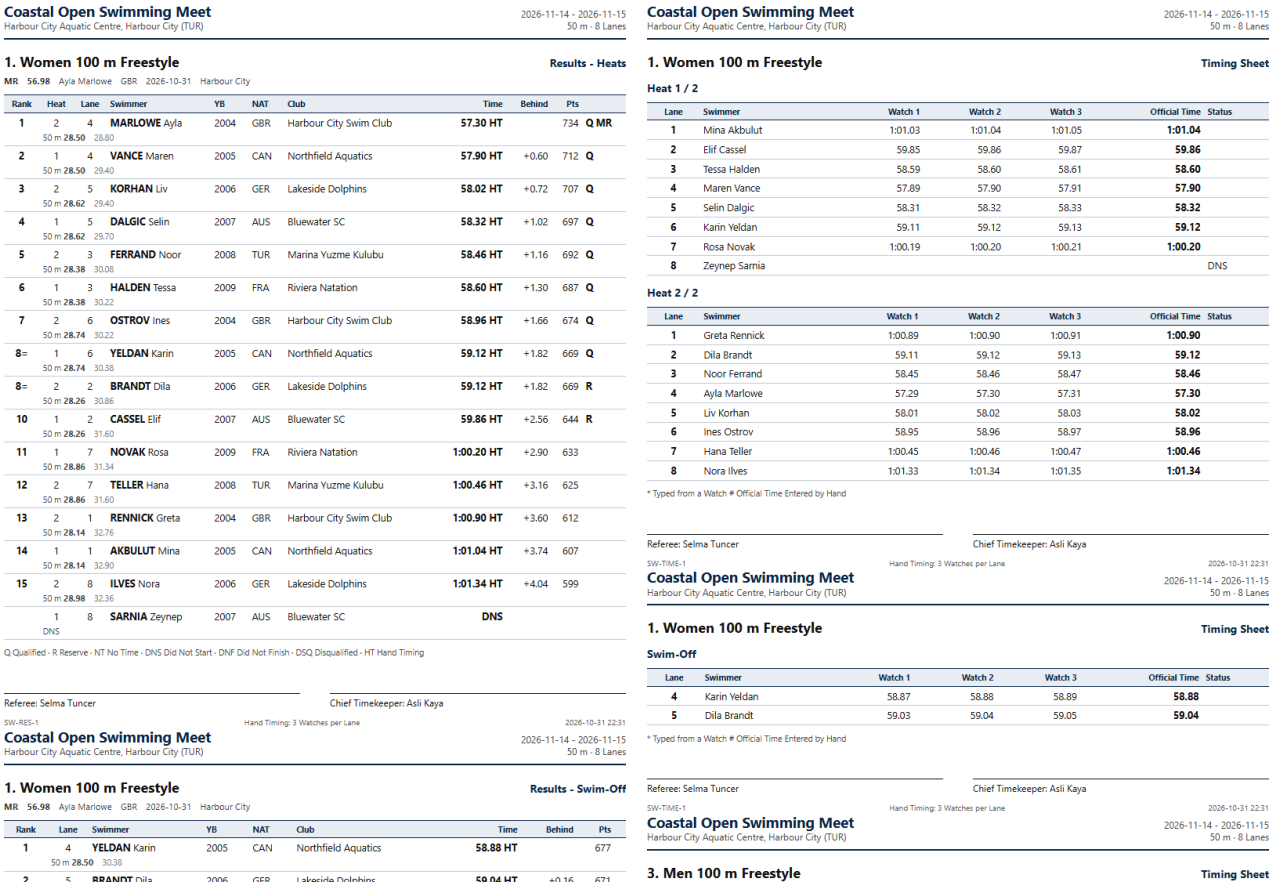
7.6 Before and After the Meet

Your own meet from a start list.

1. New Meet in the banner, then on Program > Meet fill in the meet, course, lanes and sessions.
2. Save a Blank Template, fill it in Excel, Import Excel / CSV. Or Import Lenex from your entry system.

3. Program > Events and Entries: check the events. For events with heats and a final, set the round, the places through and the number of the next round. Seed Heats where needed.
4. Program > Records: enter the records.
5. Program > Officials and Phones: enter the names. Reports > Judges' Access prints the QR cards. Start the Judges' Server.
6. Race tab: the checklist lists what the program still lacks before the first heat.

The end of the meet. The NEXT line reads The Program Is Complete: Print the Results Book. Its button opens Program > Reports.



Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR) — 2026-11-14 - 2026-11-15 — 50 m · 8 Lanes

1. Women 100 m Freestyle — Results - Heats

MR 56.98 Ayla Marlowe GBR 2026-10-31 Harbour City

Rank	Heat	Lane	Swimmer	YB	NAT	Club	Time	Behind	Pts	
1	2	4	**MARLOWE** Ayla	2004	GBR	Harbour City Swim Club	**57.30 HT**		734	**Q MR**
	50 m **28.50** 28.80									
2	1	4	**VANCE** Maren	2005	CAN	Northfield Aquatics	**57.90 HT**	+0.60	712	**Q**
	50 m **28.50** 29.40									
3	2	5	**KORHAN** Liv	2006	GER	Lakeside Dolphins	**58.02 HT**	+0.72	707	**Q**
	50 m **28.62** 29.40									
4	1	5	**DALGIC** Selin	2007	AUS	Bluewater SC	**58.32 HT**	+1.02	697	**Q**
	50 m **28.62** 29.70									
5	2	3	**FERRAND** Noor	2008	TUR	Marina Yuzme Kulubu	**58.46 HT**	+1.16	692	**Q**
	50 m **28.38** 30.08									
6	1	3	**HALDEN** Tessa	2009	FRA	Riviera Natation	**58.60 HT**	+1.30	687	**Q**
	50 m **28.38** 30.22									
7	2	6	**OSTROV** Ines	2004	GBR	Harbour City Swim Club	**58.96 HT**	+1.66	674	**Q**
	50 m **28.74** 30.22									
8=	1	6	**YELDAN** Karin	2005	CAN	Northfield Aquatics	**59.12 HT**	+1.82	669	**Q**
	50 m **28.74** 30.38									
8=	2	2	**BRANDT** Dila	2006	GER	Lakeside Dolphins	**59.12 HT**	+1.82	669	**R**
	50 m **28.26** 30.86									
10	1	2	**CASSEL** Elif	2007	AUS	Bluewater SC	**59.86 HT**	+2.56	644	**R**
	50 m **28.26** 31.60									
11	1	7	**NOVAK** Rosa	2009	FRA	Riviera Natation	**1:00.20 HT**	+2.90	633	
	50 m **28.86** 31.34									
12	2	7	**TELLER** Hana	2008	TUR	Marina Yuzme Kulubu	**1:00.46 HT**	+3.16	625	
	50 m **28.86** 31.60									
13	2	1	**RENNICK** Greta	2004	GBR	Harbour City Swim Club	**1:00.90 HT**	+3.60	612	
	50 m **28.14** 32.76									
14	1	1	**AKBULUT** Mina	2005	CAN	Northfield Aquatics	**1:01.04 HT**	+3.74	607	
	50 m **28.14** 32.90									
15	2	8	**ILVES** Nora	2006	GER	Lakeside Dolphins	**1:01.34 HT**	+4.04	599	
	50 m **28.98** 32.36									
	1	8	**SARNIA** Zeynep	2007	AUS	Bluewater SC	**DNS**			
	DNS									

Q Qualified · R Reserve · NT No Time · DNS Did Not Start · DNF Did Not Finish · DSQ Disqualified · HT Hand Timing

Referee: Selma Tuncer — Chief Timekeeper: Asli Kaya

SW-RES-1 — Hand Timing: 3 Watches per Lane — 2026-10-31 22:31

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR) — 2026-11-14 - 2026-11-15 — 50 m · 8 Lanes

1. Women 100 m Freestyle — Results - Swim-Off

MR 56.98 Ayla Marlowe GBR 2026-10-31 Harbour City

Rank	Lane	Swimmer	YB	NAT	Club	Time	Behind	Pts
1	4	**YELDAN** Karin	2005	CAN	Northfield Aquatics	**58.88 HT**		677
	50 m **28.50** 30.38							
2	5	**BRANDT** Dila	2006	GER	Lakeside Dolphins	**59.04 HT**	+0.16	671

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR) — 2026-11-14 - 2026-11-15 — 50 m · 8 Lanes

1. Women 100 m Freestyle — Timing Sheet

Heat 1 / 2

Lane	Swimmer	Watch 1	Watch 2	Watch 3	Official Time	Status
1	Mina Akbulut	1:01.03	1:01.04	1:01.05	**1:01.04**	
2	Elif Cassel	59.85	59.86	59.87	**59.86**	
3	Tessa Halden	58.59	58.60	58.61	**58.60**	
4	Maren Vance	57.89	57.90	57.91	**57.90**	
5	Selin Dalgic	58.31	58.32	58.33	**58.32**	
6	Karin Yeldan	59.11	59.12	59.13	**59.12**	
7	Rosa Novak	1:00.19	1:00.20	1:00.21	**1:00.20**	
8	Zeynep Sarnia					DNS

Heat 2 / 2

Lane	Swimmer	Watch 1	Watch 2	Watch 3	Official Time	Status
1	Greta Rennick	1:00.89	1:00.90	1:00.91	**1:00.90**	
2	Dila Brandt	59.11	59.12	59.13	**59.12**	
3	Noor Ferrand	58.45	58.46	58.47	**58.46**	
4	Ayla Marlowe	57.29	57.30	57.31	**57.30**	
5	Liv Korhan	58.01	58.02	58.03	**58.02**	
6	Ines Ostrov	58.95	58.96	58.97	**58.96**	
7	Hana Teller	1:00.45	1:00.46	1:00.47	**1:00.46**	
8	Nora Ilves	1:01.33	1:01.34	1:01.35	**1:01.34**	

* Typed from a Watch # Official Time Entered by Hand

Referee: Selma Tuncer — Chief Timekeeper: Asli Kaya

SW-TIME-1 — Hand Timing: 3 Watches per Lane — 2026-10-31 22:31

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR) — 2026-11-14 - 2026-11-15 — 50 m · 8 Lanes

1. Women 100 m Freestyle — Timing Sheet

Swim-Off

Lane	Swimmer	Watch 1	Watch 2	Watch 3	Official Time	Status
4	Karin Yeldan	58.87	58.88	58.89	**58.88**	
5	Dila Brandt	59.03	59.04	59.05	**59.04**	

* Typed from a Watch # Official Time Entered by Hand

Referee: Selma Tuncer — Chief Timekeeper: Asli Kaya

SW-TIME-1 — Hand Timing: 3 Watches per Lane — 2026-10-31 22:31

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR) — 2026-11-14 - 2026-11-15 — 50 m · 8 Lanes

3. Men 100 m Freestyle — Timing Sheet

Figure 58. Results of an event with splits, and the Timing Sheet with every watch.

Report	Who Needs It
Results Book	Everybody: all results in one PDF
Timing Sheet	The Chief Timekeeper's file
Disqualifications	The Referee's file
New Records	The federation
Export Lenex (Program > Meet)	The federation's database

> **Note:** Times in this program are hand times. They carry HT in the reports, and a world record set by hand cannot be ratified.

8. Preparing a Meet

Everything in this chapter is on the Program tab. It has six pages: Meet, Events and Entries, Swimmers, Records, Officials and Phones (chapter 9) and Reports (chapter 13). Changes go straight into the meet and are saved at once. There is no Save button.

