aquaticsBoard 7 L

Aquatics Multi-Sport Scoreboard Software Lite

User Guide



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1 Introduction

aquaticsBoard 7 L is the scoreboard software for swimming pools and aquatic centres. One program runs every sport of the pool — races, judged diving and the ball games in the water — and drives the scoreboard of the pool.

Sport	Panel	Presets
Swimming	race desk: program, heats, lanes, hand timing, referee approval	50 m / 25 m pools with 6, 8 or 10 lanes
Diving	dive desk: running order, dive sheet, judges' awards, penalties, standings	World Aquatics individual and synchronised, junior, high school and college events
Water Polo	game panel: clock, shot clock 28/18, exclusions, fouls, timeouts	Water Polo
Canoe Polo	game panel: shot clock 60, suspensions and cards, golden goal	Canoe Polo
Underwater Rugby	game panel: penalties, expulsions, timeouts per half	Underwater Rugby
Underwater Hockey	game panel: running clock, 1/2/5-minute penalties	Underwater Hockey

The board is **St** (the main scoreboard). It is shown in its own window, full screen on any monitor or on the exact pixel area of an LED sender card; see *Outputs* and *Sending the Board to the LED Screen*. Swimming and diving each have their own desk and their own remote view on phones and tablets; the four ball games share the game panel and the team remote.

Requirement	
Windows	Windows 10 or 11 (64-bit recommended)
.NET Framework	4.8 (part of current Windows; setup offers the download page if it is missing)
Microsoft Edge WebView2 Runtime	needed for the boards (setup offers the download page if it is missing)
Screen	1920 × 1080 for the boards; the control window works from about 1366 × 768

Installation and Activation

1. Run the setup program. It installs aquaticsBoard 7 L into its own folder and places a shortcut on the desktop.
2. If .NET Framework 4.8 or the WebView2 Runtime is missing, setup tells you and offers to open the download page.
3. Start aquaticsBoard 7 L. It is activated with the licence you received after purchase, as described in the delivery e-mail.

> **Note** Your settings, team lists, competitions and designs are kept in the *data* folder of the program, so an update installed over the old version keeps them (see *Files and Folders*).

How This Guide Is Organised

- **Quick Start** – the first event in ten steps.

- **The Main Window** to **Typical Workflows** – the parts all sports share: window, outputs, Info, Screens, Teams, Outputs, designs, settings, keys, remote control, data exchange.
- **Swimming**, **Diving**, **Water Polo**, **Canoe Polo**, **Underwater Rugby**, **Underwater Hockey** – one chapter per sport: rules, the panel with every button, its menus and dialogs, every output screen, the remote view and scenarios.
- **Usage Scenarios** and **Aquatics Quick Reference** – complete workflows and a one-page lookup, followed by Troubleshooting and Files and Folders.

Pro and Lite Editions

aquaticsBoard 7 L is the **Lite** edition of aquaticsBoard 7: the same sports, rules, control panels, info graphics, designs and remote control for one LED board, without the extra outputs and video features of the Pro edition. This guide describes aquaticsBoard 7 L.

	aquaticsBoard 7 (Pro)	aquaticsBoard 7 L (Lite)
Sports, rule presets, control panels, Undo, crash restore	all	the same
Board outputs	St, Sp, Ad and CK – four windows on any monitors	St – one window
Info page, Screens page, team lists and photos	St and CK graphics	St graphics
Media Player	20 playlists and the URL list	one playlist and the URL list
Sp / Ad Media (sponsor strip, Ad slicing, banners)	yes	–
NDI output, Video Sources (camera, NDI receive, screen capture)	yes	–
Board designs: gallery and editor	all outputs	the St screens
Remote control, officials' phones, console link, UDP broadcast, keyboard shortcuts, 46 languages	yes	yes
Program folder	C:\aquaticsBoard7	C:\aquaticsBoard7L
Licence	licence of aquaticsBoard 7	licence of aquaticsBoard 7 L (the licences of the two editions are not interchangeable)

2 Quick Start

1. Start aquaticsBoard 7 L. It opens with the sport you used last.
2. Click the sport button in the bottom row of the Game page (e.g. *Swimming · 50 m Pool (LCM), 8 Lanes* ▾) and choose the sport and discipline (see *Choosing the Sport and Discipline*).
3. Team sports: enter the teams and players on the Teams page (or type the names straight into the panel). Swimming and diving: check meet name and venue on the Teams page and click **Save Competition**.
4. Open the board with **St** on the left rail and place it on the scoreboard screen once (see *Sending the Board to the LED Screen*): it opens there by itself at every later start.
5. Put the board on **Intro** before the start (on-air row under the panel), then back on **Game** (Live Board on the desks).
6. Run the event from the Game page: Start / Split / Finish / Approve for a heat, the keypad and Publish for a dive, the clock and the ↑ buttons for a match.
7. Optional: turn on the remote control and work from a phone or tablet at the pool side (see *Remote Control* and the remote section of each sport).
8. Show the result with **Result**. Your data is saved as you go.

> **Tip** A refused click is never silent: the reason appears in red under the bottom row of the Game page (and for a few seconds at the bottom of the remote).

3 The Main Window

aquaticsBoard 7 L runs in one operator window. Six page tabs and the Settings tab sit on the coloured strip at the top; the **Game** page holds the control panel of the running sport, framed by the output strip on the left, the tool strip on the right and the on-air rows and bottom bar below.

The board itself is a separate window without a frame. You open it with the **St** button; where it goes (which monitor, full screen or an exact area) is set once on the Outputs page and kept for every later start.

Tabs and Side Strips

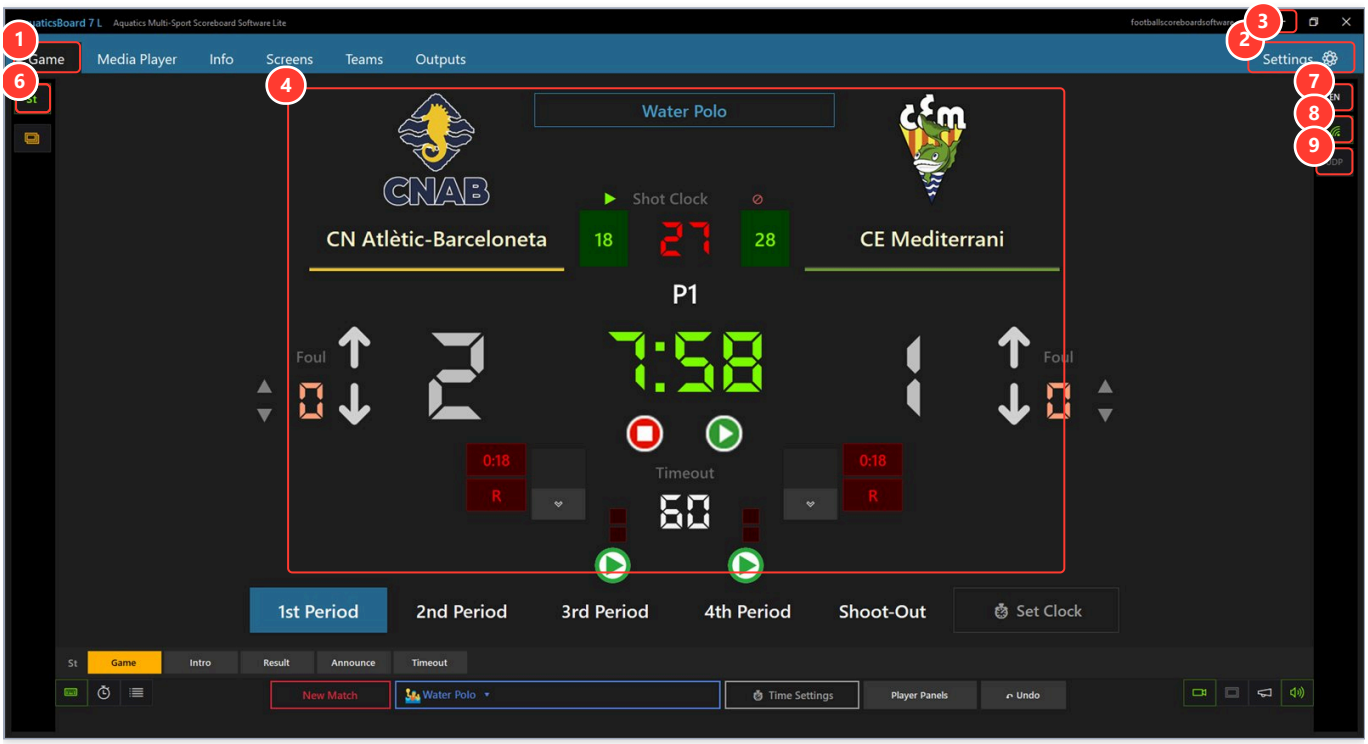


Figure 1. The Game page (Water Polo): tabs, output strip (left) and tool strip (right)

#	Control	What it does
1	Page tabs	Switch between the pages **Game** (the control panel), **Media Player** (videos and pictures on the board), **Info** (event graphics), **Screens** (which screen the board shows), **Teams** (names, colours, logos, team lists) and **Outputs** (monitor, window position, design). The open tab has the dark colour of the page below it. Clicking **Game** while the Media Player shows a clip brings the scoreboard back.
2	Settings	Opens the Settings page: language, remote control, console and UDP integration, keyboard shortcuts.
3	Minimise / Maximise / Close	The window buttons. Drag the title bar to move the window. Closing the main window also closes all board windows.
4	Control panel of the sport	The scoreboard controls of the running sport: clock, period, scores, fouls, timeouts, penalties, sets and so on. They are explained in the chapter of each sport. The panel grows with the window, and so do the drop-down menus it opens (Card ▾, player lists, More ▾ …): their text is as large as the buttons that open them.

#	Control	What it does
5	St – Standard (LED) output	Click to open or close the **Standard** board window (the main scoreboard for the LED wall, video board or a monitor in the venue). The letters light green while the window is open. Where the window goes is set once on the Outputs page (see *Sending the Board to the LED Screen*).
6	Preview Design	Opens the design gallery: every master and own design of the sport, rendered live with the running match. One click puts a design on an output (see *Board Designs*).
7	Language	Shows the language menu (the button shows the code of the current language). The chosen language is saved and used after the next start of the program (see *Settings*).
8	Remote Control	Switches the phone / tablet remote control (the built-in web server) on or off. Lit green while the server runs; the tooltip shows the port.
9	UDP Broadcast	Switches the UDP state broadcast for LED controllers and other listeners on or off. Lit green while it runs.

On-Air Rows and Bottom Bar

Below the control panel are two rows: the on-air screens of the St output, and the bottom bar with the match commands and the tool icons.

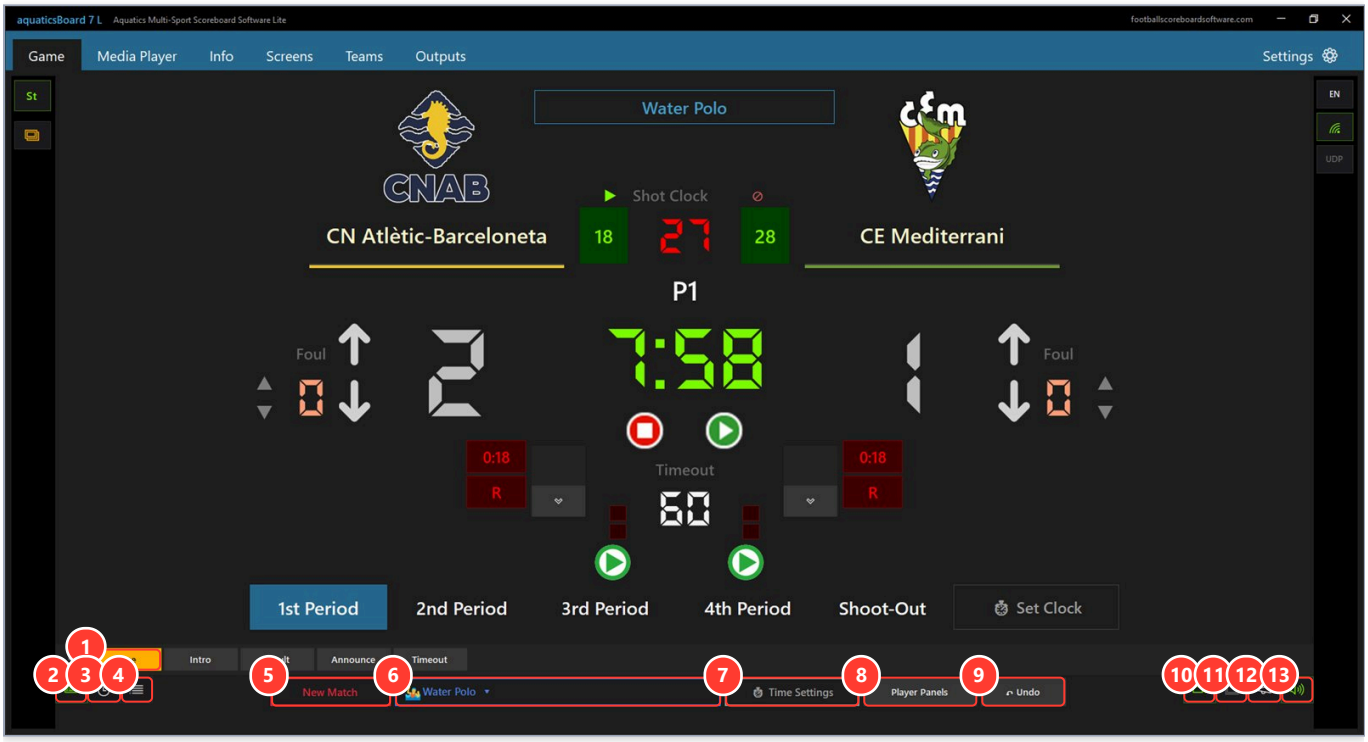


Figure 2. The Game page: on-air screens and bottom bar

#	Control	What it does
1	St screens	The screens of the Standard board: **Game** (the scoreboard) and the info screens of the design (**Intro**, **Result**, **Announce**, **Timeout** …). The screen on air is amber; click **Game** to return to the scoreboard.
2	Keyboard Shortcuts	Opens the keyboard shortcut editor. Lit green while the global shortcuts are on.
3	Time Settings (icon)	Opens the Time Settings of the discipline – the same as the **Time Settings** button.
4	Players	Opens the Teams page with the team lists.