8.1 Meet Page

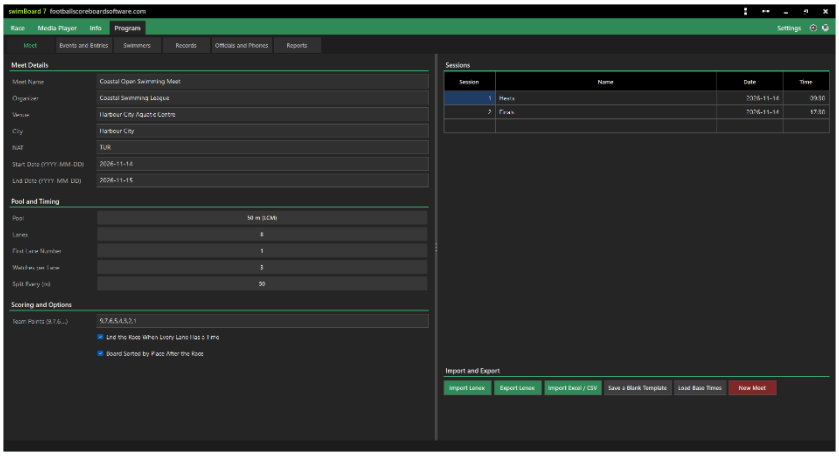


Figure 59. Program > Meet.

Field	Meaning
Meet Name, Organizer, Venue, City, NAT	Used on the boards and the reports. NAT is the three-letter nation code.
Start Date, End Date	Written YYYY-MM-DD
Pool	50 m (LCM) or 25 m (SCM). It selects the points table and the records.
Lanes, First Lane Number	6, 8 or 10 lanes, numbered from 0 or from 1
Watches per Lane	1, 2 or 3
Split Every (m)	25, 50 or 100: the distance between split presses
Team Points	Points per place, for example 9,7,6,5,4,3,2,1. Empty = no team score. Relays count double.
End the Race When Every Lane Has a Time	The race ends by itself when each swimming lane has a final time from at least one watch
Board Sorted by Place After the Race	The live board goes from lane order to place order when the race ends

Sessions are in the table on the right: number, name, date and time. Type in the last row to add one; select a row and press Delete to remove one.

> **Note:** Changing Lanes, First Lane Number or Watches per Lane changes the list of seats. New seats get new PINs; existing seats keep theirs. Print the Judges' Access sheet after such a change.

8.2 New Meet and Backups

New Meet clears the meet after a question. The button is in the banner of the Race tab and on Program > Meet; from the banner the program goes on to Program > Meet for the name and pool of the new meet. It keeps the pool, lanes, watches, splits, venue and the officials with their PINs. New Meet and every import first save the current meet to common\data\meets\meet_yyyyMMdd_HHmmss.xml.

8.3 Lenex

Lenex is the file format used by meet management programs and federations.

- Import Lenex reads a .lxf or .lef file and replaces the current meet after a question: sessions, events, heats, lanes, clubs, swimmers, entry times and records. Watches, splits, seats and team points stay as they were. The first heat is called.
- Export Lenex writes the meet with its results as .lxf or .lef, for the meet management program or for the federation.

8.4 Excel and CSV Start Lists

Import Excel / CSV reads the first sheet of an .xlsx file, or a .csv or .txt file with semicolons, commas or tabs. It replaces the program after a question. Save a Blank Template writes a CSV file with the right columns.

Column	Content	Needed
Event	Event number	Yes
Session	Session number	No, default 1
Gender	Men, Women, Mixed	No, default Men
Distance	Metres of one leg	Yes
Relay	Legs: 1 for an individual event, 4 for a relay	No, default 1
Stroke	Free, Back, Breast, Fly, Medley	No, default Free
Round	Timed Final, Prelim, Semi, Final	No, default Timed Final
Age	Age group text	No
Heat, Lane	Set both to place the swimmer; leave them empty and the event is seeded	No
First, Last	The names. A single Name column also works.	Last or Name
Birth	Year or date	No
Nation	Three-letter code	No
Club	Club. For a relay: the team.	No
Entry Time	1:02.34 or 62.34; an Excel time cell also works	No

For a relay, write the team in Club and the swimmers in First, separated by /. A swimmer who appears in several rows with the same name and birth year is one swimmer. Rows that cannot be read are skipped and named in the message line.

8.5 Events and Entries

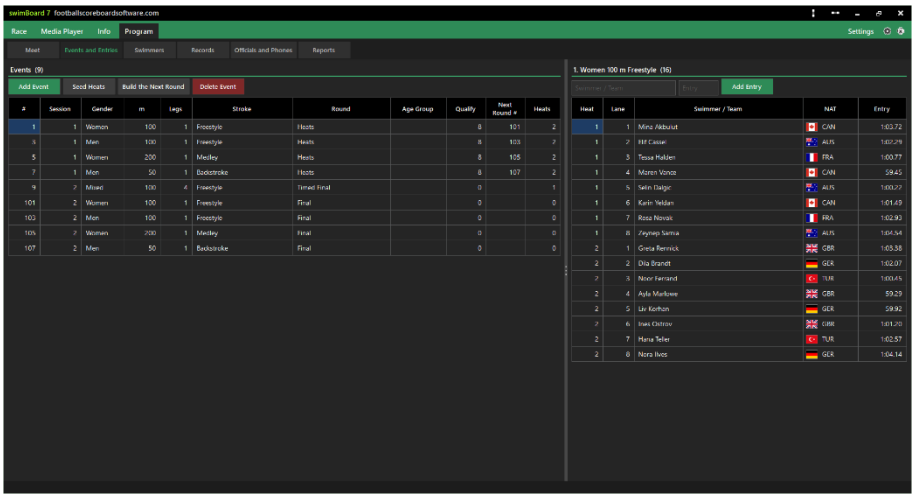


Figure 60. Program > Events and Entries, with the entries of the selected event on the right.

The left table is the program. Edit a cell, then leave it.

Column	Meaning
#	Event number. It sets the order of the program.
Session	Session number
Gender, m, Legs, Stroke	The event. m = metres of one leg, Legs = 1 or 4.
Round	TimedFinal, Prelim, Semi or Final
Age Group	Text shown after the event name
Qualify	How many swimmers go to the next round
Next Round #	The event number of the next round
Heats	Number of heats (read only)

The right table lists the entries of the selected event. Change a name or an entry time directly. Type another Heat or Lane to move a swimmer: if that lane is taken, the two swimmers swap.

Button	What It Does
Add Event	Adds an event at the end.
Delete Event	Deletes the event and its heats after a question. Refused while it is racing.
Add Entry	The line above the entries: type a swimmer or team (known names complete as you type) and an optional entry time, then Enter. A new name creates the swimmer. The entry takes the first free lane in seeding order, in a heat that has not started.
Seed Heats	Seeds the event again from its entries. Refused when a race of the event has started.
Build the Next Round	Fills the next round from the approved results (section 8.7).

8.6 Seeding Rules

Seed Heats, the imports and Build the Next Round follow World Aquatics rule SW 3.

- The fastest entry time swims last. An entry without a time counts as the slowest.

- In each heat the fastest swimmer has the centre lane and the others go outwards in turn. In an 8-lane pool the order is lanes 4, 5, 3, 6, 2, 7, 1, 8. In a pool numbered from 0 the fastest of 8 lanes is in lane 3, of 10 lanes in lane 4.
- A first heat keeps at least three swimmers whenever possible.
- Preliminaries up to 400 m with three heats or more are circle seeded: the last three heats share the fastest swimmers in turn, with the fastest in the last heat. Timed finals and longer events are not.
- Two semifinals: 1st, 3rd, 5th... in the second, 2nd, 4th, 6th... in the first.
- A final has one heat. The result of the round before becomes the entry time.

8.7 Building the Next Round

1. Set Qualify and Next Round # on the preliminary event. The next event must exist, with the Round Semi or Final.
2. When every heat of the event is approved, select it and click Build the Next Round.
3. The next event gets its heats, seeded from the results.

Ranks across heats are marked Q (qualified), R (the two reserves after them), or S (swim-off).

The button refuses, with a line at the bottom of the page, in these cases:

Message	Meaning
No next round	Next Round # is empty.
Not every heat is approved	Approve the remaining heats first.
The next round has started	A race of the next round has started; it cannot be rebuilt.
No qualifier	Nobody has a Q. Check Qualify.
Tie for the last place: a swim-off is needed	Two swimmers have the same time on the last qualifying place.

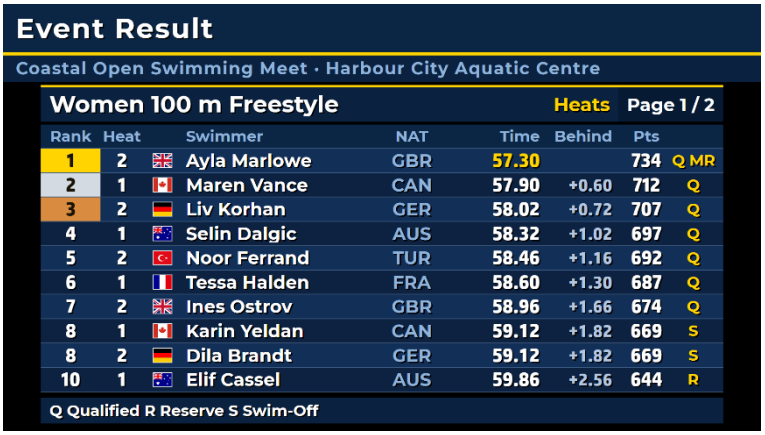


Figure 61. A tie on the last place: S on the Event Result.

A tie on the last qualifying place is decided by a swim-off (SW 3.2.3):

1. When the last heat is approved, the NEXT line says A Tie on the Qualifying Line: Create the Swim-Off. Click Create. The swim-off joins the program right after the event, with the tied swimmers in lanes drawn by lot.
2. Call it and run it like any race, then approve it.
3. The fastest takes the place with Q, the others become the reserves. The result stays the time of the heat. A tie again asks for a further swim-off.
4. The NEXT line then offers Seed Now for the next round.

A tie for the reserves is noted in the checklist: a swim-off decides it only if a reserve is needed.

Seeding follows SW 3: equal entry times are decided by a draw, swimmers without a time swim as the slowest, two heats alternate between the heats, three or more heats circle seed the last three, 400 m and longer the last two. One heat is seeded as a final; the checklist reminds you it belongs in the final session.

Withdrawal from a semi-final or final (SW 3.2.4). Call the heat, right-click the lane and choose Scratch: Call the Reserve. The next reserve comes in and the round is seeded again. No heat of that round may have started. In other rounds the lane becomes DNS.

8.8 Points and Base Times

World Aquatics Points are calculated when a heat is approved: P = 1000 x (B / T)^3, cut to a whole number. T is the swim time and B the base time of that event, course and gender.

The factory table holds the World Aquatics base times for short course 2025 (valid to 31.08.2026) and long course 2026 (valid to 31.12.2026). World Aquatics publishes new tables; after those dates the points are calculated with old base times until you load a new table. An event without a base time gets no points.

Load Base Times reads a text file, one line per event:

```
LCM;100FR;46.40;51.71
SCM;4x100FR;3:01.66;3:25.01
LCM;X4x100FR;3:18.48;
```

The fields are course, event, men, women. Strokes are FR, BK, BR, FL, IM; relays start with 4x; mixed relays with X4x and have only the first time. The table goes to common\data\pointsbase.txt and stays until you load another one.

8.9 Swimmers

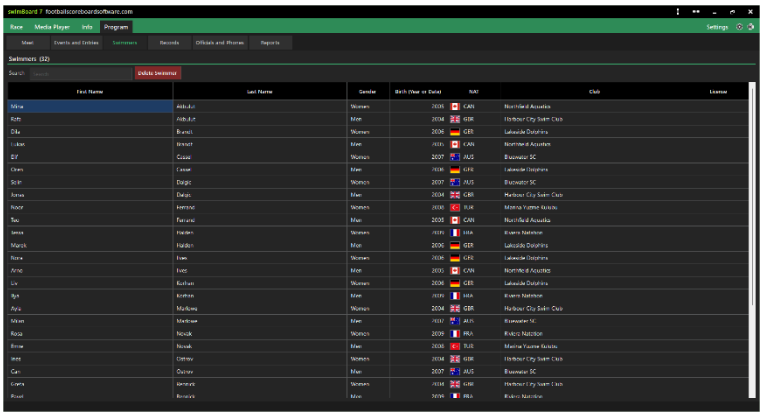


Figure 62. Program > Swimmers.