#	Control	What it does
5	**New Match**	Starts a new match of the same sport and discipline after a confirmation. Scores, clocks and statistics are reset; teams and team lists stay.
6	**Sport · Discipline**	Shows the running sport and discipline (rule set). Click to choose another sport or discipline.
7	**Time Settings**	Period lengths and names, overtime, timeout, shot clock, team foul limit and penalty times of the discipline. Shown amber with a ***** when the times differ from the default values.
8	**Player Panels**	Switches the Standard game screen between the plain scoreboard and the scoreboard with player panels (number, name, fouls, points …). Lit amber while the player panels are shown. Only for sports with player statistics. A name that does not fit its panel is shortened to the initial and the surname before it is cut with "…".
9	**Undo**	Takes back the last change of the score, fouls, timeouts, penalties … (up to 100 steps). Keyboard: `Ctrl`+`Z`. The bottom bar has this button only in the timed sports; the other sports have their Undo on their own panel, so there is never more than one Undo button.
10	**Background Video**	Plays the background video behind the board. Without a video in *data\media\background* a file dialog asks for one first.
11	**Background Picture**	Shows a background picture behind the board. Without a picture in *data\media\background* a file dialog asks for one first.
12	**Horn**	Sounds the horn once on the PC speakers.
13	**Sound On / Off**	Switches all sounds (horn, shot clock horn, timeout signal) on or off. Lit green while the sounds are on.

> **Tip** When the panel refuses an action (for example a timeout when all timeouts are used, or Undo with nothing left to undo), the reason appears in red in the line under the bottom bar.

The Board Output

aquaticsBoard 7 L drives one board output, **St – Standard (LED)**: the full scoreboard and the full-screen info screens (Intro, Result, Announce, Timeout, Goal, Card, Substitution, Player Intro, Team List, Officials) for the LED wall, video board, projector or TV in the venue. The Media Player shows its videos and pictures on the same board.

Board elements that only matter at times stay off the board until they have something to show: a heading such as **Penalty**, **2 Min**, **Sin Bin**, **Card** or **Red Cards** appears only while a team has such a penalty or card (no empty "Card 0 0"), and score breakdown chips use the right number (*1 Goal*, *2 Goals*). The background video and picture (bottom bar) appear behind the board.

The Board

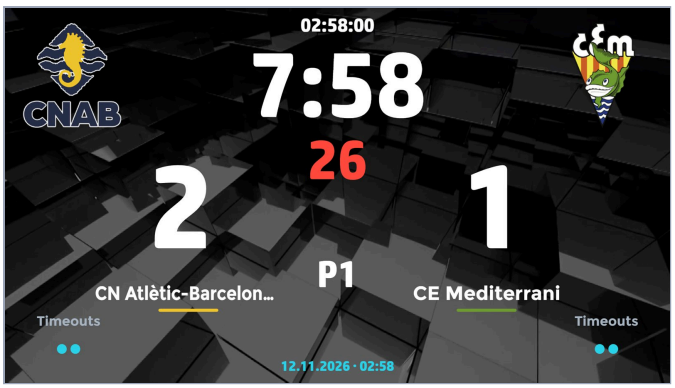


Figure 3. St – Standard (LED) board



Figure 4. The same board without the background video

Keys and Sounds in the Main Window

Key	What it does
`Space`	Starts or stops the game clock while the Game page is open (not while you type in a text box).
`Ctrl` + `Z`	Undo – the same as the Undo button (bottom bar or panel).
`F1` – `F12`, numpad	Global keyboard shortcuts of the sport (see *Keyboard Shortcuts*). They also work while another program has the focus.
`Esc`	Closes the open dialog (sport picker, Time Settings, keyboard shortcuts).

The program sounds the horn at the end of a period and of the match, a shot clock horn when the shot clock runs out, and a signal at the start and end of a timeout. Switch all sounds off with the speaker icon. To use your own horn, put a WAV file with the same name as the shipped sound (02.wav = horn, 03.wav = timeout, 04.wav = shot clock) into *data\sounds*.

4 Starting a Match

When aquaticsBoard 7 L starts, it opens the sport and discipline that were used last, with the team setup of that sport. Every command during the match is written to a match journal, so a match survives a power cut or a crash (see *Restoring a Match after a Crash*).

New Match

Click **New Match** in the bottom bar (set sports and some others also have it on their panel). A confirmation appears:



Figure 5. Confirmation of a new match

#	Control	What it does
1	Yes	Starts a new match of the same sport and discipline: scores, clocks, fouls, timeouts, penalties and player statistics are reset. Teams, colours, logos and team lists stay.
2	No	Keeps the running match.
3	Close (×)	The same as **No**. `Esc` also answers No.

> **Tip** The remote control has **New Match** in its *Match Control* section; it asks the same question on the phone.

Choosing the Sport and Discipline

Click the sport button in the middle of the bottom bar (it shows the sport and discipline, for example *Sport · Discipline* ▾). The picker shows every sport of aquaticsBoard 7 L as a tile and, below, the disciplines (rule sets) of the chosen sport.

The Sport Picker

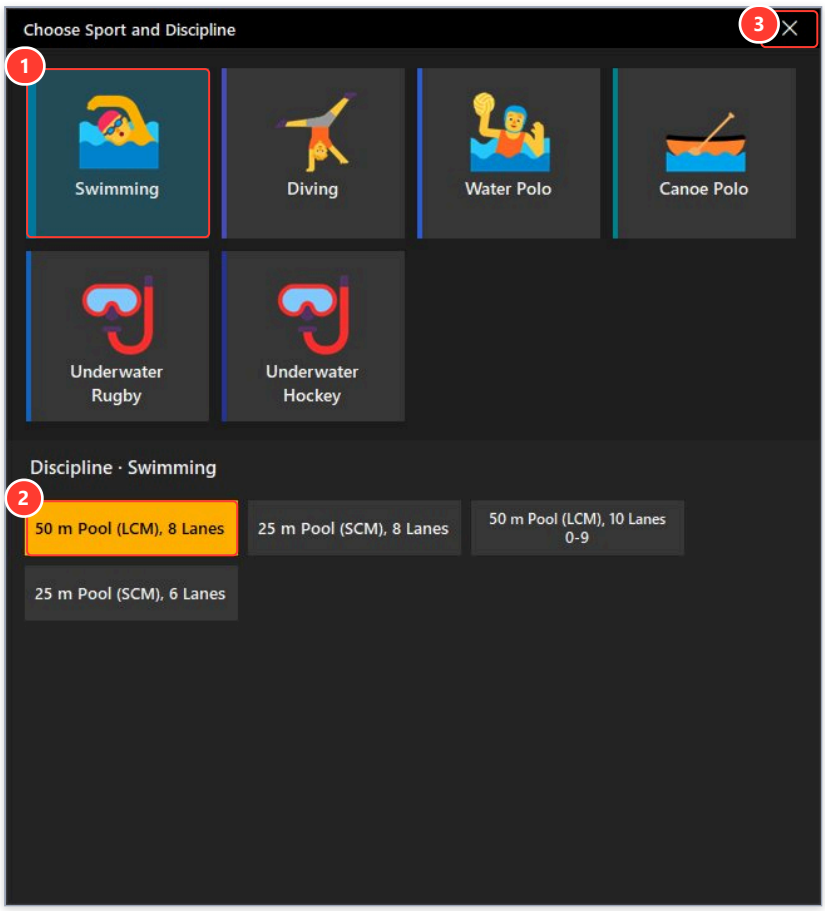


Figure 6. Choose Sport and Discipline

#	Control	What it does
1	**Sport tiles**	Every sport of aquaticsBoard 7 L. Click a sport to show its disciplines below. The running sport is tinted in its colour. A sport with only one discipline is chosen with one click.
2	**Disciplines**	The rule sets of the chosen sport (e.g. league, junior or international rules with their own period lengths, timeouts and limits). Click a discipline to start it. The running discipline is amber; choosing it again changes nothing.
3	**Close (×)**	Closes the picker without a change (also `Esc`).

The disciplines of every sport of aquaticsBoard 7 L:

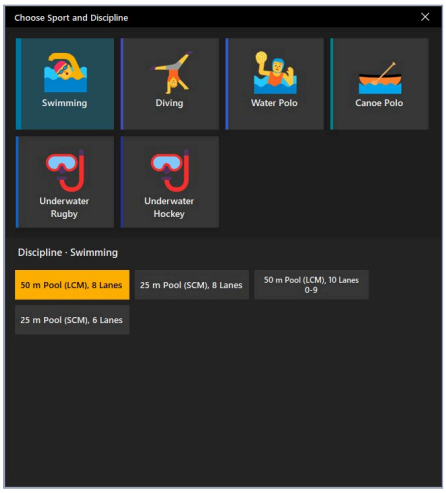


Figure 7. Swimming – its disciplines

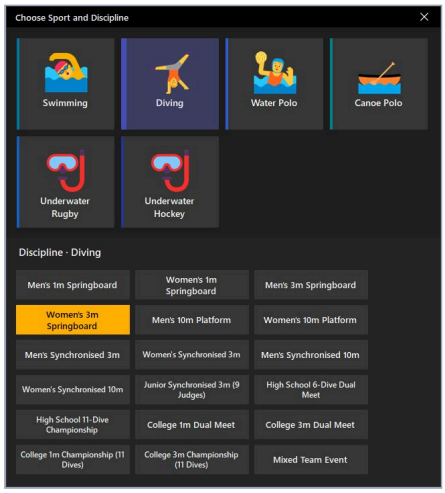


Figure 8. Diving – its disciplines

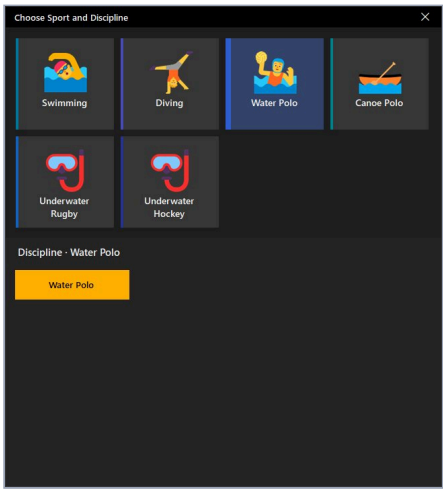


Figure 9. Water Polo – its disciplines

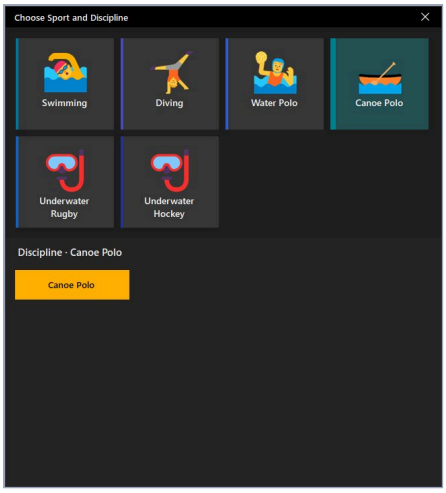


Figure 10. Canoe Polo – its disciplines

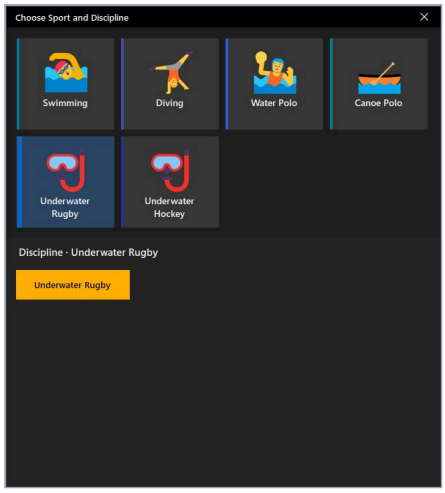


Figure 11. Underwater Rugby – its disciplines

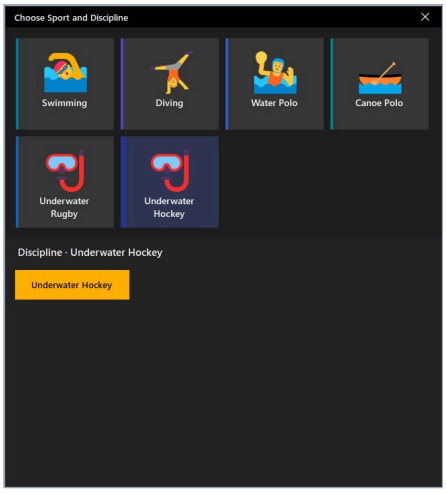


Figure 12. Underwater Hockey – its disciplines

Switching during a Match

If a match is in progress (a score other than 0, the clock running or a set played), the program asks before it switches. The new sport starts with its own team setup, designs and keyboard shortcuts; the choice is remembered for the next start.

Switch Confirmation

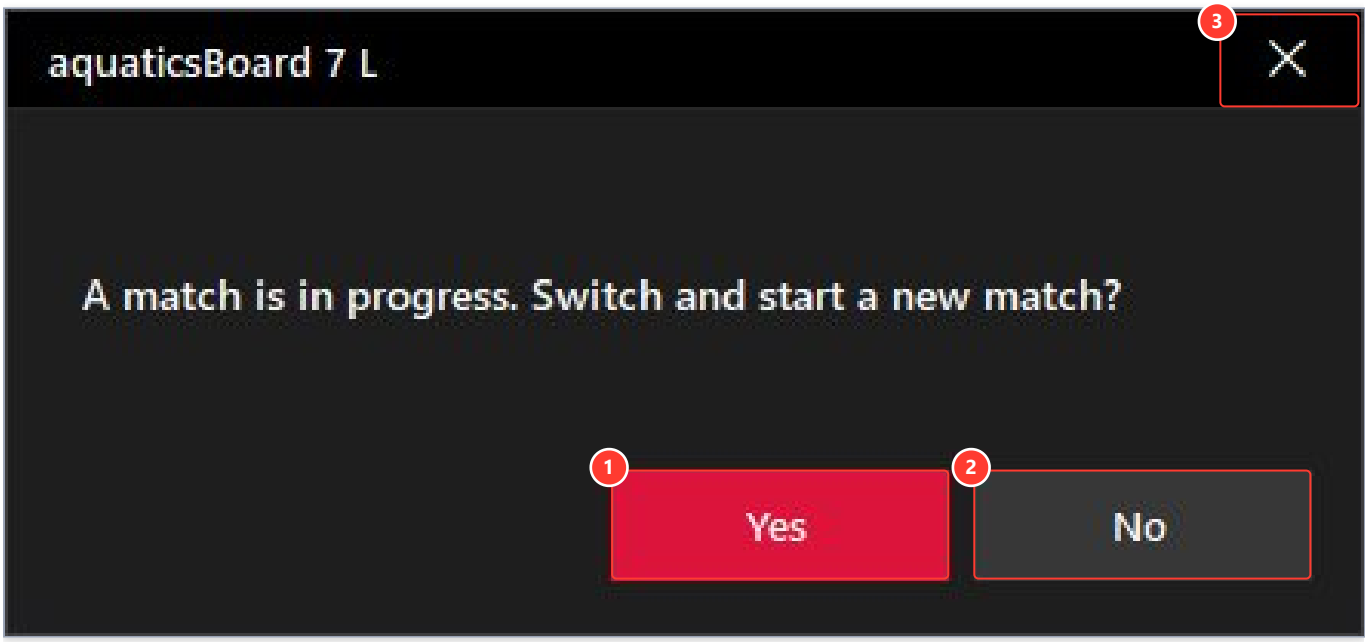


Figure 13. “A match is in progress. Switch and start a new match?”

#	Control	What it does
1	Yes	Ends the running match and starts the chosen sport / discipline with a new match.
2	No	Stays with the running match; nothing changes.
3	Close (×)	The same as **No**. `Esc` also answers No.

Time Settings

Click **Time Settings** (or the stopwatch icon at the bottom left) to change the times of the running discipline. The title bar names the sport and, when the preset has a name of its own, the discipline. The window grows with the number of rows, so the last row is always visible. The dialog only shows what the discipline has:

- **Periods** – the name of each period as the board shows it (Q1, 1H, P1 …) and its duration in m:ss.
- **Overtime** – the names of the overtime periods as the period buttons show them, separated by commas (e.g. *ET1, ET2*), and their duration. Where the preset has one overtime name such as *OT*, further overtime periods are numbered automatically (OT1, OT2 …).
- **Timeouts** – the length of a timeout.
- **Shot Clock** – full time and reset time in seconds (e.g. 24 / 14).
- **Team Fouls** – the foul limit (penalty situation / bonus).
- **Penalties** – the length of each timed penalty (e.g. 2 minutes).
- Set sports: **Sets to Win**, **Points per Set**, **Deciding Set Points**, timeout and technical timeout length.
- Cricket: **Match Format** – overs per innings, overs per bowler, days of a two-innings match, balls per over, players per side, reviews, powerplay overs and the timeout length, depending on the format.
- Swimming and diving have no time settings (the dialog says so); their rules belong to the meet and the event.

Times are typed as m:ss (plain seconds are accepted too). The Time Settings dialog of every sport, with its own rows, is shown in the chapter of that sport. The three buttons at the bottom are the same everywhere:

Button	What it does
Default Values	Fills in the factory values of the discipline after a confirmation (below). Nothing is saved until you click Save.
Cancel	Closes without saving. When you changed something, it asks *"Discard Changes?"* first.
Save	Checks and saves the values. An invalid value is reported in red at the bottom of the dialog and nothing is saved.

Confirmations of the Time Settings

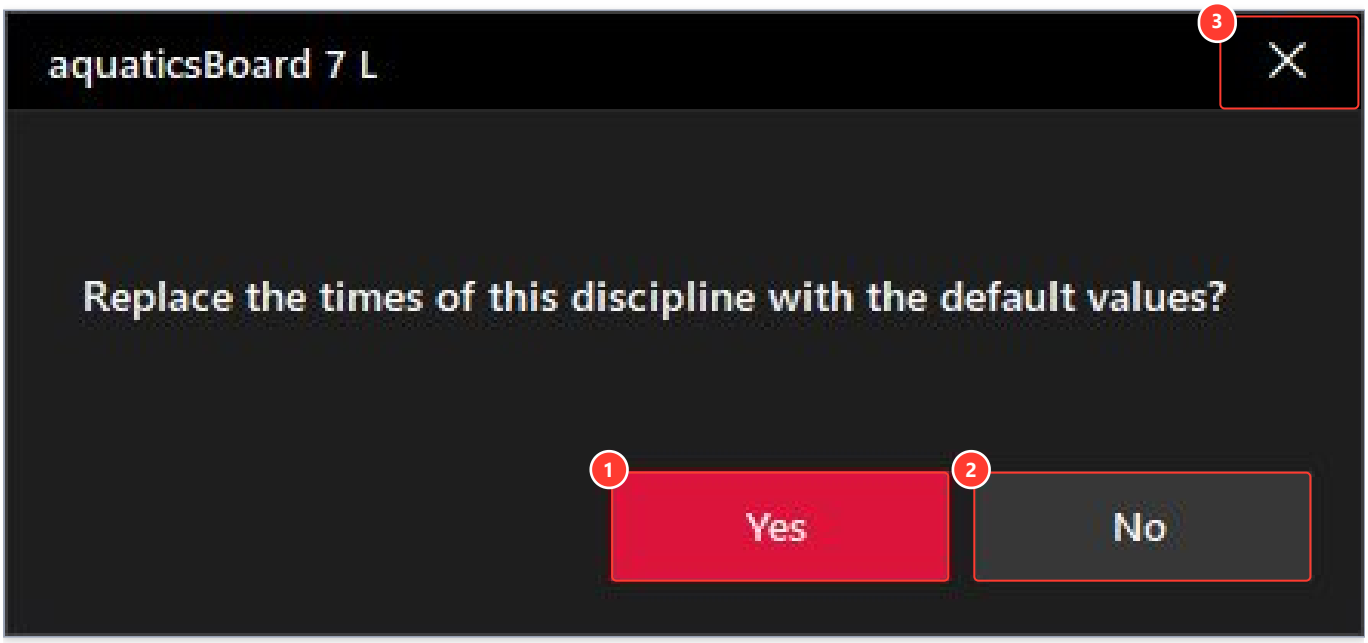


Figure 14. "Replace the times of this discipline with the default values?" (Default Values)

#	Control	What it does
1	Yes	Fills every row with the factory value of the discipline. Click **Save** afterwards to keep them.
2	No	Keeps the values in the dialog.

#	Control	What it does
3	Close (×)	The same as **No**. `Esc` also answers No.



Figure 15. “Discard Changes?” (Cancel or × after a change)

#	Control	What it does
1	Yes	Closes the dialog and forgets the changes.
2	No	Returns to the dialog with your changes.
3	Close (×)	The same as **No**. `Esc` also answers No.

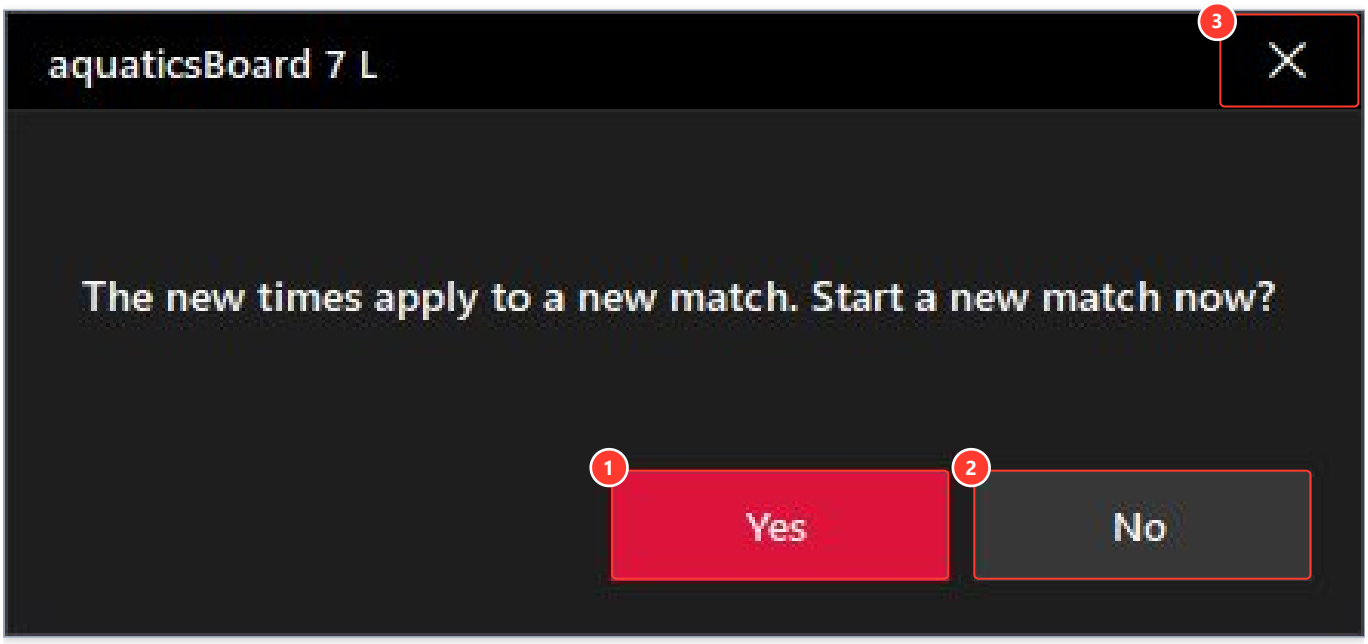


Figure 16. “The new times apply to a new match. Start a new match now?” (Save during a match)

#	Control	What it does
1	Yes	Starts a new match at once with the new times.

#	Control	What it does
2	No	Keeps the running match with the old times; the new times are used from the next new match.
3	Close (×)	The same as **No**. `Esc` also answers No.

When the New Times Apply

Saved times are stored per discipline (only the values that differ from the factory values) and are used for every later match of that discipline. After **Save** a new match starts at once; if a match is in progress the program first asks whether to start one now (above).

> **Note** While a discipline uses own times, the Time Settings button shows an asterisk (**Time Settings ***) in amber. Use **Default Values** and **Save** to return to the official times.

Undo

Undo (the Undo button, `Ctrl`+`Z`, or `F12` in the default keyboard shortcuts) takes back the last scoring change: points, goals, fouls, timeouts, penalties, period changes and so on, up to 100 steps back. The running clocks keep their time. Undo also works from the remote control. Text changes and info graphics are not part of Undo.

There is one Undo button per sport: in the timed sports it is in the bottom bar; set sports, beach tennis, cricket and the swimming desk have it on their own panel and no Undo in the bottom bar. The dive desk has no Undo button: use **Correct** for a published dive, or `Ctrl`+`Z` / the remote Undo.

Restoring a Match after a Crash

If aquaticsBoard 7 L did not close normally (power cut, Windows update, crash), the next start finds the journal of the unfinished match and asks whether to restore it. The question names the sport and the time of the last entry.

Restore Question

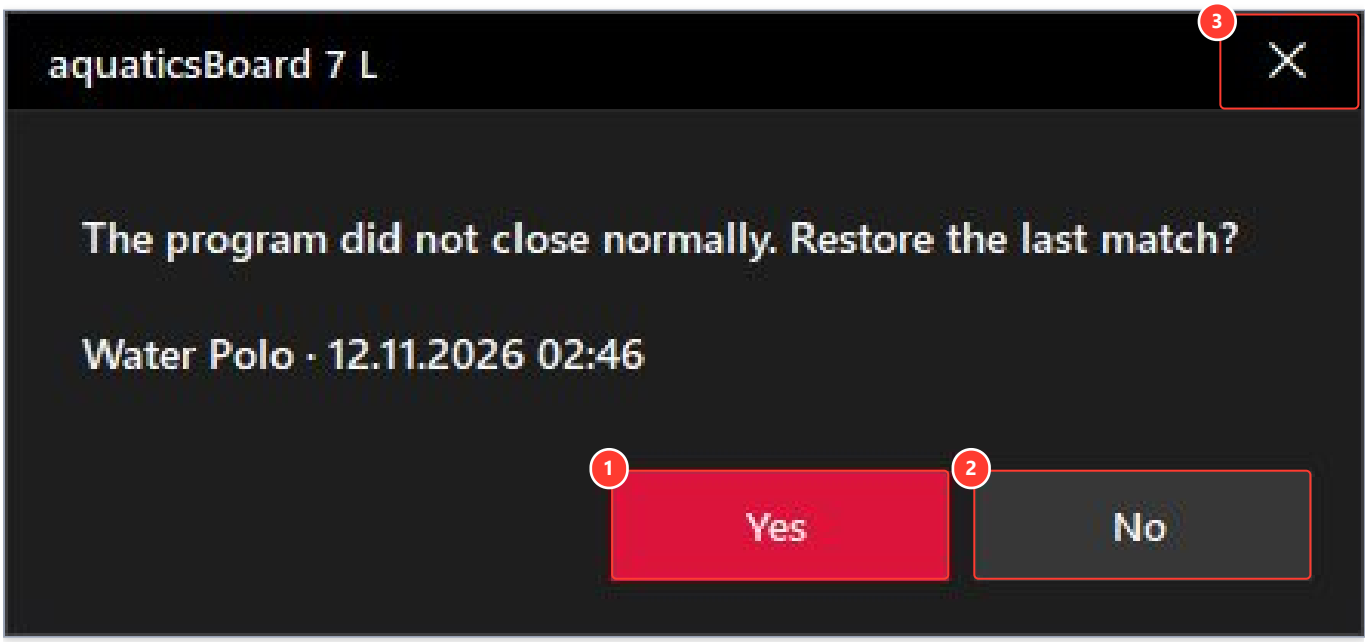


Figure 17. “The program did not close normally. Restore the last match?”

#	Control	What it does
1	**Yes**	Replays every command of the journal: scores, fouls, timeouts, penalties, periods and the team setup are back as they were. The clock is **stopped** and shows the time of the last recorded action.
2	**No**	Starts with a new match of the last sport. The journal file stays in *data\matches*.
3	**Close (×)**	The same as **No**. `Esc` also answers No.