First Name, Last Name, Gender, Birth (a year or a date), NAT, Club and License. The flag appears in the NAT cell as soon as the country code is right, already while you type it; no flag means an unknown code. Type in the last row to add a swimmer. The list is sorted by last name. A change of name here shows everywhere, in the heats too. The team score uses the Club, or the NAT if the Club is empty.

8.10 Records

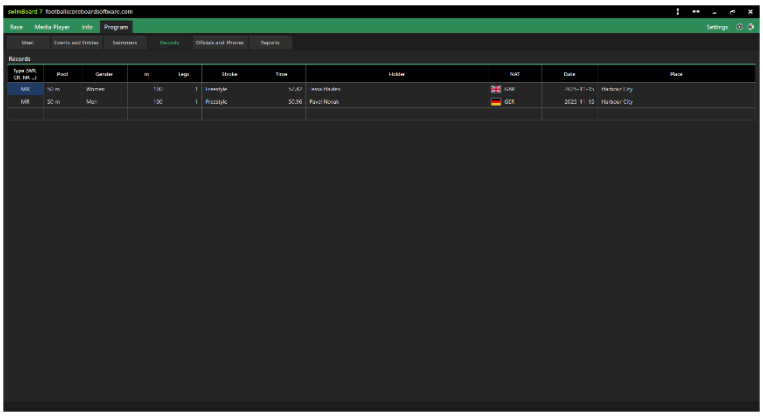


Figure 63. Program > Records.

One row per record: Type (WR, CR, NR, MR or your own letters), Pool, Gender, m, Legs, Stroke, Time, Holder, NAT, Date and Place. Type in the last row to add one; select a row and press Delete to remove one.

Pool, gender, distance, legs and stroke must match the event exactly. The fastest matching record shows in the heat band and on the board. At the approval a faster time gets the tag of the record, for example MR, and an equal time gets =MR. Records on this page do not change by themselves.

9. Officials and Phones

9.1 Seats

Each official has a seat, and each seat has its own PIN and QR code. A phone that logs in with a seat PIN sees only that seat's screen. The seats are the Referee, Starter, Chief Timekeeper, Finish Judge, Recorder, two stroke judges, two turn judges, and one timekeeper per lane and watch. Eight lanes with three watches give 33 seats.

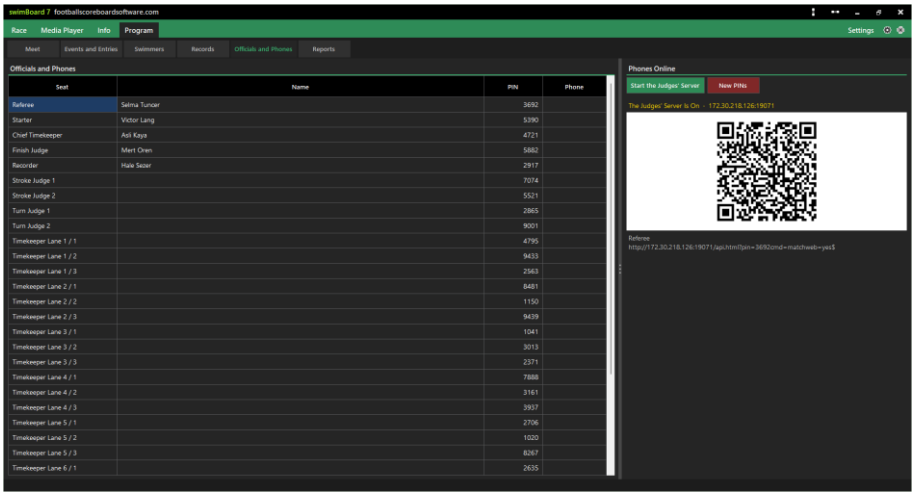


Figure 64. Program > Officials and Phones. The selected seat is the Referee; the code on the right is its QR code.

Item	What It Does
Seat	The role, for timekeepers lane and watch: Timekeeper Lane 4 / 2
Name	The official's name, for the reports and the Officials screen
PIN	At least four digits, different for every seat and different from the operator PIN. Edit it here if you like.

Item	What It Does
Phone	A green dot while the phone of this seat is connected
QR code	The address of the selected seat, with its PIN
Start the Judges' Server	Opens the server (section 9.3)
New PINs	Gives every seat a new PIN after a question. All phones must log in again.

Names are optional, but the Referee and Chief Timekeeper names are printed on the signature lines of the results.

9.2 Rights

Every command is checked on the PC, so a phone cannot do more than its seat allows. The operator on the PC, or on a phone with the operator PIN, has the Referee's rights. If your Referee approves on a phone, agree that the operator does not approve as well.

Action	Who May Do It
Call a heat, Next Heat	Referee, Starter, Recorder, operator
Start, Recall, End Race	Referee, Starter, operator
Press, Undo	The timekeeper of that lane and watch
Type a watch time	That timekeeper, Chief Timekeeper, Recorder, Referee, operator
Type an official time	Chief Timekeeper, Recorder, Referee, operator
OK, DNS, DNF	Chief Timekeeper, Recorder, Referee, operator
DSQ directly	Referee, operator (the button is on their lane sheet only)
Report an infraction	Stroke Judge, Turn Judge
Finish order	Finish Judge
Decide a report, Approve, Unlock	Referee, operator

The screen of each seat:

Seat	Phone Screen
Timekeeper	One big press button, Undo Last Press, Type the Time
Starter	Big Start button, Recall, End Race, Next Heat, and the Program tab
Finish Judge	Lane buttons to tap in touch order, Save, Clear
Stroke and Turn Judge	Lane buttons; a tap opens the list of reasons
Chief Timekeeper, Recorder	Lanes table and lane sheet. The Recorder also has the Program tab.
Referee	Lanes table, lane sheet, checklist, all race actions, and the Program tab

9.3 Starting the Judges' Server

1. Open Program > Officials and Phones and click Start the Judges' Server. The line above the buttons changes to "The Judges' Server Is On" with the address, for example 192.168.0.10:1907.
2. From now on the server also starts with the program.

The Race tab shows Phones Online at the bottom right. The same switch is on Settings > Remote Control (chapter 14).

9.4 Logging a Phone On

- With a QR code: select the seat and scan the code on the screen, or use the printed Judges' Access sheet (section 13.3). The phone opens its screen directly.
- With a PIN: open http://<PC address>:1907/logon.html in the phone's browser, type the PIN and tap the tick.

Log Out at the top right goes back to the PIN pad. The dot at the top left of the phone is green while it hears the PC, and red when it does not.

> **Note:** The Judges' Access sheet holds every PIN. Hand each official only their own code, and keep the sheet away from swimmers, coaches and spectators.

9.5 Firewall

The setup adds the Windows firewall rules for port 1907. If phones cannot connect, run C:\swimBoard7\open_firewall_1907.bat as administrator; it adds any rule that is missing. Check other security software as well.

9.6 Wi-Fi: Use a Dedicated Router

A pool hall is a hard place for Wi-Fi: wet air, steel, and hundreds of phones in the stands. The timing does not depend on the speed of the network, because each press is measured on the phone and sent afterwards. But a phone that cannot reach the PC cannot sync its clock or show the race. Plan it like this:

- Use a router of your own for the meet, not the venue's guest Wi-Fi. It needs no internet connection.
- Connect the PC to the router with a cable.
- Put every phone on that router, including the Referee's. Turn mobile data off on the phones, so that they do not leave the network.
- Set a password on the Wi-Fi, and do not share it with the stands.
- Place the router high, with a clear view along the pool. On a long pool, walk the finish end and the turn end with a phone before the meet and watch the green dot.
- Keep each phone charged, and set its screen timeout to 10 minutes or longer, so that it does not go dark between heats.
- Do a test heat with all the phones before the session (see the Meet-Day Checklist in the Appendix).

The program shows the address of the first network adapter that has a gateway. The router must therefore give the PC a gateway, and the PC should not be on a second network at the same time. If the address in the QR code is wrong, see section 18.2.

10. Running a Race

This chapter follows one heat. All actions can be done on the PC, on the Referee's phone or on the operator's phone, unless the text names a seat.

10.1 Call the Heat

Click Next Heat, or select a heat and click Call the Selected Heat. On a phone: Next Heat, or the Program tab. The heat becomes Ready ("On the Blocks"), and all phones and boards follow it.

You cannot leave a heat that is racing: the program answers "A race is running". You can call any other heat, also an approved one, for example to show its result.

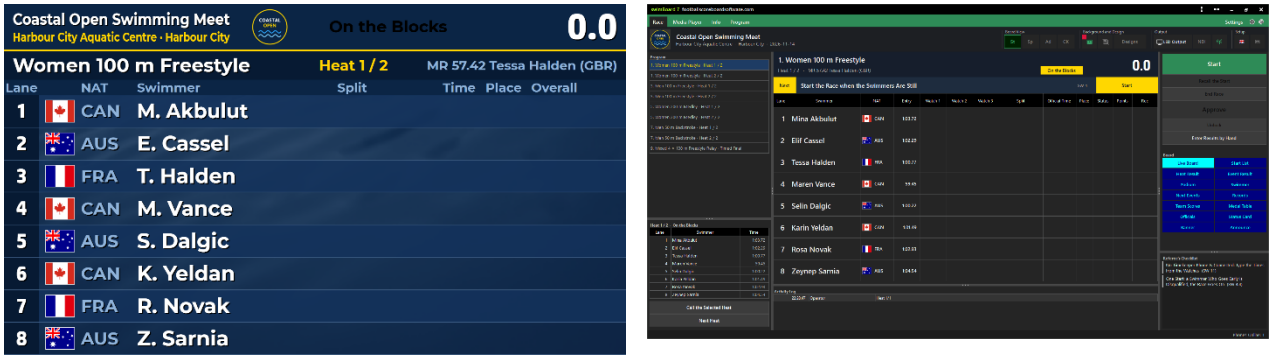


Figure 65. A called heat: the board with the clock at 0.0, and the Race tab.

Before the start, the Recorder, the Chief Timekeeper or the Referee can set a swimmer who does not show up to DNS (section 10.7). The timekeeper of that lane then sees DNS instead of the press button.

10.2 Start

The Starter taps the big Start button on the phone at the moment of the signal. The Referee's phone, the PC button and the F5 key do the same.

The button reacts when the finger touches the glass. The start time is taken on the phone against the synced clock, so the delay of the network is not part of the race. The clock starts on the board and on all phones, and an info screen on the board goes off so that the live board returns.

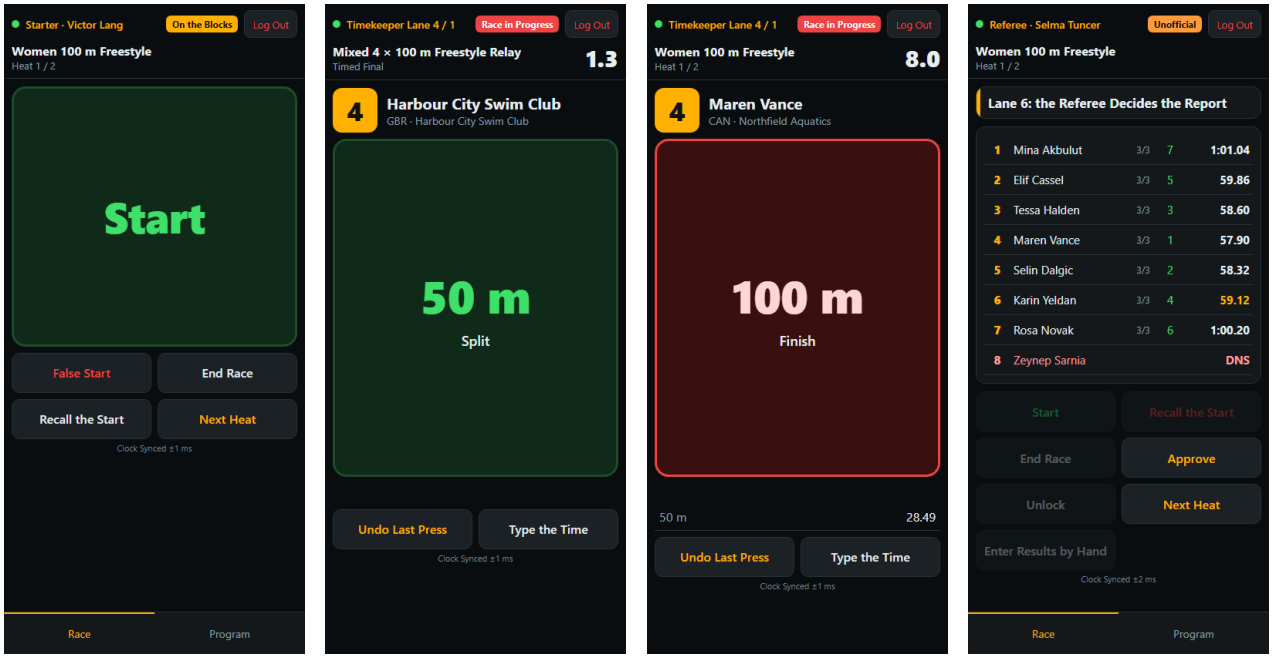


Figure 66. The phones of the Starter, a timekeeper before a split, a timekeeper before the finish, and the Referee.