1. Answer **Yes**.
2. Compare the clock with the official time and correct it with **Set Clock** if needed (the time that ran between the last action and the crash is not in the journal).
3. Check that the board is open (St – it opens again by itself at its place when it was on) and start the clock.

5 The Info Page

The Info page puts event graphics on air: announcements, goals, cards and time penalties, player intros, substitutions, team lists and officials. Each row has its team, its player fields and a **Show** button. Which rows you see depends on the sport and the design: basketball has no goal or card row, handball has its 2-minute penalties, set sports show sanctions (warning, penalty, expulsion, disqualification), sports that count red cards have a Red Card row, and swimming, diving and cricket keep only the announcement and the info screens.

The Rows of the Info Page

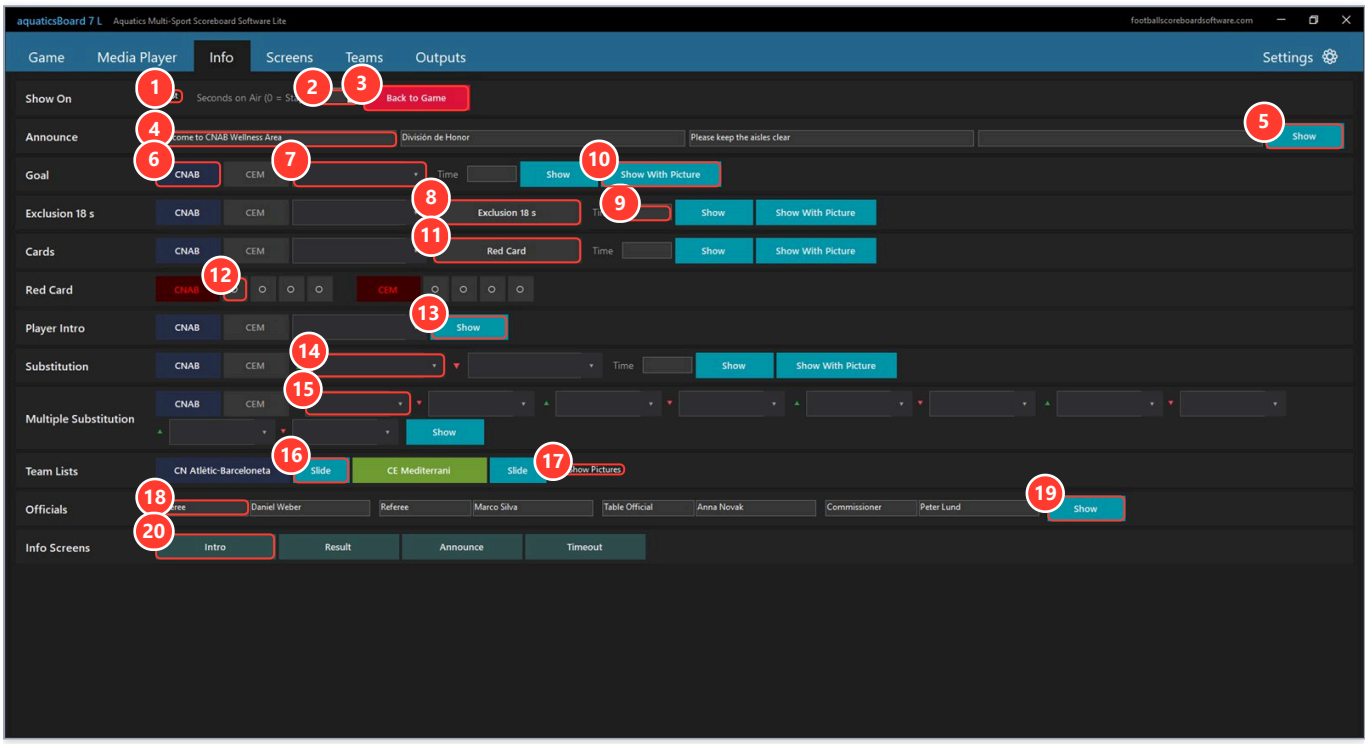


Figure 18. The Info page

#	Control	What it does
1	**Show On: St**	The graphics of this page go to the Standard board as full-screen info screens. Untick it to prepare a row without putting anything on air.
2	**Seconds on Air (0 = Stay)**	How long a graphic stays on air before the outputs return to the game screen (0–120 s, default 10). **0** = the graphic stays until you click Back to Game.
3	**Back to Game**	Takes the graphic off at once and returns the board to the game screen (it also stops a running team slide). A board that you switched to another screen in the meantime is left alone.
4	**Announce: Title, Line 1, Line 2, Line 3**	Free announcement texts (welcome, next match, safety notes …): a title and up to three lines. The same four texts are on the Screens page.
5	**Announce: Show**	Saves the texts and shows the **Announce** screen on the board.
6	**Team buttons**	Every player row starts with the two teams (short names). The chosen team is shown in its team colour; changing the team empties the player fields of the row.
7	**Player field**	Type a number and / or a name (e.g. *17 John Smith*) or click ▾ to pick from the team list (menu below). A typed player that is not in the team list is added to it (number and name).

#	Control	What it does
8	**Goal: score type**	Where the sport has several score types (goal or behind, try or conversion …), this list chooses the title of the goal graphic.
9	**Time**	The box after the **Time** label: minute or game time printed on the graphic. Empty = the game clock at the moment you click Show. The box empties after each Show.
10	**Show / Show With Picture**	**Show** puts the graphic on air with number and name; **Show With Picture** adds the player photos chosen in the **Photo** column of the Teams page (a player without a photo is shown without one).
11	**Card / penalty type**	Chooses the card or time penalty of the sport (yellow card, 2 minutes, warning …). The title of the graphic is the chosen type (menus below).
12	**Red Card counts**	Four dots per team set the number of red cards of the team on the board (0–4). Click the last lit dot to take one back. This row changes the score data directly (it is the same as the red card count on the Game page).
13	**Player Intro: Show**	Shows one player (number, name, photo when there is one) on St.
14	**Substitution: In ▲ / Out ▼**	The player coming in (green ▲) and the player going out (red ▼). Show / Show With Picture put both on one graphic.
15	**Multiple Substitution**	Up to five in ▲ / out ▼ pairs of one team. Each pair (green ▲ in, red ▼ out) stays together as one block; when the row is too narrow, a whole pair moves to the next line. Pairs with an empty field are left out. **Show** puts all pairs on one graphic (St *Substitutions*).
16	**Team Lists: team / Slide**	The team button (team name in its colour) shows the whole team list of that team. **Slide** shows the players marked Show one after the other as player intros (every half of Seconds on Air, at least 3 s), then returns to the game screen.
17	**Show Pictures**	Team lists with the player photos (from the **Photo** column of the Teams page).
18	**Officials**	Four pairs of role and name (referee, umpire, table official, commissioner …). Rows with an empty name are left out.
19	**Officials: Show**	Saves the officials with the team setup and shows the officials graphic on the board.
20	**Info Screens**	The other info screens of the design: **Intro** (event and teams), **Result**, **Announce**, **Timeout** where the sport has one (cricket adds **Batting** and **Bowling**). They follow Show On and Seconds on Air like the rows above.

1. Keep **St** ticked under Show On and set **Seconds on Air**.
2. Choose the team in the row.
3. Type the player (number, name or both) or pick from the list with ▾; for a card choose the type, for a goal the score type if there is a list.
4. Optionally type the minute into the **Time** box; leave it empty to use the game clock.
5. Click **Show** (or **Show With Picture**). After the seconds on air the board returns to the game screen by itself; **Back to Game** ends it earlier.

> **Tip** You can work without team lists: a number alone is enough for the graphic. A number with a name is added to the team list of the Teams page, so it is there for the next graphic and the next match.

> **Note** A row appears only when the St design has a screen for it. Apart from the Red Card row, the Info page does not change the score: goals, fouls and cards for the board are entered on the Game page.

The Player List (▾)

Click ▾ in a player field: the list shows the players of the chosen team that are marked **Show** on the Teams page, with number and name.

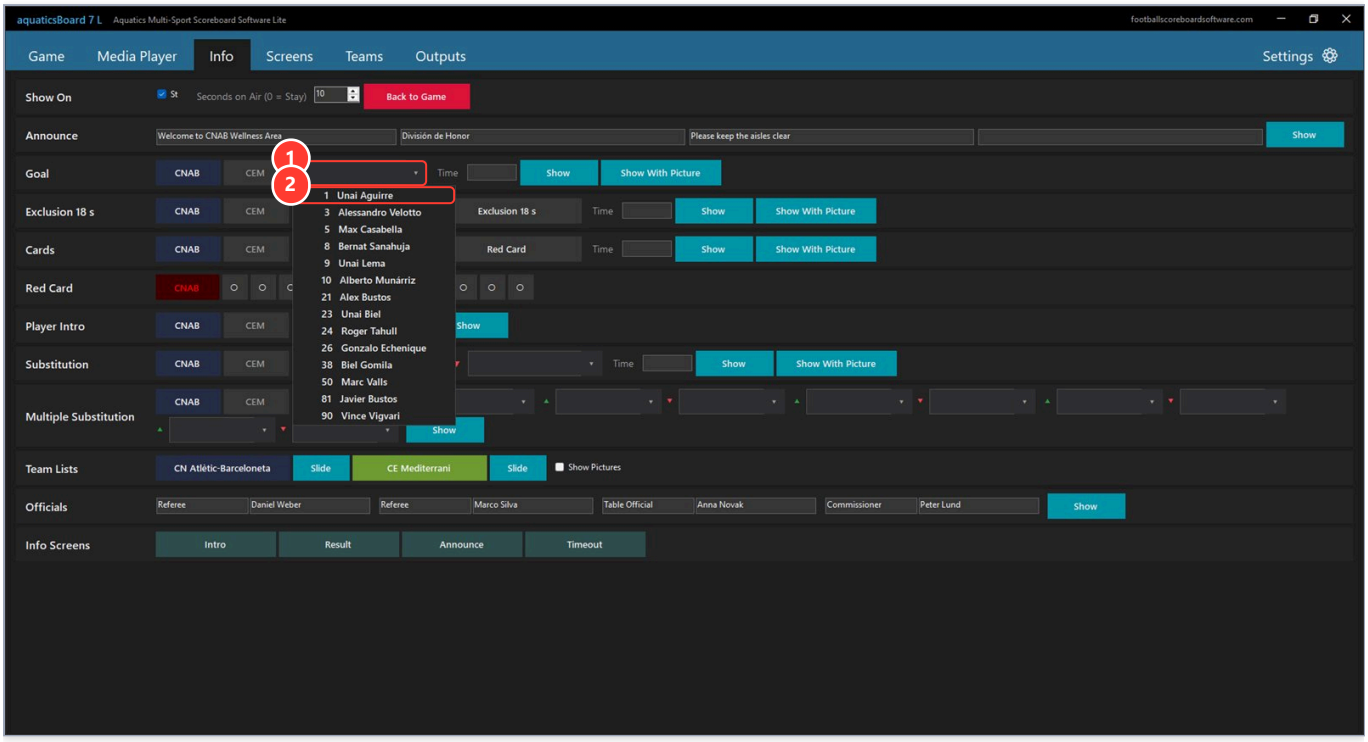


Figure 19. The player list of a player field (Water Polo)

#	Control	What it does
1	**Player field**	The field whose list is open. You can also type here instead of picking.
2	**Players (number, name)**	Click a player to put number and name into the field. The list has one entry per player marked Show; it scrolls when the team is long.

Score Type, Card and Sanction Lists

The type list of a row decides the title of the graphic. Every sport has its own entries:

Water Polo

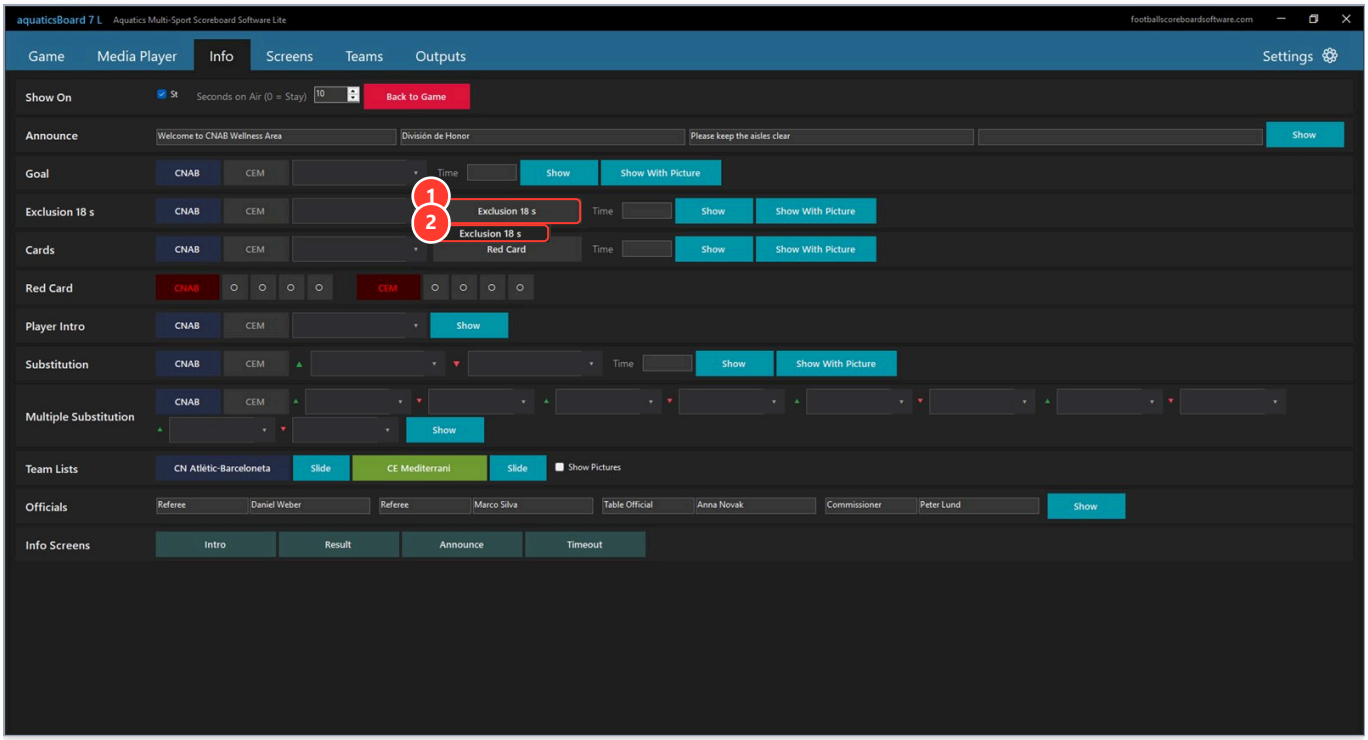


Figure 20. Water Polo: the score types of the Goal row

#	Control	What it does
1	**Score type list**	Click to open the list; the chosen entry is the title of the graphic. Goals themselves are counted on the Game page.
2	**Exclusion 18 s**	An exclusion for 18 seconds (water polo).