10.3 Clock Sync

Every phone keeps its own copy of the race clock. It measures its delay to the PC when it opens, every 15 seconds, and at each new heat, and it keeps the best sample. At the bottom of the phone screen you read, for example, "Clock Synced ±4 ms". A few milliseconds up to about 30 ms is normal on a good network. A high value means a slow network: see section 18.3.

10.4 Timekeeper Screen

One big button does everything. Its text shows what the next press means:

Button	Meaning
Waiting for the Next Heat	No heat for this phone yet
Waiting for the Start	The heat is on the blocks
50 m, Split (green)	The next press is a split
100 m, Finish (red)	The next press is the final touch
The time, Finished	The final time is in
DNS	The swimmer did not start
No Swimmer in This Lane	The lane is empty

Press at the touch. The button flashes and, on phones that can, vibrates. The time is measured on the phone. If the network is slow, the press waits in a queue ("Waiting to Send") and is sent as soon as possible, so it is not lost and the time does not change. A repeat of the same press is ignored by the PC.

The number of splits comes from the event and Split Every: with 50 m splits, 100 m is one split and the finish; 400 m has seven splits; a 4 x 100 m relay also has seven.

A press less than 4 seconds after the last one is refused ("Press ignored: too close to the last one"), so that a slip of the finger is not a lap. The same holds for a press in the first 4 seconds of a race.

10.5 Undo and Typed Times

Undo Last Press removes the last press of this watch: first the final, then the splits one by one. Use it at once if you pressed by mistake.

Type the Time enters a time read from a stopwatch, or a correction. Type digits on the keypad: 1:02.34 is 1 0 2 3 4. Save stores it as the final time of this watch; it counts like a pressed time. It is refused before the start, and when it is shorter than the last split.

The Chief Timekeeper, the Recorder and the Referee can type for any watch: tap the lane in the lanes table, then the watch. On the PC, use the Watch cell (section 4.2).

Keep a physical stopwatch as a backup for every lane, and read it if a phone fails.

10.6 When No Start Signal Reaches the Phones

If the Starter's phone fails, or the network drops at the start, a timekeeper does not have to wait for it. While the heat is Ready, the timekeeper's screen shows Start My Watch.

1. At the signal, tap Start My Watch. The clock of that phone starts on the phone itself, and needs no network.
2. Press for the splits and the finish as usual.
3. The first press that reaches the PC starts the race retroactively, at the moment that watch was started. The board clock then runs from that moment.

Each timekeeper who used Start My Watch has times measured from their own tap. Timekeepers who did not can press once the race has started on the PC, and their times count from that start.

10.7 Recall, DNS, DNF, DSQ

False start (SW 4.4). One start: a swimmer who goes before the signal is disqualified. The Starter taps False Start and the lane on the phone; the Referee decides. If that is declared before the signal, the others are called back and start again. If the signal has sounded, the race goes on and the swimmer is disqualified at the finish.

Recall the Start. Only for a fault of the start, not for a swimmer's false start. All presses of the race are dropped, the clock returns to 0.0 and the heat is Ready again. A DNS and a false start stay. The presses cannot be brought back.

DNS, DNF. Right click the lane or click its Status cell on the PC. On a phone with the lanes table, tap the lane and choose DNS or DNF. OK (Swam) takes it back. A lane with DNS, DNF or DSQ needs no time.

A change on the blocks. Before the start, right-click a lane: Change the Swimmer (a swimmer of the meet or a new one, a relay team with its swimmers), Swap with Lane, Clear the Lane.

Results by hand. For a heat timed on paper, or a heat nobody can swim, click Enter Results by Hand. No clock runs. Type the times in the lanes table, set DNS, DNF or DSQ, and approve as usual. A time typed in a heat on the blocks asks the same question. The LED follows everything you type.

DSQ. Normally a judge reports and the Referee decides (next section). The Referee and the operator can also set DSQ directly from the lane sheet or the lane menu, with a reason.

10.8 Stroke and Turn Reports

A stroke or turn judge taps the lane number, then the reason. The report goes to the Referee, and the judge sees it in a list with the decision: a tick for confirmed, a cross for rejected.

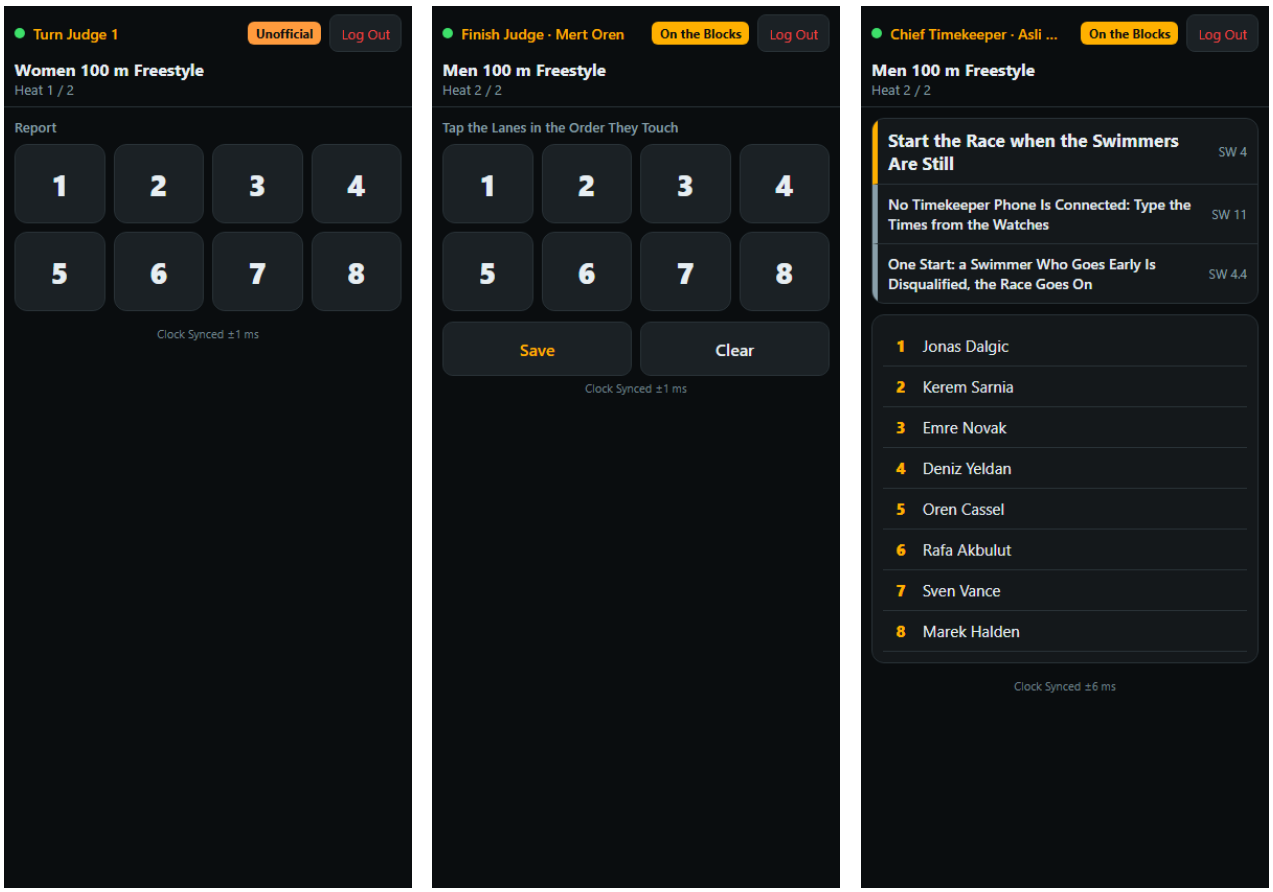


Figure 67. The Turn Judge after a report, the Finish Judge, and the Chief Timekeeper.

The reasons (a judge sees those of the stroke being swum):

Group	Reasons
Start	False Start
Turns and finish	No Touch at the Turn, No Touch at the Finish, Non-Simultaneous Touch, One-Hand Touch, Underwater Beyond 15 m
Strokes	Freestyle: Walked or Pulled on the Lane Rope; Backstroke: Left the Back Position; Breaststroke: Stroke Fault; Breaststroke: Non-Breaststroke Kick; Butterfly: Stroke Fault; Butterfly: Alternating Kick
Medley and relays	Medley: Wrong Stroke Order; Relay: Early Take-Over; Relay: Wrong Swimmer or Order
Other	Left the Pool During the Race, Obstructed Another Swimmer, Other

10.9 Finish Judge

The Finish Judge taps the lanes in the order they touch. A small number shows the order; a second tap takes a lane out. Save sends the order, Clear starts again. With digital watches the place follows the time (SW 2.8). If order and times disagree, the Referee gets a warning; with fewer than three watches the Referee determines the placing where necessary (SW 2.1.3).

10.10 End of the Race

With End the Race When Every Lane Has a Time switched on (the default), the race ends when each swimming lane has a final time from at least one watch. Otherwise, click End Race. The heat becomes Finished and the board shows Unofficial.

A late timekeeper can still press after that, until the approval. The lanes table on a phone shows how many watches are in, for example 2/3. Wait for the watches before you approve.

10.11 The Three-Watch Rule

The official time of a lane comes from its watches, by the World Aquatics rule for hand timing:

Watches With a Time	Official Time	Example
Three, two of them equal	The equal time	59.87, 59.87, 59.94 gives 59.87
Three, all different	The middle time	59.87, 59.90, 59.94 gives 59.90
Two	The average, cut to hundredths	59.87, 59.90 gives 59.88
One	That time	59.87 gives 59.87

Times are always cut to hundredths and never rounded up. A press at 59.879 is 59.87. An average of 59.885 is 59.88. Splits follow the same rule, among the watches that have that split.

An official time typed by the Chief Timekeeper, the Recorder, the Referee or the operator replaces the rule for that lane. It shows gold on the PC. Use the Watches Again in the lane menu, or an empty entry on the phone, goes back to the watches.

11. Approval

11.1 The Referee's Checklist

When the race is finished, the checklist shows what still needs attention. It is on the Race tab at the lower right, and on the Referee's phone under the lanes table.