Canoe Polo

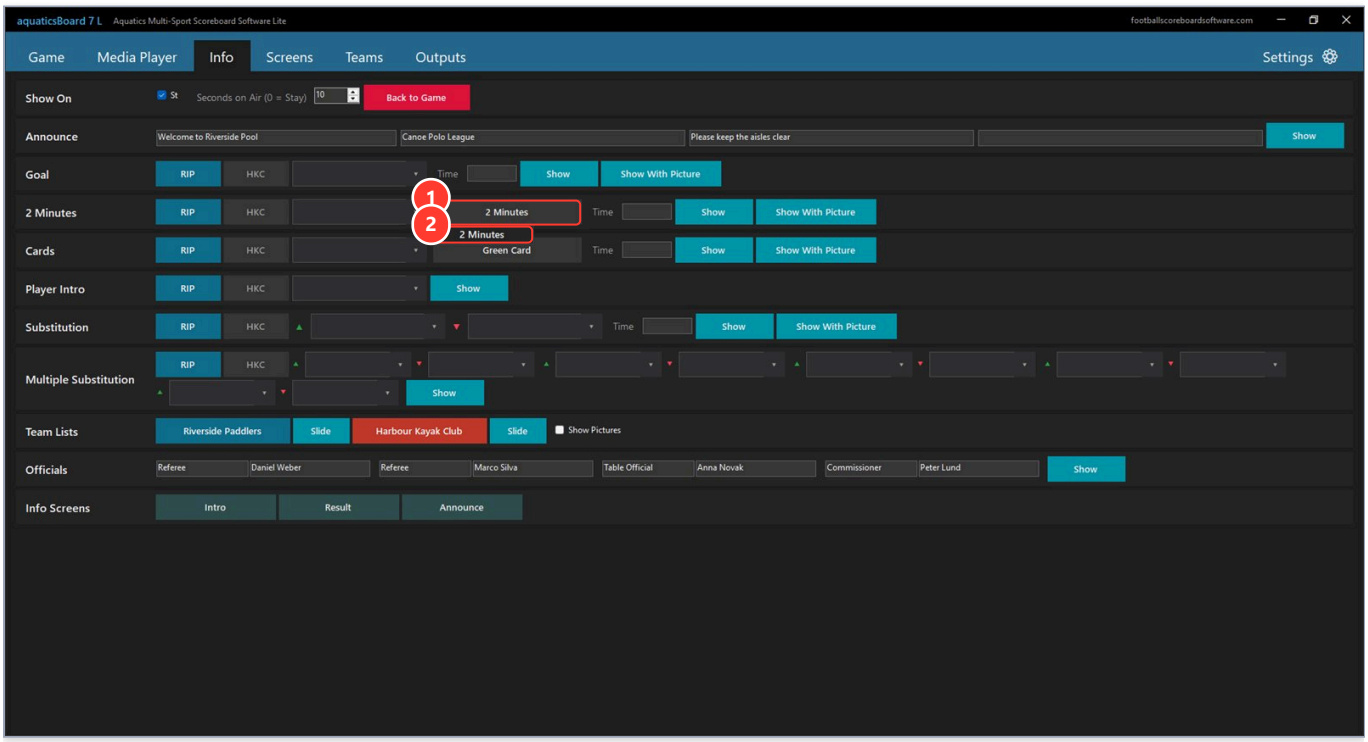


Figure 21. Canoe Polo: the score types of the Goal row

#	Control	What it does
1	Score type list	Click to open the list; the chosen entry is the title of the graphic. Goals themselves are counted on the Game page.
2	2 Minutes	A two-minute suspension (time penalty).

Underwater Rugby

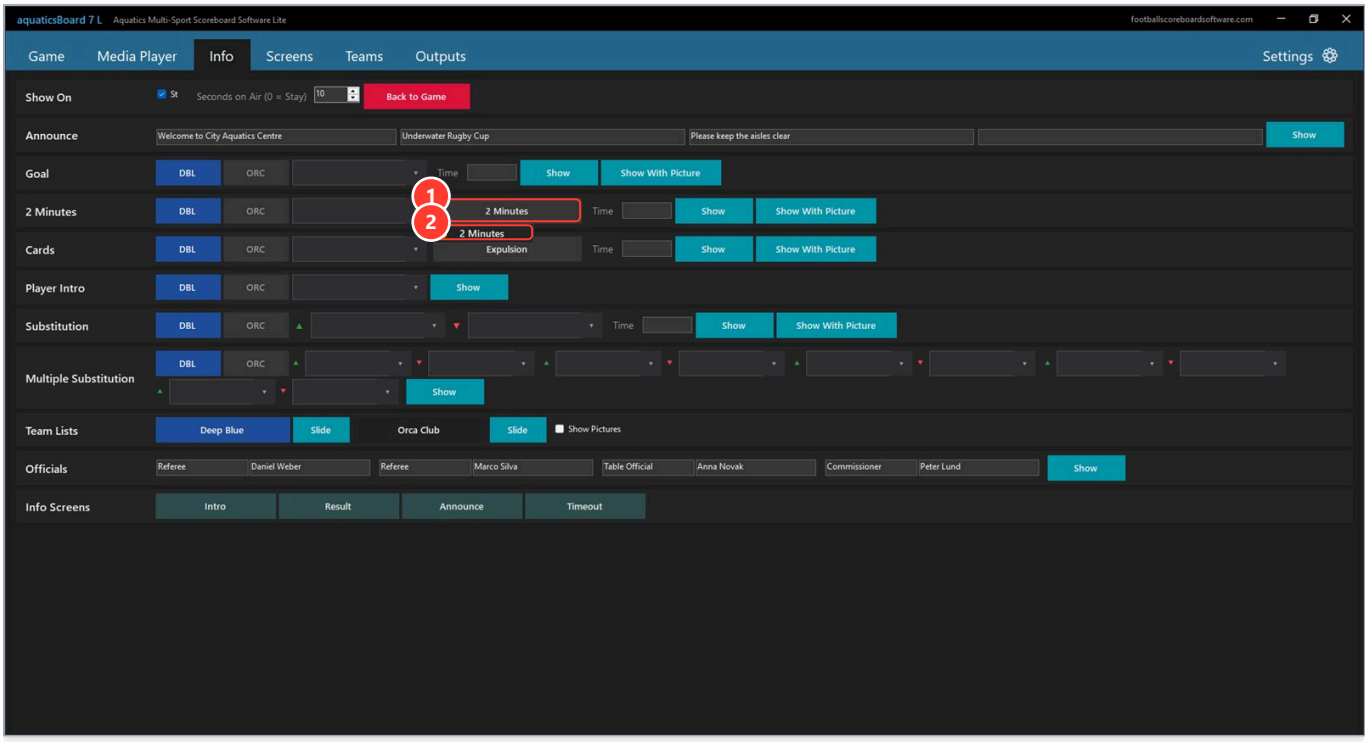


Figure 22. Underwater Rugby: the score types of the Goal row

#	Control	What it does
1	Score type list	Click to open the list; the chosen entry is the title of the graphic. Goals themselves are counted on the Game page.
2	2 Minutes	A two-minute suspension (time penalty).

Underwater Hockey

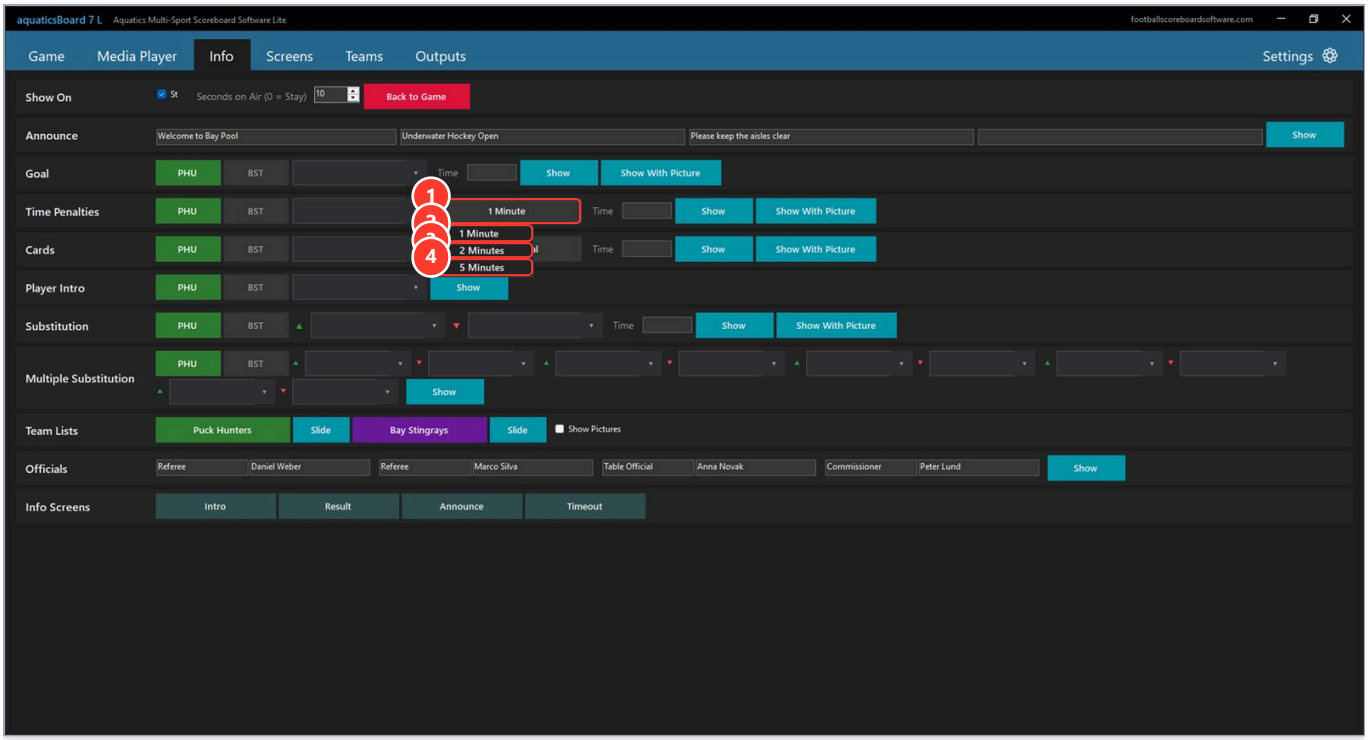


Figure 23. Underwater Hockey: the score types of the Goal row

#	Control	What it does
1	**Score type list**	Click to open the list; the chosen entry is the title of the graphic. Goals themselves are counted on the Game page.
2	**1 Minute**	A one-minute time penalty.
3	**2 Minutes**	A two-minute suspension (time penalty).
4	**5 Minutes**	A five-minute time penalty.

The Info Page of Each Sport

The rows follow the sport. The pages of all sports of aquaticsBoard 7 L:

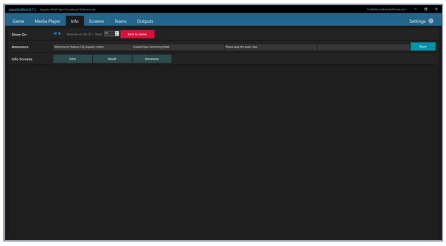


Figure 24. Swimming: Announce, scrolling text and the info screens only (no player rows)

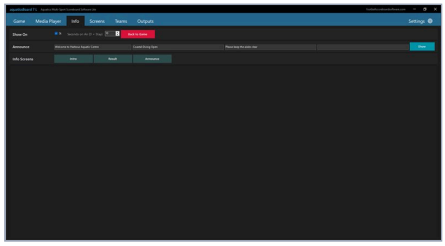


Figure 25. Diving: Announce, scrolling text and the info screens only (no player rows)

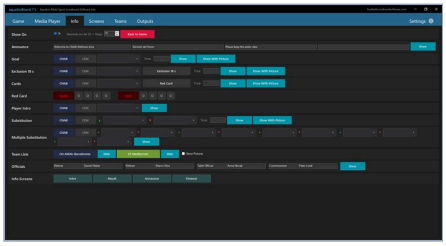


Figure 26. Water Polo: Goal row with score types (Exclusion 18 s …), penalty / card row (Red Card …), Red Card row, Timeout screen

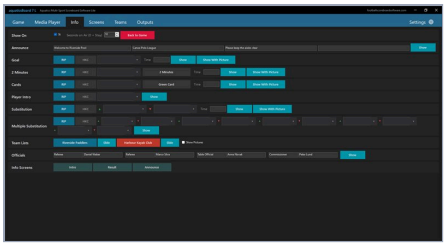


Figure 27. Canoe Polo: Goal row with score types (2 Minutes ...), penalty / card row (Green Card ...)

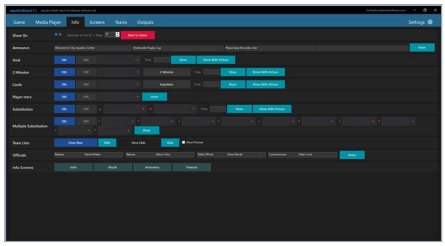


Figure 28. Underwater Rugby: Goal row with score types (2 Minutes ...), penalty / card row (Expulsion ...), Timeout screen

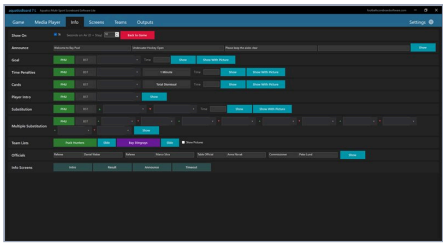


Figure 29. Underwater Hockey: Goal row with score types (1 Minute ...), penalty / card row (Total Dismissal ...), Timeout screen

Info Screens on the Standard Board

The full-screen graphics of the St output (Arena master design, with the background video). Each comes from the row of the same name or from the Info Screens row:



Figure 30. Intro – event name, both teams with logos, date and time



Figure 31. Result

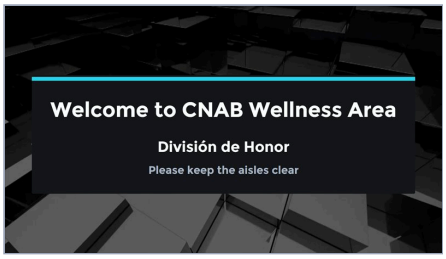


Figure 32. Announce – title and announcement lines

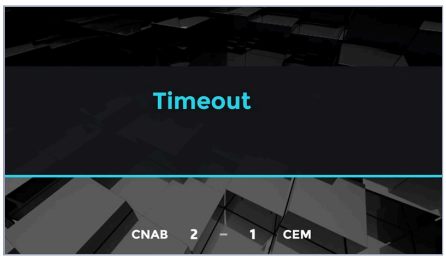


Figure 33. Timeout



Figure 34. Goal – scorer with number, name, photo, team and score

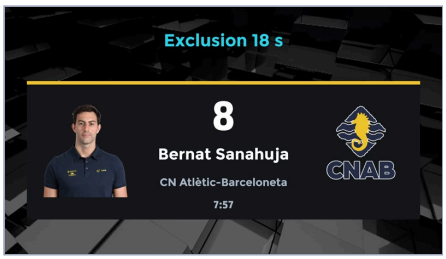


Figure 35. Card / penalty – player, team, type and game time

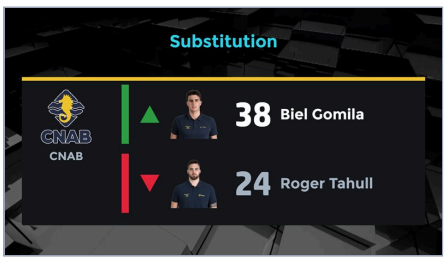


Figure 36. Substitution – player in (▲) and out (▼)

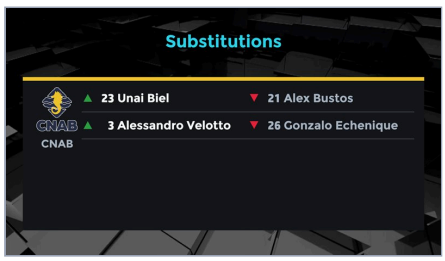


Figure 37. Multiple Substitution – several pairs of one team

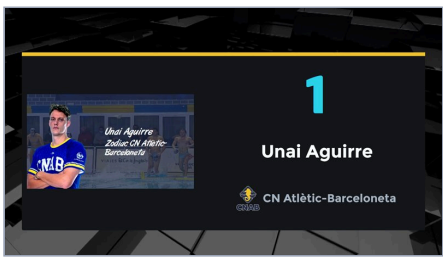


Figure 38. Player Intro



Figure 39. Team List

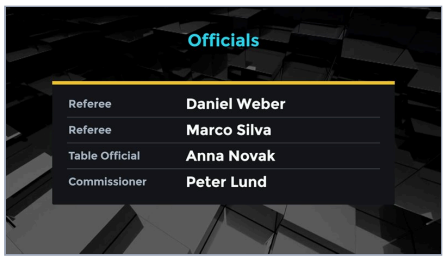


Figure 40. Officials

6 The Screens Page

The Screens page has two columns: the screens of the St board and the announcement texts. One click on a screen button puts that screen on air at once (without the Seconds on Air timer of the Info page). The screen on air is green.

Which screens appear depends on the design of the output and on the sport: the masters have the screens shown here; an own design may have more or fewer. A Goal or Card screen is never offered in a sport that has no goals or no cards / penalties, even when an older own design still contains it.

> **Tip** The on-air row of the Game page has the same St screens except the event screens, so you rarely need to leave the Game page during play.

Screen Buttons

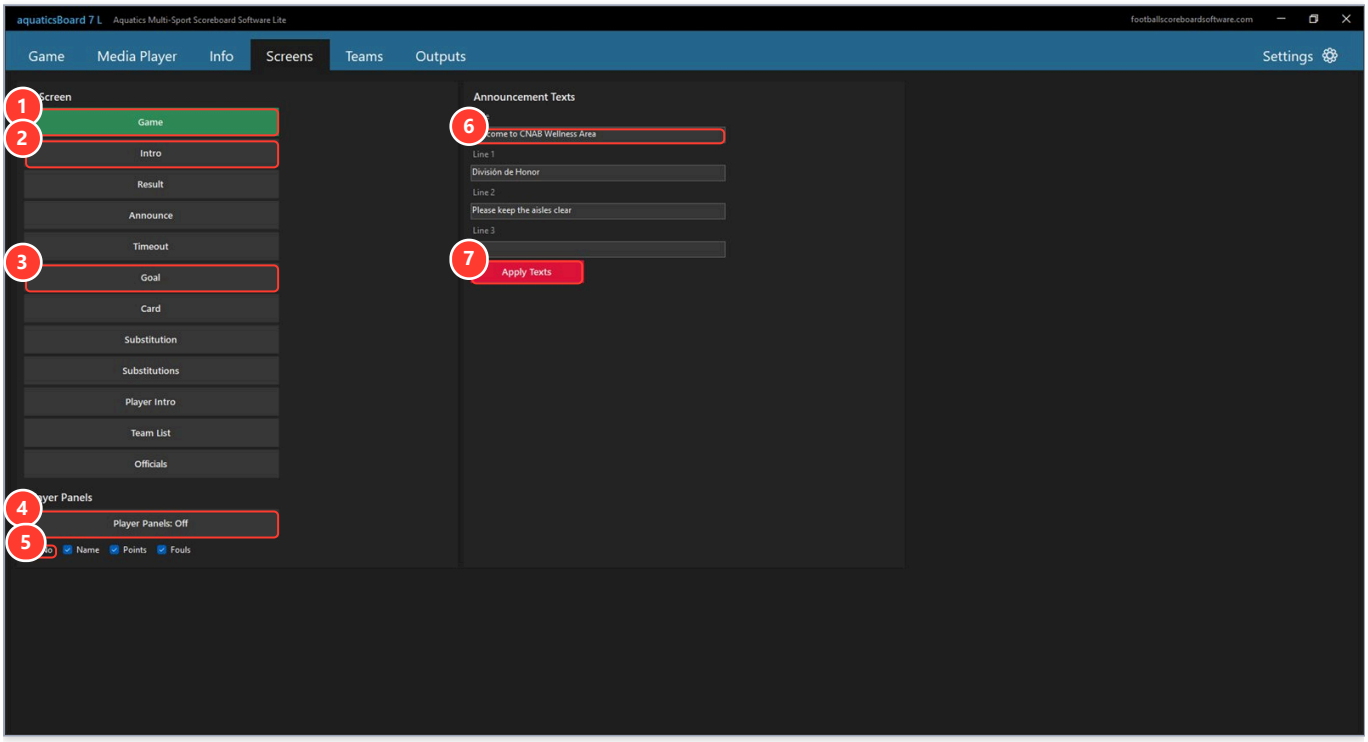


Figure 41. The Screens page

#	Control	What it does
1	St Screen: Game	The scoreboard of the Standard output. Click to return from any info screen.
2	St info screens	**Intro**, **Result**, **Announce** and, where the sport has one, **Timeout** (cricket: **Batting**, **Bowling**): shown with the data of the running match.
3	St event screens	**Goal**, **Card**, **Substitution**, **Substitutions**, **Player Intro**, **Team List**, **Officials**: they show the player or team last chosen on the Info page. Use the Info page to fill them. **Goal** is offered only in sports that score goals (for example not in basketball) and **Card** only in sports with cards, time penalties or sanctions (for example not in basketball, Aussie Rules or American football).
4	Player Panels: On / Off	Switches the St game screen between the plain scoreboard and the scoreboard with player panels (the same as the Player Panels button on the Game page). Green while On.

#	Control	What it does
5	**Player panel columns**	Which columns the player panels show: **No**, **Name** and the statistics of the sport (**Fouls**, **Points**, **Penalties**, **Cards**). Saved per sport.
6	**Announcement Texts**	**Title** and **Line 1** – **Line 3** of the announcement screens: St Announce shows the title and all three lines. The same texts as in the Announce row of the Info page.
7	**Apply Texts**	Puts the title and the three lines on the board.

The Screens Page of Each Sport

The screen lists of the master designs of every sport (player panel options only where the sport keeps player statistics):

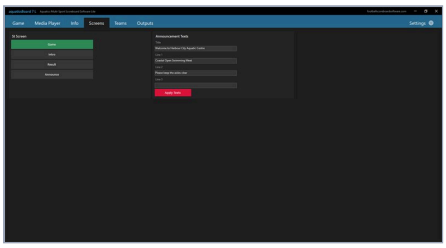


Figure 42. Swimming

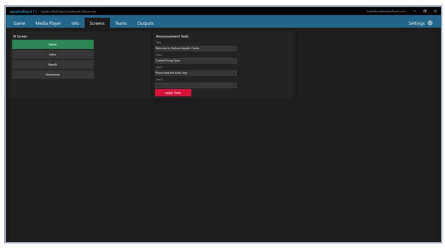


Figure 43. Diving

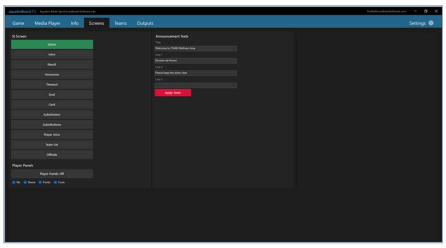


Figure 44. Water Polo

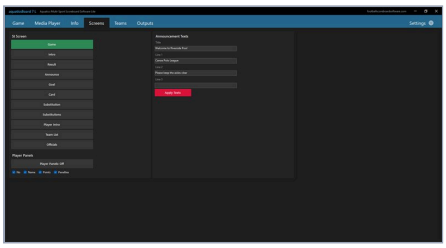


Figure 45. Canoe Polo

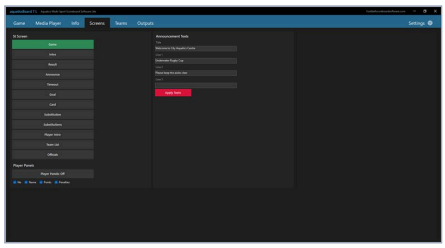


Figure 46. Underwater Rugby

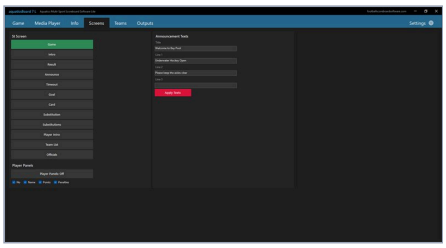


Figure 47. Underwater Hockey

7 Teams and Players

The Teams page holds the event, the two teams and their team lists. The setup is saved per sport (*data\config\<sport>\setup.json*) and stays when you start a new match; switching to another sport loads that sport's own setup.

Event and Teams

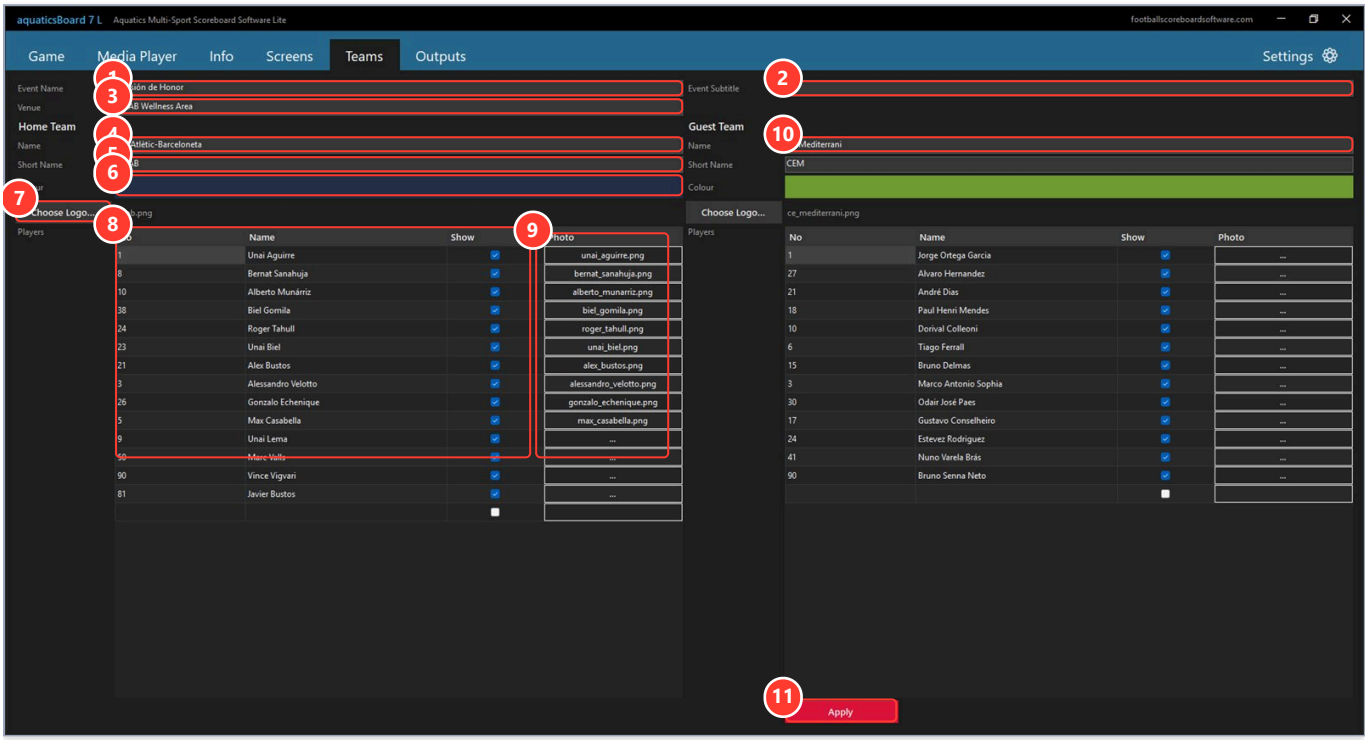


Figure 48. The Teams page

#	Control	What it does
1	**Event Name**	The competition or event (league, cup, tournament). Shown on the Intro screen.
2	**Event Subtitle**	A second line for the event (round, group, final ...).
3	**Venue**	The hall, ground or pool.
4	**Name (Home Team)**	The full team name for the boards.
5	**Short Name**	Short name or abbreviation (3–4 letters) for compact boards and the team buttons of the Info page.
6	**Colour**	Click to choose the team colour. It is used for the team stripes, the team buttons and the graphics.
7	**Choose Logo...**	Choose a logo file (PNG, JPG, WEBP or SVG). The file is copied into *data\logos*; the file name is shown next to the button.
8	**Players**	The team list: **No** (up to 4 characters, e.g. 7, 07, 23A), **Name**, **Show** and **Photo** (next callout). Type into the empty last row to add a player. To remove a player, empty both the number and the name of the row (empty rows are dropped when you click Apply). Players with Show ticked appear as number buttons on the Game page, in the player panels, the player lists of the Info page, the team list graphics and the team slide.