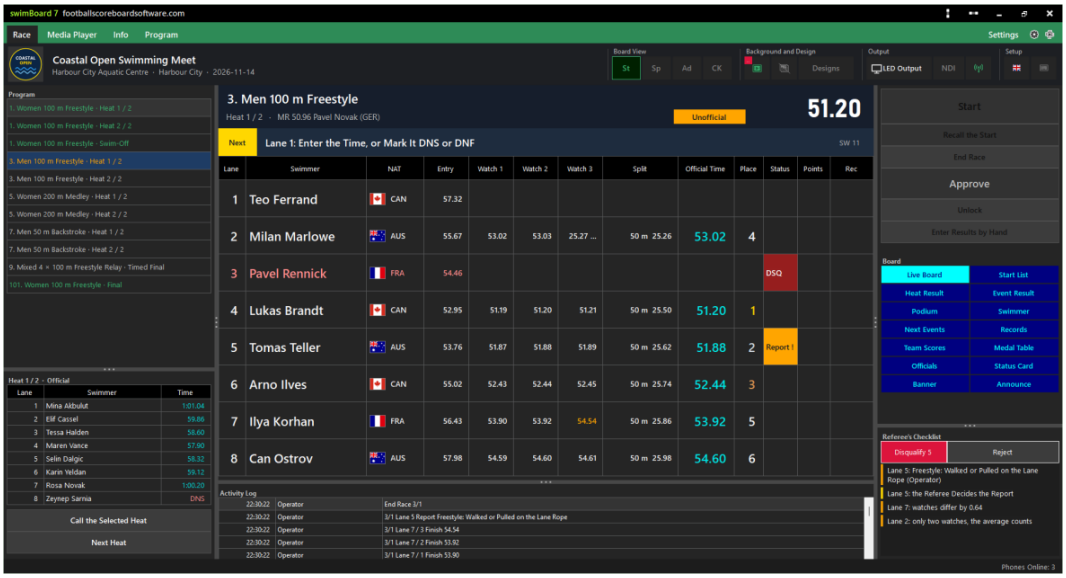


Figure 68. The Race tab after a race: a lane without a time, an open report and warnings.

Two kinds of line appear:

Line	Kind	What to Do
Lane 6: open report	Stops the approval	Decide it (section 11.2).
Lane 5: no time	Stops the approval	Type a time, or set DNS or DNF.
The race is not finished	Stops the approval	Click End Race.
⚠ Lane 3: watches differ by 0.37	Warning	Watches of one lane are 0.30 s or more apart. Look at them.
⚠ Lane 6 / 2: finish order and times disagree	Warning	The Finish Judge's order and the times do not match.
Lane 2: only two watches, the average counts	Warning	A watch failed. Two watches give the average, cut to hundredths.
Lane 2: only one watch	Warning	One watch is the only time of the lane.
Lane 4: time far from the entry time	Warning	More than a quarter from the entry time: often a typing slip.

Warnings do not stop the approval; they tell the Referee where to look. The Referee decides whether to correct something.

11.2 Deciding a Report

On the PC, the buttons Disqualify and Reject appear above the checklist for the first open report; the button names the lane. On the phone, tap the lane: the sheet shows the report with the same two buttons. Disqualify sets the lane to DSQ with the reason of the report, and the swimmer has no place. Reject keeps the swimmer in the race. The judge sees the decision on the phone.

11.3 The Lane Sheet

On a phone with the lanes table, a tap on a lane opens its sheet:

- one button per watch, with its time: tap to type or correct it;
- Official Time: tap to type the official time; save it empty to go back to the watches;
- OK (Swam), DNS, DNF, and for the Referee and operator DSQ with the list of reasons;
- for the Referee and operator, the open reports with Disqualify and Reject.

11.4 Approve

Click Approve on the PC, or tap it on the Referee's phone. The program refuses while a line that stops the approval remains, and names the first one.

Approval does this:

- places in the heat by official time; equal times share a place;
- World Aquatics Points for each lane with a time;
- record tags, if a time beats or equals a record;
- the heat is locked: presses, typed times and status changes are refused with "The heat is approved".

The approval is recorded with its time and the seat that approved.

11.5 Unlock

To correct an approved heat, call it if necessary, click Unlock and confirm. Only the Referee and the operator can do this. The heat goes back to Finished, the board goes back to Unofficial, and the approval is removed. Correct the times, then Approve again. Places, points and record tags are written anew.

If the next round is already built, it does not change by itself. Build it again if the correction changes the qualifiers. This is possible until a race of that round has started.

11.6 Unofficial and Official on the Board

State	LED Board	Result Screens
Finished	An orange Unofficial plate. Times and places are shown, and can still change.	Heat Result shows Unofficial
Official	A green Official plate. Record tags show.	Heat Result shows Official

A Heat Result, Event Result or Podium that is on the air is drawn again by itself at the moment of the approval.

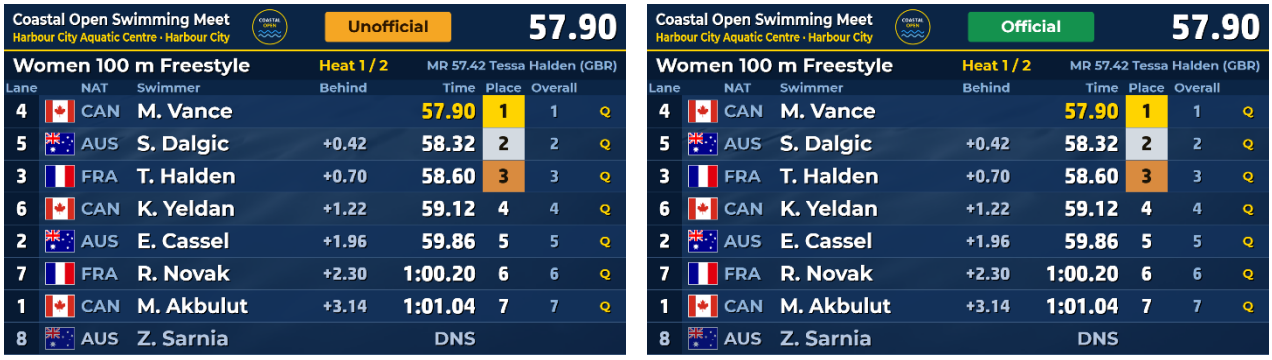


Figure 69. The same heat, Unofficial and Official. Lane 6 was disqualified and lane 5 got its time in between.

The places on the board during Finished are based on the times at that moment. Only an Official result is final, and only then does a heat count for the medals and the team scores.

11.7 Audit

Every action, with seat and time, is kept in the meet file: each call, start, press, typed time, status, report, decision and approval. Keep common\data\meet.xml, or the backups in common\data\meets, with the records of the meet.

12. Boards and Info Screens

12.1 Live Board

The live board follows the called heat by itself. It shows the meet and venue, the clock, event, heat and record line, and one row per lane with flag, nation and swimmer. Rows of a 6 or 10 lane pool share the height of the board. Long names are condensed to fit.

Moment	What the Board Shows
Called	Lanes in order, clock 0.0
Racing	Clock in tenths. For each lane the last split with its distance, as the watches arrive. The leader has a gold lane number.
A swimmer finishes	Time and place replace the split.
Finished	Clock = the fastest time. Orange Unofficial plate.
Official	Green Official plate, record tag next to the place

After the race the first three places are coloured. DNS, DNF and DSQ appear in the Time column, and such a lane gets no place. The live place of a swimmer in the water comes from the furthest split, then from the time of that split. Splits are hand times too; they appear when the watches arrive, so the order can change for a moment.

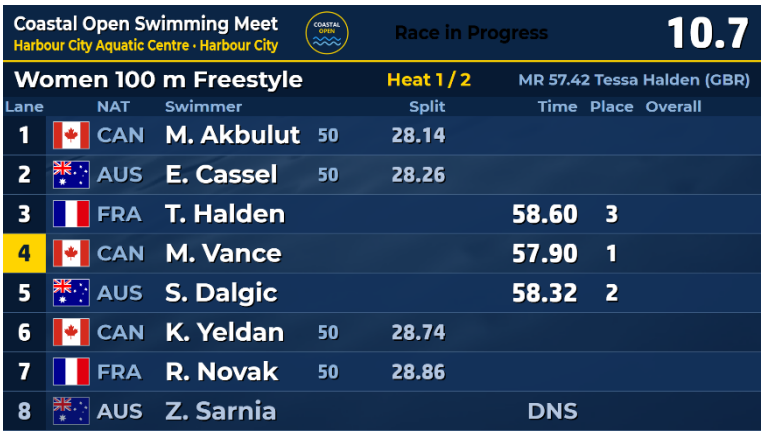


Figure 70. The live board with finishers and swimmers still in the water. Lane 8 is DNS.

The live board shows the state of the heat (On the Blocks, Race in Progress, Unofficial, Official). During the race the line next to the heat names the leader at the last split; after a record it names the new record. Once the race is over the Split column becomes Behind, and in an event with several heats the Overall column gives the rank over all heats that have swum so far.

12.2 Sort by Place

With Board Sorted by Place After the Race on (Program > Meet), the rows change from lane order to place order when the race ends. Swimmers without a time follow, then empty lanes.

12.3 Info Screens

Eleven info screens exist. Eight have a button in the Board group of the Race tab; all are on the Info tab and on the operator's phone. On the Info tab a button opens a small editor with Show and Hide. Only Swimmer and Status Card have fields of their own. The others show the called heat or event as it stands.

Screen	Content
Start List	The called heat by lane, with entry times and the record line
Heat Result	The called heat by place, with time behind the first and the state Unofficial or Official
Event Result	All heats of the event together, with Q, R and S
Podium	The first three of the event, with flags
Swimmer	One swimmer: set the Lane. Name, flag, club, birth year and entry time.
Next Events	The next nine heats of the program
Records	The records of the called event
Team Scores	Teams by points, top ten
Medal Table	Teams by medals, top ten
Officials	The named officials, without the timekeepers
Status Card	Warm-Up, Delay, Break, Medal Ceremony, End of Session or Custom, with a text and an optional count-down in minutes

An info screen is drawn when you show it. Show it again after the data changed. Two things happen by themselves: the start of a race brings the live board back, and a result on the air is redrawn at the approval. The Live Board button (F8) takes a screen off.

The Event Result on the board holds ten rows, and the line Page 1 / 2 tells you when there are more. The complete list is in the Results report. Medals and team scores count approved Final and Timed Final heats only.

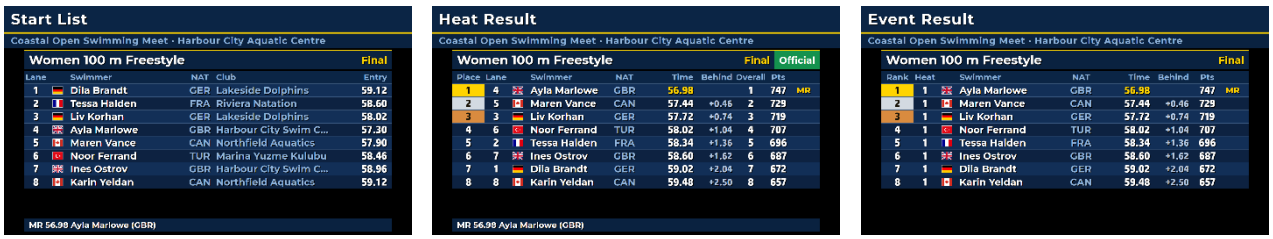


Figure 71. Start List, Heat Result and Event Result.



Figure 72. Podium, Swimmer and Next Events.

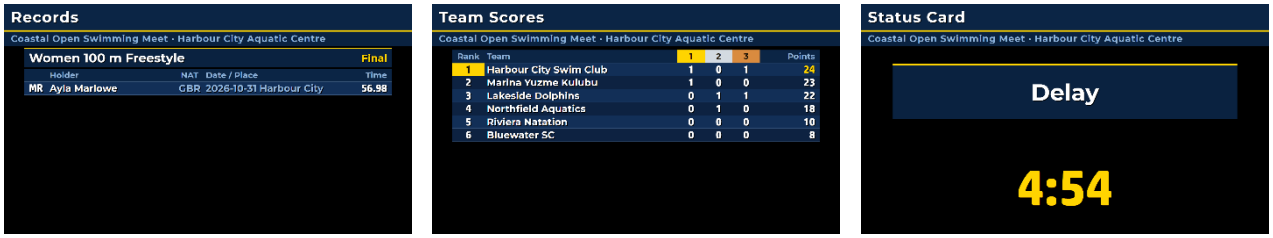


Figure 73. Records, Team Scores and Status Card.

Every info screen can be sent from the control form (the Board buttons in the right column) and from the Info page. On the Info page a button shows its screen at once and Hide takes it off; the screen on the air has a white frame. Swimmer and Status Card open their editors first. The CK page works the same way for the lower thirds. Swimmer shows the lane selected in the lanes table (also: double-click a lane, or right-click and Send the Swimmer to the LED): entry time, entry rank, time, place, overall rank, points, splits, or the reason of a disqualification. Pressing Event Result again shows the next page. Status Card, Banner and Announce open their editors.

12.4 CK Lower Thirds

In the CK display mode the board is a compact table on a key colour, in the lower left corner by default. A vision mixer, vMix or OBS removes the colour and lays the graphic over the camera picture. Click Scoreboard on the CK page to show the table, Hide to take it off.

The info screens become lower thirds in this mode: the same buttons and API commands show them next to the table. Hide Lower Third on the CK page, or Live Board, takes them off.



Figure 74. The CK output: scorebug and a lower third, on a transparent background.

To set up a TV production: choose CK, pick the key colour on CK > Settings, send the board to the mixer as a video output or through NDI, and key the colour out.

12.5 The Three Masters and the Design Gallery

Every board comes in three factory designs, the masters. They have the same layout and differ in colour: Master 1 - Navy (default), Master 2 - Charcoal and Master 3 - Clay.

Click Select Design on the strip, select a design in the list and click Apply. Masters cannot be deleted or renamed; your own designs can.

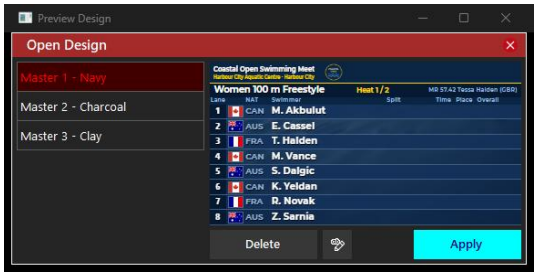


Figure 75. The design gallery.

Note: Applying a Standard master replaces the layouts of all info screens in use, without a question.

12.6 Design Editor

Open Settings and click the design button of the active display mode. Choose a screen on the left (Game is the live board), then an element. The element gets a red dotted frame on the board. Change its values under Location or Style and click Save & Apply. Factory Settings restores the screen. Save Design As keeps the design under your own name; this is not available for the CK mode.

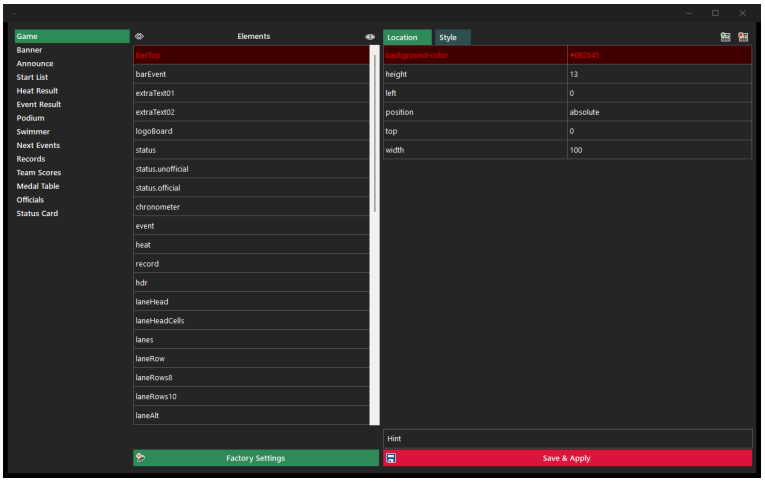


Figure 76. The design editor.

> **Note:** The editor works on the live output. Do not edit a design during a session.

The size unit u equals 1 % of the board height on a 16:9 board. A number without a unit means percent of the board width or height. The factory boards scale with the window. Designs you changed are kept when you update the program.

13. Reports

13.1 Making a Report

Open Program > Reports. Choose the report and, where it applies, an event or All Events. Then:

- Preview shows it in the page.
- Save PDF writes an A4 PDF wherever you choose.
- Print opens the print dialog.

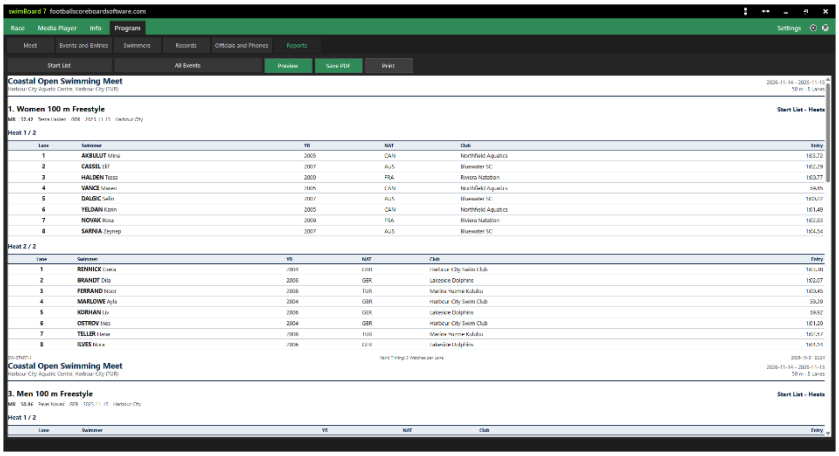


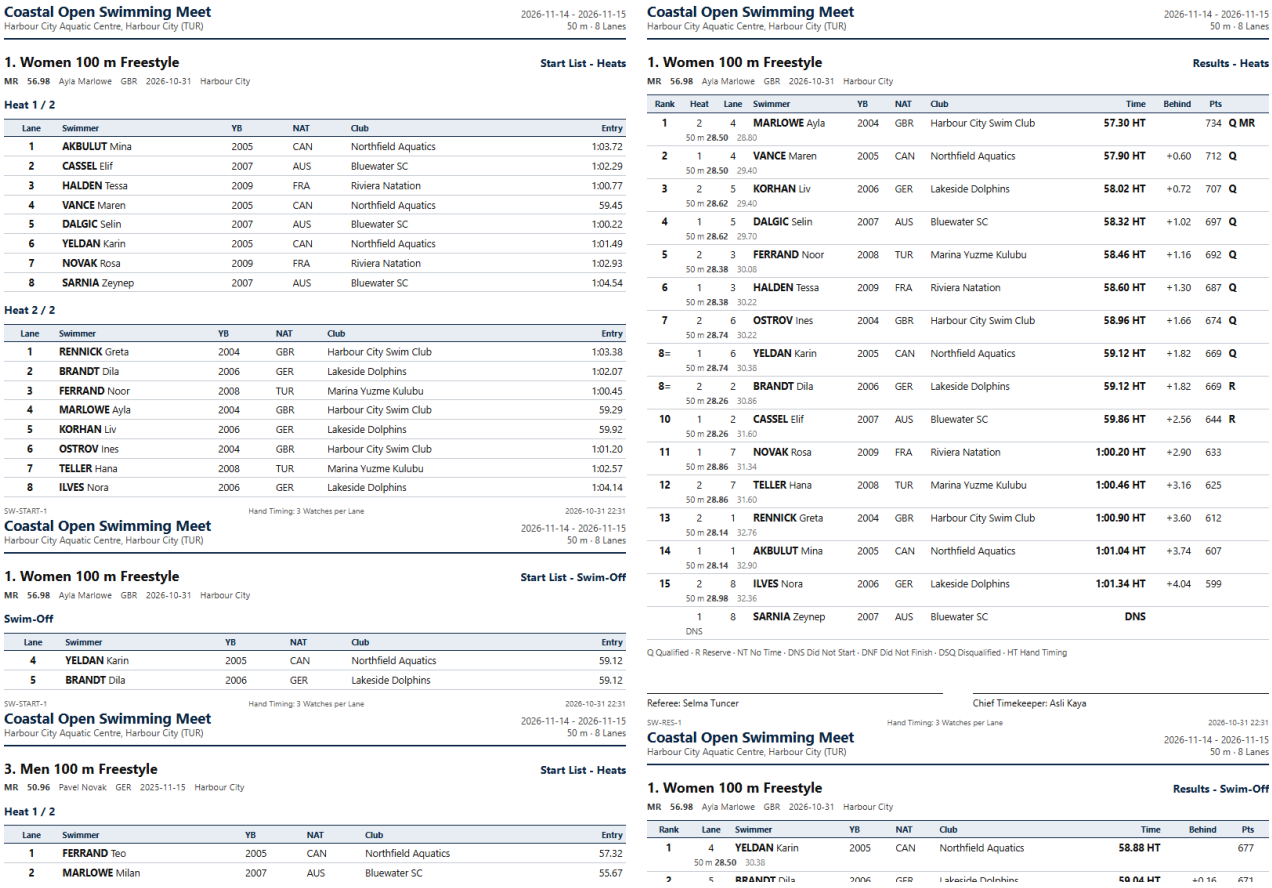
Figure 77. Program > Reports with the results of one event.

Reports are A4, in the layout of World Aquatics result sheets: meet header, event, records, a table, and the legend. They carry no federation logo. The text follows the program language, Persian and Arabic

run right to left. Long lists repeat the table head on each page; a swimmer and the splits stay together. Records count against the best swim of the meet so far: a time beaten earlier in the meet is no longer the record, and only the fastest of a heat can hold one.

13.2 Report Kinds

Report	Content
Start List	One event or all events, heat by heat, with lane, name, birth year, nation, club and entry time, and the records
Results	One event or every event with a finished heat. All heats ranked together, with heat, lane, time, time behind, points, splits, Q, R, S and record tags, then DNS, DNF and DSQ with the reason. Referee and Chief Timekeeper signature lines. Marked Unofficial until every heat is approved.
Heat Results (Current Heat)	The called heat, with its approval time and the seat that approved it, or Unofficial
Result Summary	The first three of every Final and Timed Final
Medal Table	Medals per team
Team Scores	Points per team, by the Team Points of the meet
Disqualifications	Every DSQ, with event, heat, lane, swimmer, reason and the reporting judge
New Records	The records broken in this meet
Timing Sheet	Every watch of every lane, the official time, typed times marked: the Chief Timekeeper's file
Officials	The seats with a name
Results Book	Everything for the end of the meet (section 13.4)
Judges' Access	One card per seat with QR code and PIN (section 13.3)



Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR)
2026-11-14 - 2026-11-15
50 m · 8 Lanes

1. Women 100 m Freestyle — Start List - Heats

MR 56.98 Ayla Marlowe GBR 2026-10-31 Harbour City

Heat 1 / 2

Lane	Swimmer	YB	NAT	Club	Entry
1	**AKBULUT** Mina	2005	CAN	Northfield Aquatics	1:03.72
2	**CASSEL** Elif	2007	AUS	Bluewater SC	1:02.29
3	**HALDEN** Tessa	2009	FRA	Riviera Natation	1:00.77
4	**VANCE** Maren	2005	CAN	Northfield Aquatics	59.45
5	**DALGIC** Selin	2007	AUS	Bluewater SC	1:00.22
6	**YELDAN** Karin	2005	CAN	Northfield Aquatics	1:01.49
7	**NOVAK** Rosa	2009	FRA	Riviera Natation	1:02.93
8	**SARNIA** Zeynep	2007	AUS	Bluewater SC	1:04.54

Heat 2 / 2

Lane	Swimmer	YB	NAT	Club	Entry
1	**RENNICK** Greta	2004	GBR	Harbour City Swim Club	1:03.38
2	**BRANDT** Dila	2006	GER	Lakeside Dolphins	1:02.07
3	**FERRAND** Noor	2008	TUR	Marina Yuzme Kulubu	1:00.45
4	**MARLOWE** Ayla	2004	GBR	Harbour City Swim Club	59.29
5	**KORHAN** Liv	2006	GER	Lakeside Dolphins	59.92
6	**OSTROV** Ines	2004	GBR	Harbour City Swim Club	1:01.20
7	**TELLER** Hana	2008	TUR	Marina Yuzme Kulubu	1:02.57
8	**ILVES** Nora	2006	GER	Lakeside Dolphins	1:04.14