#	Control	What it does
9	**Photo**	The player photo. A row without a photo shows **…**; **click** the cell to choose a picture (PNG, JPG, JPEG or WEBP). The file is copied into *data\media\players* and its name appears in the cell. **Right-click** the cell to remove the photo from the player (the copied file stays in the folder). Type the number and name of a new player first: the empty last row takes no photo. Like every change on this page, the photo is saved with **Apply**.
10	**Guest Team**	Name, Short Name, Colour, logo and Players of the guest team – the same fields as for the home team.
11	**Apply**	Saves everything on this page and updates the boards. **Changes are not saved until you click Apply.**

1. Type the event, venue and both teams.
2. Choose colours and logos.
3. Fill the team lists (or paste them row by row) and tick **Show** for the players of today.
4. Optionally click the **Photo** cell of a player to give the player a picture.
5. Click **Apply**.

Teams in the Different Kinds of Sport

Kind of sport	What “team” means on this page
Team sports with a clock (basketball, handball, football, hockey, water polo, beach soccer, Australian rules …)	Two teams with full team lists; numbers are used for fouls, penalties, cards and player panels on the Game page.
Set sports (volleyball, beach volleyball, footvolley, snow volleyball) and beach tennis	Two teams or pairs. For beach sports the name is usually the pair (e.g. *Surname / Surname*) and the team list holds the two or three players; sanctions on the Info page pick from it.
Cricket	Two teams with their players; the team list is used for the batter and bowler choices of the cricket panel and the batting and bowling cards.
Swimming and diving	No teams: the page holds the meet / event name, subtitle and venue and saves the competition (below). Swimmers, divers, heats and dive lists belong to the competition of the desk.

Swimming and Diving: the Competition Page

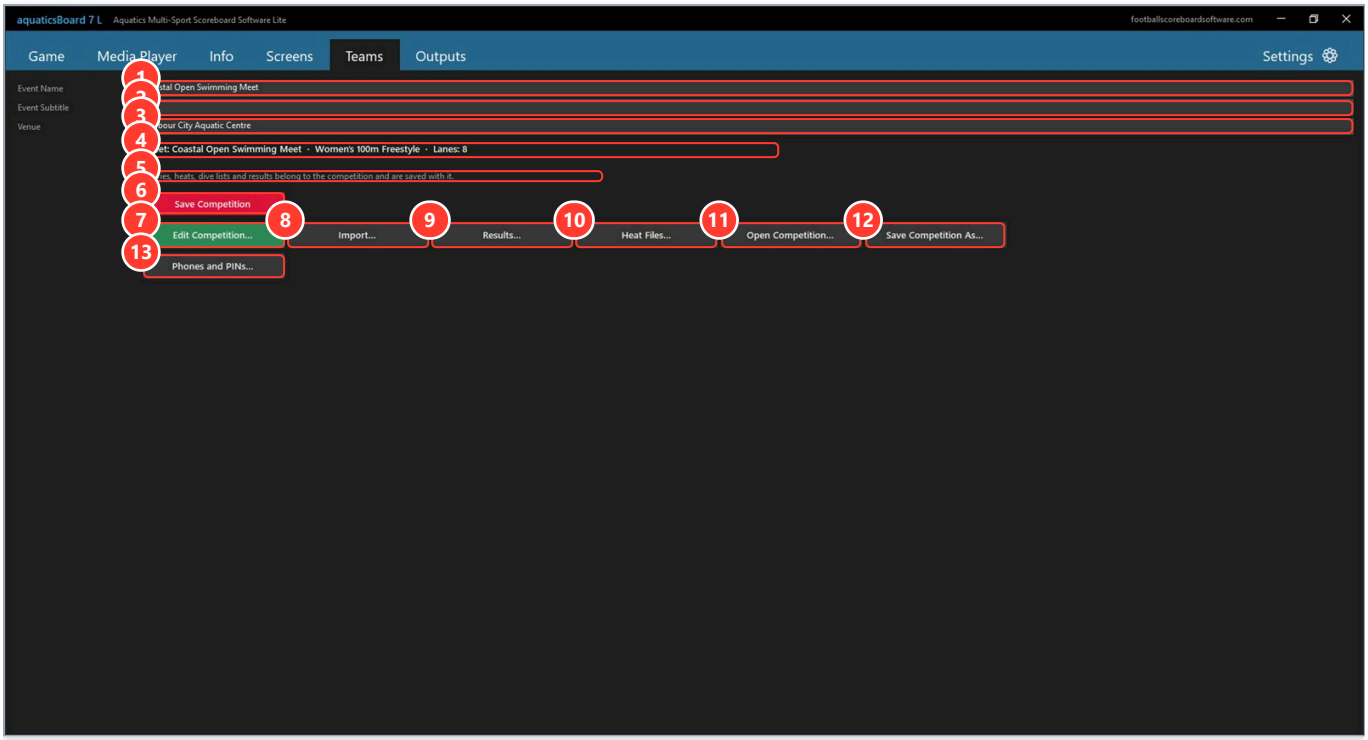


Figure 49. The Teams page of swimming: meet names and the competition

#	Control	What it does
1	**Event Name**	The meet or event name for the boards (Intro, results).
2	**Event Subtitle**	A second line (session, day, round).
3	**Venue**	The pool or centre.
4	**Summary**	Swimming: meet, the event called now and the number of lanes (e.g. *Lanes: 8*). Diving: event and number of judges. The line follows the desk: when you (or the remote) call another event, the summary changes at once.
5	**Note**	Entries, heats, dive lists and results belong to the competition and are saved with it.
6	**Save Competition**	Saves the names together with the entries, heats, dive lists and results of the running competition (they are also saved before another sport or a new match starts).
7	**Edit Competition…**	Opens the competition editor of swimming: meet, pool and sessions, events and entries, swimmers, clubs, records and officials. **Apply** starts the changes on the desk; results recorded meanwhile are kept.
8	**Import…**	Reads a Lenex file (SPLASH Meet Manager), a Hy-Tek Meet Manager meet (.hy3, .cl2, .zip) or its scoreboard start lists (.scb), or a CSV / Excel entry list. A preview shows what the file holds first (see *Swimming → Lenex and the Meet Managers*).
9	**Results…**	Result lists, start lists, timing sheets and the results book in the browser (print) or as HTML / CSV, and **Export Lenex…** for the meet manager or the federation.
10	**Heat Files…**	One results file per approved heat for the timing interface of SPLASH or Hy-Tek Meet Manager (see *Lenex and the Meet Managers*).
11	**Open Competition…**	Opens a competition saved before (with a summary first).
12	**Save Competition As…**	Saves the running competition (meet, heats and results) as a file, e.g. for another PC or as a copy.

#	Control	What it does
13	**Phones and PINs...**	The officials' phones and their seat PINs (see *Officials' Phones and PINs*).

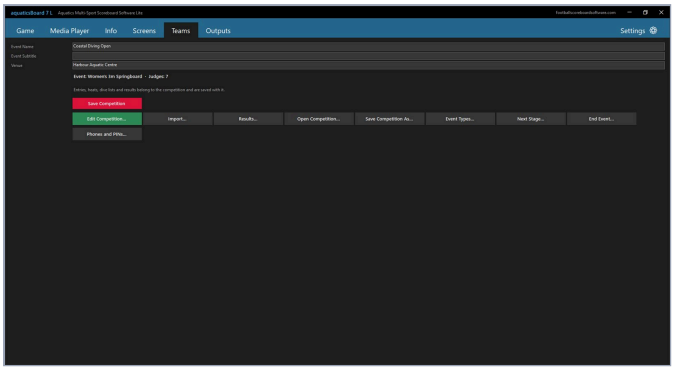


Figure 50. The same page for diving (event and judges)

The Teams Page of Each Sport

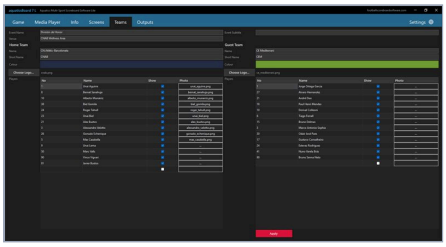


Figure 51. Water Polo

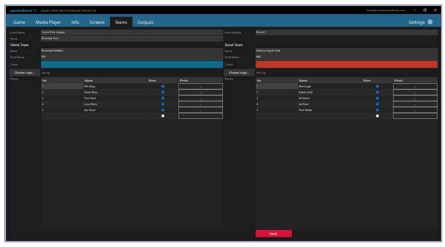


Figure 52. Canoe Polo

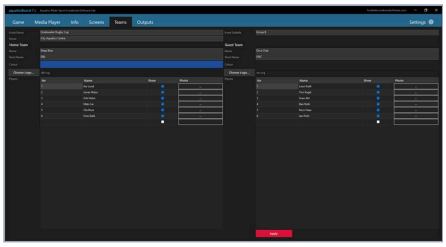


Figure 53. Underwater Rugby

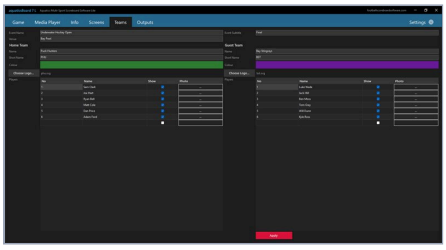


Figure 54. Underwater Hockey

Player Photos and Numbers

Numbers may contain up to four characters (e.g. 7, 07, 23A). A player typed on the Info page that is not in the list is added to it automatically.

Player photos are set in the **Photo** column of the team list:

1. Make sure the player has a number and a name in the list.
2. Click the player's **Photo** cell (it shows **...** while there is no photo).
3. Choose a picture file (PNG, JPG, JPEG or WEBP) in the file dialog. aquaticsBoard 7 L copies it into *data\media\players* under a new name made of the sport, the team, the number and a time stamp, so the original file can be moved or deleted afterwards. The cell shows the file name.
4. Click **Apply** to save the team list with the photo.

To take a photo away, **right-click** the Photo cell: it shows **...** again (click Apply to save).

The photos are used by **Show With Picture** in the Goal, Card and Substitution rows of the Info page, by the team lists when **Show Pictures** is ticked, and by the player intro. A player without a photo is shown with number and name only.

> **Tip** Untick **Show** for players who are not playing today instead of deleting them: they disappear from the number buttons, panels, player lists and team lists but stay in the list for the next match.

8 Outputs

The Outputs page sets up the board window. Each output has one row with its settings and a second row with the window position. Every change is saved at once and applied to the open window; at the next start the program opens the board windows again exactly as they were. How to bring the board onto an LED screen, a video processor or a sender card is explained step by step in the next chapter, *Sending the Board to the LED Screen*.

The Output Rows

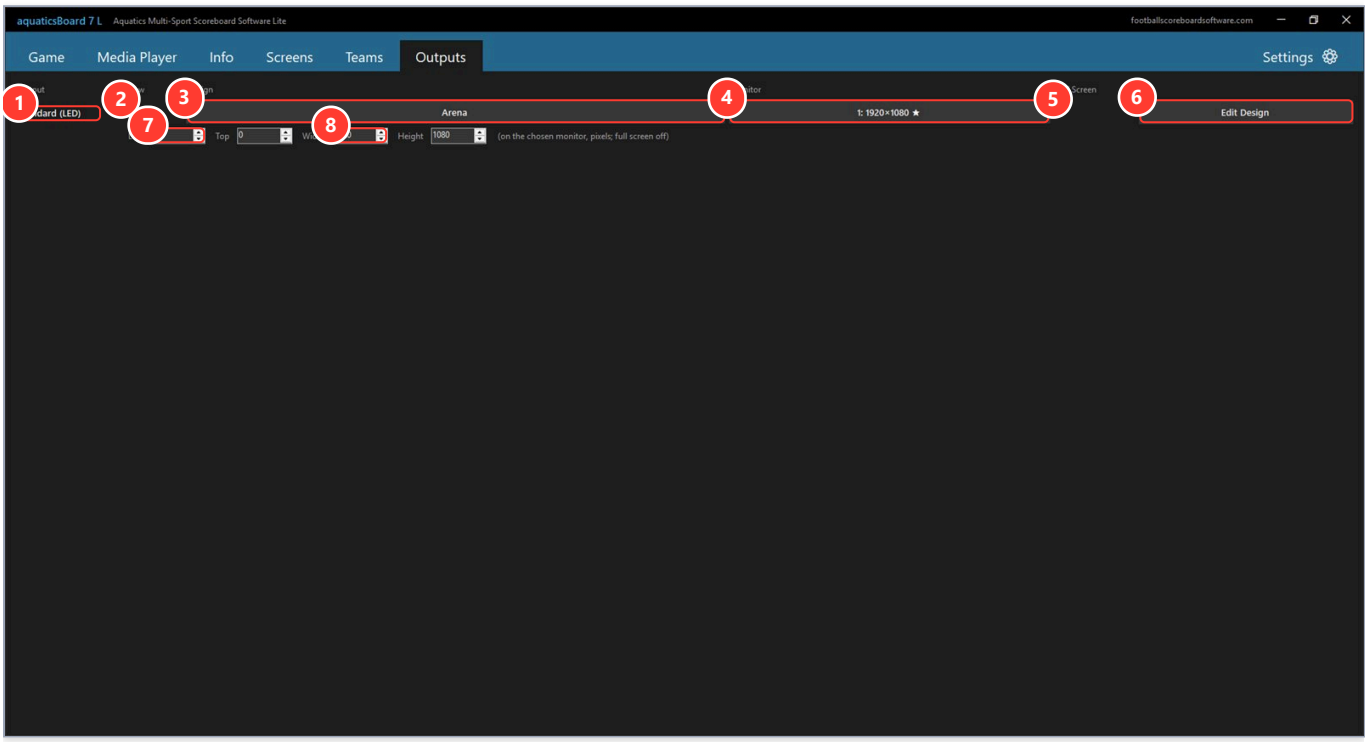


Figure 55. The Outputs page

#	Control	What it does
1	Output	**Standard (LED)** = St, the board output of aquaticsBoard 7 L.
2	Show	Opens or closes the output window – the same as the St button on the Game page. An output that is on opens again by itself at the next start of the program.
3	Design	The design of this output for the running sport (menu below). Own designs are marked with ★. Each sport remembers its own choice.
4	Monitor	The monitor of the window: number, resolution, ★ = the main monitor (menu in the next chapter). With two or more monitors a new output opens on monitor 2.
5	Full Screen	Ticked: the board fills the chosen monitor. Not ticked: the window uses Left / Top / Width / Height.
6	Edit Design	Opens the design editor with the design and the current screen of this output.
7	Left / Top	Position of the window on the chosen monitor in pixels (0 / 0 = top left corner of that monitor). Only when Full Screen is off. See *Sending the Board to the LED Screen*.
8	Width / Height	Window size in pixels (at least 160 × 90), for LED walls and strips with an unusual resolution (e.g. 1920 × 480 or 1280 × 1024). The board scales to the window.