SW-START-1 Hand Timing: 3 Watches per Lane 2026-10-31 22:31

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR)
2026-11-14 - 2026-11-15
50 m · 8 Lanes

1. Women 100 m Freestyle — Start List - Swim-Off

MR 56.98 Ayla Marlowe GBR 2026-10-31 Harbour City

Swim-Off

Lane	Swimmer	YB	NAT	Club	Entry
4	**YELDAN** Karin	2005	CAN	Northfield Aquatics	59.12
5	**BRANDT** Dila	2006	GER	Lakeside Dolphins	59.12

SW-START-1 Hand Timing: 3 Watches per Lane 2026-10-31 22:31

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR)
2026-11-14 - 2026-11-15
50 m · 8 Lanes

3. Men 100 m Freestyle — Start List - Heats

MR 50.96 Pavel Novak GER 2025-11-15 Harbour City

Heat 1 / 2

Lane	Swimmer	YB	NAT	Club	Entry
1	**FERRAND** Teo	2005	CAN	Northfield Aquatics	57.32
2	**MARLOWE** Milan	2007	AUS	Bluewater SC	55.67

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR)
2026-11-14 - 2026-11-15
50 m · 8 Lanes

1. Women 100 m Freestyle — Results - Heats

MR 56.98 Ayla Marlowe GBR 2026-10-31 Harbour City

Rank	Heat	Lane	Swimmer	YB	NAT	Club	Time	Behind	Pts	
1	2	4	**MARLOWE** Ayla	2004	GBR	Harbour City Swim Club	**57.30 HT**		734	**Q MR**
	50 m **28.50** 28.80									
2	1	4	**VANCE** Maren	2005	CAN	Northfield Aquatics	**57.90 HT**	+0.60	712	**Q**
	50 m **28.50** 29.40									
3	2	5	**KORHAN** Liv	2006	GER	Lakeside Dolphins	**58.02 HT**	+0.72	707	**Q**
	50 m **28.62** 29.40									
4	1	5	**DALGIC** Selin	2007	AUS	Bluewater SC	**58.32 HT**	+1.02	697	**Q**
	50 m **28.62** 29.70									
5	2	3	**FERRAND** Noor	2008	TUR	Marina Yuzme Kulubu	**58.46 HT**	+1.16	692	**Q**
	50 m **28.38** 30.08									
6	1	3	**HALDEN** Tessa	2009	FRA	Riviera Natation	**58.60 HT**	+1.30	687	**Q**
	50 m **28.38** 30.22									
7	2	6	**OSTROV** Ines	2004	GBR	Harbour City Swim Club	**58.96 HT**	+1.66	674	**Q**
	50 m **28.74** 30.22									
8=	1	6	**YELDAN** Karin	2005	CAN	Northfield Aquatics	**59.12 HT**	+1.82	669	**Q**
	50 m **28.74** 30.38									
8=	2	2	**BRANDT** Dila	2006	GER	Lakeside Dolphins	**59.12 HT**	+1.82	669	**R**
	50 m **28.26** 30.86									
10	1	2	**CASSEL** Elif	2007	AUS	Bluewater SC	**59.86 HT**	+2.56	644	**R**
	50 m **28.26** 31.60									
11	1	7	**NOVAK** Rosa	2009	FRA	Riviera Natation	**1:00.20 HT**	+2.90	633	
	50 m **28.86** 31.34									
12	2	7	**TELLER** Hana	2008	TUR	Marina Yuzme Kulubu	**1:00.46 HT**	+3.16	625	
	50 m **28.86** 31.60									
13	2	1	**RENNICK** Greta	2004	GBR	Harbour City Swim Club	**1:00.90 HT**	+3.60	612	
	50 m **28.14** 32.76									
14	1	1	**AKBULUT** Mina	2005	CAN	Northfield Aquatics	**1:01.04 HT**	+3.74	607	
	50 m **28.14** 32.90									
15	2	8	**ILVES** Nora	2006	GER	Lakeside Dolphins	**1:01.34 HT**	+4.04	599	
	50 m **28.98** 32.36									
	1	8	**SARNIA** Zeynep	2007	AUS	Bluewater SC	**DNS**			
	DNS									

Q Qualified · R Reserve · NT No Time · DNS Did Not Start · DNF Did Not Finish · DSQ Disqualified · HT Hand Timing

Referee: Selma Tuncer Chief Timekeeper: Asli Kaya

SW-RES-1 Hand Timing: 3 Watches per Lane 2026-10-31 22:31

Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR)
2026-11-14 - 2026-11-15
50 m · 8 Lanes

1. Women 100 m Freestyle — Results - Swim-Off

MR 56.98 Ayla Marlowe GBR 2026-10-31 Harbour City

Rank	Lane	Swimmer	YB	NAT	Club	Time	Behind	Pts
1	4	**YELDAN** Karin	2005	CAN	Northfield Aquatics	**58.88 HT**		677
	50 m **28.50** 30.38							
2	5	**BRANDT** Dila	2006	GER	Lakeside Dolphins	**59.04 HT**	+0.16	671

Figure 78. A Start List and a Results page.

13.3 Judges' Access

This sheet prints one card per seat: the seat name, its QR code and its PIN. Cut the cards and hand them out before the session.

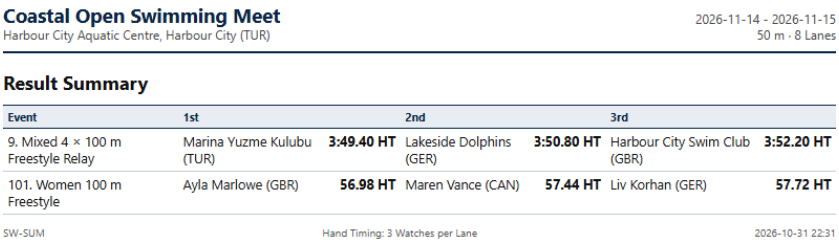
> **Note:** Judges' Access is confidential, because it holds every PIN. With a PIN, anyone on the network can act as that official; with the Referee's PIN, they can approve results. Do not post it, do not mail it around, and collect the cards after the meet. If a card goes missing, change that PIN on Officials and Phones, or use New PINs.



Figure 79. The Judges' Access sheet.

13.4 Results Book

The Results Book joins the cover, the officials, the result summary, the results of every event with an approved heat, the medal table, the team scores (if Team Points are set) and the disqualifications. Make it at the end of the meet, and pass it on together with the Lenex export (section 8.3).



Coastal Open Swimming Meet
Harbour City Aquatic Centre, Harbour City (TUR)
2026-11-14 - 2026-11-15
50 m · 8 Lanes

Result Summary

Event	1st		2nd		3rd	
9. Mixed 4 × 100 m Freestyle Relay	Marina Yuzme Kulubu (TUR)	**3:49.40 HT**	Lakeside Dolphins (GER)	**3:50.80 HT**	Harbour City Swim Club (GBR)	**3:52.20 HT**
101. Women 100 m Freestyle	Ayla Marlowe (GBR)	**56.98 HT**	Maren Vance (CAN)	**57.44 HT**	Liv Korhan (GER)	**57.72 HT**

SW-SUM
Hand Timing: 3 Watches per Lane
2026-10-31 22:31

Figure 80. The Result Summary.

13.5 HT Marks

Swim times in the Results and Heat Results reports carry the mark HT, for hand timing. The legend explains it, and the line at the foot of each page names the timing: for example "Hand Timing: 3 Watches per Lane". Keep this mark when you pass results on. Federations treat hand times differently from automatic times.

The other marks:

Mark	Meaning
Q	Qualified for the next round
R	Reserve
S	Swim-off needed
= after a rank	Tied rank
MR, WR ...	The time beats this record
=MR, =WR ...	The time equals this record
DNS, DNF, DSQ	Did Not Start, Did Not Finish, Disqualified

14. Remote Control for the Operator

14.1 Operator PIN and Server

The operator can work from a phone or tablet as well as from the PC. The operator PIN gives the rights of the Referee, plus the display, screen and media controls.

Open Settings > Remote Control, or click the remote icon on the strip.

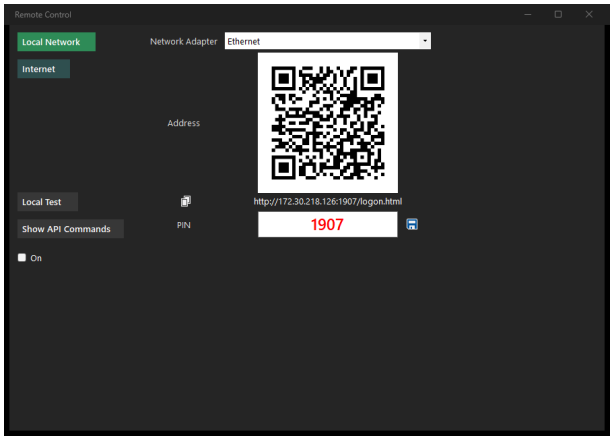


Figure 81. Settings > Remote Control.

Control	What It Does
Local Network, Internet	The address shown: in the local network (default), or the public one
Network Adapter	The network card whose address is shown
QR code, Address	Scan the code, or type the address, http://<PC address>:1907/logon.html
Local Test	Opens the page in a browser on this PC
Show API Commands	Opens API_Commands.txt
PIN	The operator PIN, digits only. The default is 123456.
On box	Switches the server. Unticked = on; the text shows the real state.

Change the operator PIN before a meet. After a change, phones with the old PIN must log in again. Seat PINs do not change.

> **Note:** The Internet address works only when the router forwards TCP port 1907 to this PC. The page is protected by the PIN alone, and it is not encrypted. For a meet, stay on the local network.

14.2 Logging On

Open the address, enter the PIN and tap the tick. The page opens on the Race tab. Add it to the home screen of the phone for a full-screen look.

14.3 Tabs

Tab	What It Does
Race	The lanes table, the checklist, Start, Recall, End Race, Approve, Unlock, Next Heat. Tap a lane for its sheet (section 11.3).
Program	Every heat with its state. Tap one to call it.

Tab	What It Does
Info	One button per info screen. The screen on the air is highlighted. Hide the Screen goes back to the live board.
Setup	St, Sp, Ad, CK: the display mode.
Media	Type a playlist number, then Start, or Start on Ad for the playlists of the Ad page.

The page checks the PC about twice a second, so it also shows what was done on the PC. A refusal appears as a red line near the bottom of the screen.

On a tablet the page uses the wider screen. Two people can work at once, but agree who starts and who approves: an action that no longer applies is refused.

15. Keyboard Shortcuts

The race can be run with function keys and the numeric keypad. The shortcuts are global: they also work while another program has the focus, for example vision-mixer software.

Click the keyboard icon on the strip to open the Keyboard Hook Manager.

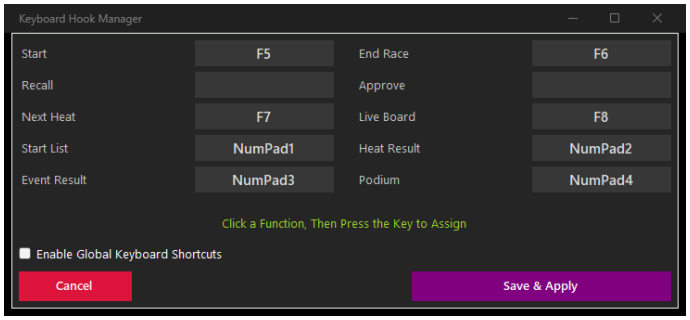


Figure 82. The Keyboard Hook Manager.

1. Tick Enable Global Keyboard Shortcuts. They are off on a new installation.
2. To change a key, click its box, then press the new key. Right click a box to clear it.
3. Click Save & Apply. Cancel closes without saving.

The keyboard icon is green while the shortcuts are on.

15.1 Default Keys

Action	Key	Action	Key
Start	F5	End Race	F6
Recall	(none)	Approve	(none)
Next Heat	F7	Live Board	F8
Start List	Num 1	Heat Result	Num 2
Event Result	Num 3	Podium	Num 4

Recall and Approve have no default key, on purpose. If you give Recall a key, it still asks for confirmation. Approve does not ask.

15.2 Good to Know

- NumLock must be on, or the keypad sends other keys.
- A key pressed together with Ctrl, Shift or Alt is ignored.
- The key also reaches the program that has the focus. Keep the cursor out of text fields of other programs.
- The Start key takes the start at the moment you press it, on the PC clock.

16. HTTP API

Other software can read the race and send commands over HTTP. The full reference is the file API_Commands.txt in C:\swimBoard7; Show API Commands on Settings > Remote Control opens it. This chapter is a summary.

The address has this form, and the $ at the end is required:

```
http://<ip>:1907/api.html?pin=<PIN>&cmd=<COMMAND>&value=<VALUE>$
```

The operator PIN allows every command. A seat PIN allows only the race commands of that seat. The server runs when the judges' server is on.

16.1 State

Command	Answer
cmd=T	The race clock, in Unix milliseconds, as plain text
cmd=J	The race as JSON: heat, status, start, lanes with watches, reports, problems, warnings and the program. The field s changes when the data changes.
cmd=GET	The operator page's XML: display mode, clock, info screen on the air

16.2 Race Commands

Race commands answer {"ok":1,"msg":""} or {"ok":0,"msg":"reason"}. Value fields are separated by a bar.

Command	Value	Meaning
j_call	event id, heat	Call a heat
j_next		Next heat
j_start	optional race clock ms	Start signal
j_recall		False start
j_end		End the race
j_press	lane, watch, ms, seq	A timekeeper's press, with elapsed milliseconds and a counter
j_undo	lane, watch	Drop the last press
j_type	lane, watch, time	A time read from a stopwatch
j_official	lane, time	Official time; empty = the watches
j_status	lane, OK or DNS or DNF or DSQ, reason	Lane status
j_report	lane, reason	A judge's report
j_decide	lane, 1 or 0	The Referee's decision

Command	Value	Meaning
j_order	lanes in order	Finish order
j_approve		Approve
j_unlock		Open an approved heat

Times are written 1:02.34, 62.34 or 10234. A time that comes in through j_official from other equipment is still marked HT in the reports.

16.3 Operator Commands

Command	Meaning
cmd=click, value St, Sp, Ad or Ck	Display mode
cmd=match	Back to the scoreboard
cmd=line_text_1, line_text_2	Meet name, venue
cmd=info_show, value = screen	StartList, HeatResult, EventResult, Podium, Swimmer, NextEvents, Records, TeamScores, MedalTable, Officials, Status
cmd=info_hide	Back to the live board
cmd=info_set, value = field	Swimmer.Lane=4, Status.Type=Delay, Status.Text=..., Status.Minutes=5
cmd=report_pdf, value = report	Writes common\data\reports\<report>.pdf: StartList, EventResults, Summary, Medallists, TeamScores, Disqualifications, Officials, Book, Access
cmd=start_playlist, value = number	Media player playlist
cmd=start_playlist_ad_screen, value = number	The same on the Ad board

> **Note:** The API uses the same PINs as the phones, and is not encrypted. Use it only on the meet's own network.

17. Languages

The program, the boards, the phones and the reports use one language at a time. There are 46: English, Turkish, Albanian, Azerbaijani, Bosnian, Bulgarian, Chinese, Czech, German, Danish, Spanish, Finnish, French, Georgian, Greek, Croatian, Hungarian, Indonesian, Hindi, Persian, Icelandic, Italian, Japanese, Kyrgyz, Khmer, Korean, Kazakh, Macedonian, Mongolian, Malay, Dutch, Norwegian, Polish, Portuguese, Romanian, Serbian, Russian, Arabic, Swedish, Slovenian, Thai, Tajik, Turkmen, Swahili, Uzbek and Vietnamese.

English and Turkish were written by hand. The other 44 languages were machine translated, and swimming terms can be wrong in them. Check the terms an official will see before you use one of these languages at a meet. Corrections by native speakers are welcome; please send them to support.

17.1 Choosing the Language

1. Open Settings > Language, or click the flag on the strip.
2. Choose the language in Select Language.
3. Click the disk icon next to the list. The program asks you to restart.
4. Restart swimBoard 7.

The phones follow when they log in again.

17.2 Editing Translations

1. Choose the language in Select Language.
2. Find the text in the list: English on the left, the translation on the right.
3. Select the translation, press F2, type the new text and press Enter.
4. Click Save. The texts change after the next start.

Names in braces, for example {0}, are filled in by the program. Keep them. An update of the program keeps your translations and adds only the texts of new features.

17.3 Factory Texts

Set Factory Reset copies the factory texts back for all languages, at once and without a question. The factory texts are in common\xml\langFactory.xml and your texts in common\xml\lang.xml. Copy lang.xml to a safe place first if you want to keep your changes.

18. Troubleshooting

18.1 Port 1907 Is in Use

At the start, or when you start the judges' server, the program says "Remote control unavailable: port 1907 is in use, probably another Board7 app". The program keeps running, but without phones.

1. Close the other program. It can be another Board7 scoreboard, or a second copy of swimBoard 7.
2. Click Retry.
3. If you clicked Cancel, start the server again with Start the Judges' Server.

18.2 Phones Do Not Connect

Problem	Fix
The phone cannot open the page	Is the server on? Is the phone on the same Wi-Fi as the PC? Is mobile data off? Is the address correct?
Still no connection	Run open_firewall_1907.bat as administrator. Check other security software.
The QR code leads nowhere	Read the address under the code. The program uses the first adapter with a gateway. If it shows another network, disconnect that adapter. If it shows localhost, no adapter has a gateway: set one on the router or the PC.
"Not allowed for this seat"	The phone is logged on to another seat. Log out and use the right PIN.
The PIN pad does not accept the PIN	The PIN was changed, or New PINs was used. Take it from Officials and Phones.
The dot is red	The phone has lost the PC. Check the Wi-Fi of the phone. Presses wait in the queue and are sent when the link returns.
The phone goes dark between heats	Set a longer screen timeout on the phone.

18.3 Clock Sync Text

The line at the bottom of each phone reads "Clock Synced ±n ms".

Text	Meaning
±1 to ±30 ms	Good.
±30 to ±100 ms	A slow network. Times are usable. Move the router, or remove other users from it.
More than ±100 ms	The network is bad. Check the router before you rely on that phone. Use a stopwatch as backup.
No text	The phone has not reached the PC yet. Wait, or reload the page.

A phone corrects itself every 15 seconds and at each new heat. The value says how far the phone's clock can be from the PC's. It does not include the reaction of the timekeeper, which is far larger.

18.4 No WebView2

The boards and reports are drawn by the Microsoft Edge WebView2 Runtime. If it is missing, a notice says "WebView2 Runtime is not installed. The scoreboard cannot render." with the download address. Install the runtime from https://developer.microsoft.com/microsoft-edge/webview2/ and restart. If the notice says the runtime is very old, update it from the same page.

If the board engine keeps crashing, the program switches to software rendering and says so. Restart it, and update the graphics driver if this happens again.

18.5 During a Race

Problem	What to Do
The Starter's phone failed	Timekeepers use Start My Watch (section 10.6). Or read stopwatches and type the times after the race.
A false press ended a watch early	Undo Last Press, then go on.
"Press ignored: too close to the last one"	Two presses within 4 seconds. The first one counts.
"The final time is in"	This watch is done. Use Undo Last Press if it was wrong.
"A race is running"	End or recall the race before you call another heat.
A timekeeper's phone failed	Take the time on a stopwatch; the Chief Timekeeper types it.
The PC restarted during a race	The heat keeps its start time, because the meet is saved at once. Phones reconnect by themselves.

18.6 Board and Results

Problem	What to Do
DEMO every ten seconds	No valid licence (section 2.5).
The board is in the wrong place	Settings > Screen Properties. Keep display scaling at 100 %.
Times on the board differ from the watches	The board shows the official time by the three-watch rule (section 10.11).
No points	No base time for this event, or the heat is not approved.
The medal table is empty	Only approved Final and Timed Final heats count.
An info screen shows old values	Show it again.
Wrong font on a board	Run powershell -ExecutionPolicy Bypass -File C:\swimBoard7\install_fonts.ps1 as administrator.

Problem	What to Do
A shortcut key does nothing	Tick Enable Global Keyboard Shortcuts, and check NumLock.
No NDI source in the receiver	PC and receiver on the same network, the sender is SW7_NDI, and NDI is not blocked by the firewall.

18.7 Log Files and Damaged Files

The program writes a log per day: C:\swimBoard7\logs\sw7_yyyy-MM-dd.log. Send the log of that day to support with a problem report (arslan.ziya@gmail.com).

Every settings file and the meet are saved with a backup. If a file is damaged, for example by a power cut, the program restores it from the backup and keeps the damaged copy; the log names the file. Earlier meets are in common\data\meets.

Appendix: Meet-Day Checklist and Glossary

Meet-Day Checklist

The day before

1. Import the entries, or finish the program. Check events, sessions, Qualify and Next Round #.
2. Check Pool, Lanes, Watches per Lane and Split Every. Change them now, not during the meet.
3. Enter the records of this meet. Check the dates of the base times.
4. Name the officials. Print Judges' Access and put it in an envelope.
5. Print the start lists.

Before the session

1. Connect the PC to the dedicated router by cable.
2. Start the program, then the judges' server. Check the address and the Phones Online count.
3. Set the board position. Check the LED wall or the video output.
4. Hand out the cards. Every official logs on and checks the seat name on the phone.
5. Check that each phone is on the meet's Wi-Fi, with mobile data off, charged, with a long screen timeout.
6. Check that the phones show a green dot and "Clock Synced" with a low value.
7. Add a practice event and run a test heat in it: Start, a split and a finish from every timekeeper, a report, and an approval. Delete the practice event afterwards.
8. Lay out stopwatches as a backup, one per lane.

During the session

1. Call the heat. Show the start list if wanted.
2. Start. Watch the board and the Phones Online count.
3. After the race, wait for all the watches. The Referee works through the checklist and approves.
4. Show the result. Call the next heat.
5. After the last heat of a preliminary event, click Build the Next Round, and print the results and the next start list.

After the session

1. Save the Results as PDF.

2. Export Lenex.
3. Make the Results Book at the end of the meet.
4. Copy common\data\meet.xml to a safe place.
5. Collect the Judges' Access cards.

Glossary

Term	Meaning
Base time	The reference time for the World Aquatics Points of an event
Circle seeding	Seeding that shares the fastest swimmers across the last three heats
CK	Chroma Key: graphics on a key colour for a vision mixer
DNF	Did Not Finish
DNS	Did Not Start
DSQ	Disqualified
Entry time	The time a swimmer enters with; it decides the seeding
Event	One competition in one round, for example Women 100 m Freestyle Heats
Final	The last round, one heat
Hand timing, HT	Times taken by people with watches or phones, not by touchpads
Heat	One race of an event
LCM, SCM	Long course (50 m pool), short course (25 m pool)
Lenex	The file format for meets, entries and results
Lower third	A graphic in the lower part of a video picture
MR	Meet record
NAT	Three-letter nation code
NDI	A way to send video over a network
Official	Approved by the Referee and locked
Official time	The time of a lane by the three-watch rule, or typed
Operator	The person at the PC; the operator PIN has the Referee's rights
Seat	A place of an official, with its own PIN
Seed	To put entries into heats and lanes
Split	The time at an intermediate distance, cumulative from the start
Swim-off	An extra race to settle a tie for a qualifying place
Timed Final	An event with no further round; all heats are ranked together
Unofficial	The race is over but not yet approved
Watch	One timekeeper's time on a lane
World Aquatics Points	P = 1000 x (B / T)^3