Choosing a Design

Click the design field of a row to open the list of designs of the running sport:

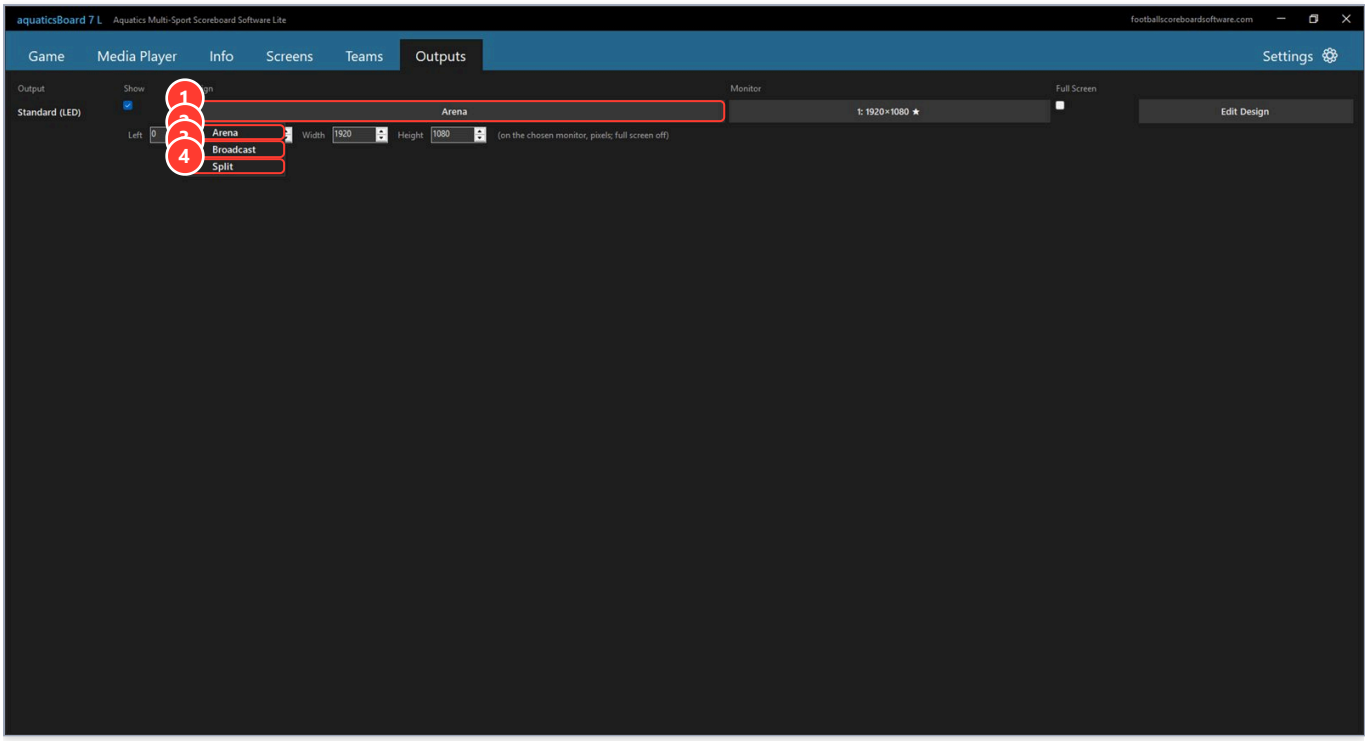


Figure 56. The design list of the Standard (LED) output

#	Control	What it does
1	**Design field**	Shows the design in use; click to open the list.
2	**Arena**	Master design: black LED look with big digits and corner logos. The default of St.
3	**Broadcast**	Master design: header strip and team rows.
4	**Split**	Master design: team panels in the team colours left and right of a centre column.

Own designs (saved copies, see *Board Designs*) follow the masters in the list, marked with ★. The board changes at once; the choice is kept per sport and output.

Background Video and Picture

The two icons at the bottom right of the Game page put a video or a picture behind the board. The first video (MP4, WEBM, MOV) and the first picture (PNG, JPG, WEBP) in *data\media\background*, in alphabetical order, are used. When the folder is empty, clicking the icon asks for a file and copies it there.

Use a dark, calm video so the digits stay readable. Most pictures in this guide were taken with a dark animated background video; the board on the right shows the same design without it:

With and Without Background

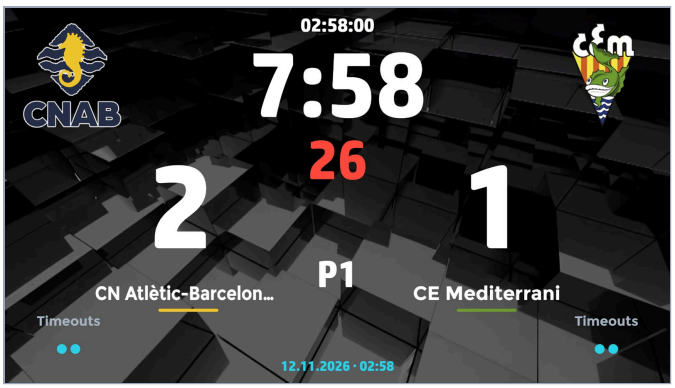


Figure 57. St board with the background video

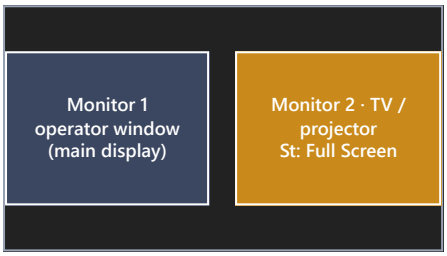


Figure 58. The same board without background (the design's own black)

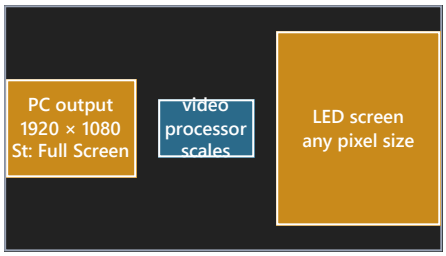
9 Sending the Board to the LED Screen

This chapter answers the question customers ask most: **how does the board get onto the LED screen?** Whether the LED is driven by a second monitor output, a video processor (scaler) or an LED sender card, the method is always the same: Windows sees the device as one more monitor, and the Outputs page of aquaticsBoard 7 L puts the board window on that monitor – either filling it (**Full Screen**) or on an exact pixel area (**Left / Top / Width / Height**).

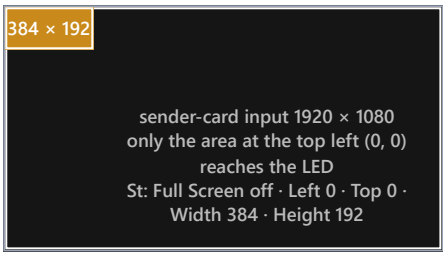
> **Note** **This is a one-time setting.** Everything on the Outputs page is saved at once. At every later start aquaticsBoard 7 L opens the board again by itself on the same monitor at the same place. You do not have to repeat it before each match – only when the LED, the processor, the sender card or the monitor arrangement changes.



Second monitor, projector or TV: the board fills monitor 2



Video processor: the full signal goes in, the processor scales it to the LED



Sender card: the board sits exactly on the pixel area the card sends to the LED

How Windows Sees the Outputs

The program never talks to the LED hardware directly. Whatever is connected to a video output of the PC – a monitor, a TV, a projector, an LED video processor or an LED sender card – appears in Windows as a monitor. The operator window stays on the main monitor; the board window goes to the LED monitor.

1. Connect the device to a free video output of the graphics card (HDMI, DVI or DisplayPort; an adapter cable is fine).
2. Press `Win` + `P` and choose **Extend**. (*Duplicate* would show the operator window on the LED; *Second screen only* would switch the operator monitor off.)
3. Open the Windows display settings (right-click the desktop → **Display settings**). The monitors are shown as numbered boxes; **Identify** shows the numbers on the screens. Drag the boxes so that their arrangement matches the desk – it only decides where the mouse crosses from one monitor to the other.
4. Click the LED monitor's box and set **Display resolution** to the resolution the processor or sender card expects (for most devices 1920 × 1080) and **Scale** to **100 %**.
5. Keep the operator monitor as the main display (*Make this my main display*), so that new windows and the taskbar stay on the desk.

> **Note** Scale 100 % on the LED monitor matters: aquaticsBoard 7 L places the board in the pixels Windows reports for that monitor. At 100 % these are the real pixels of the signal. At 125 % or 150 % Windows reports a smaller monitor (for example 1536 × 864 instead of 1920 × 1080) and enlarges the picture, so the board becomes soft and the Left / Top / Width / Height values no longer match the LED's pixel map.

On the Outputs page the **Monitor** list shows every monitor with its number and resolution; ★ marks the main display. The numbers follow the order in which Windows lists the monitors, which is not always the number shown by *Identify* – pick the LED monitor by its resolution when in doubt.

The Monitor List

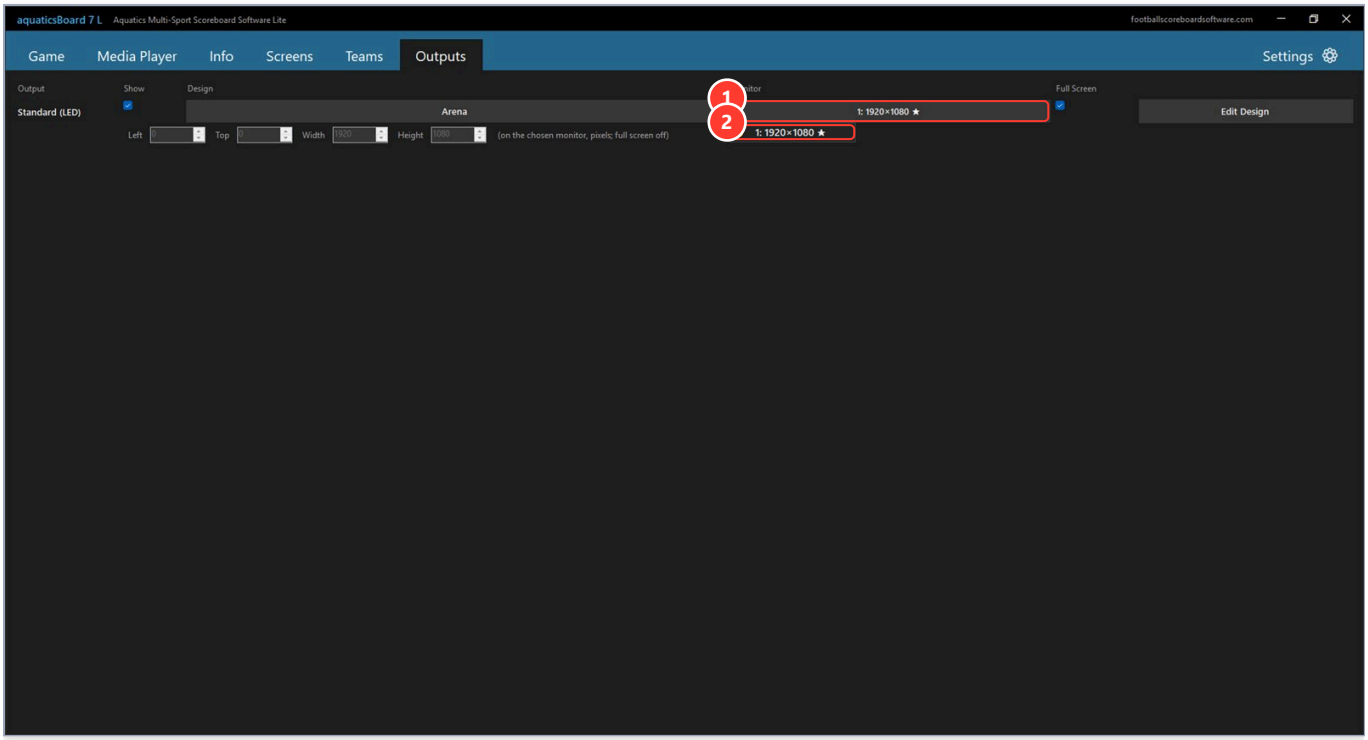


Figure 59. The Monitor list of the Standard (LED) row (this PC has one monitor; with more monitors each one is listed)

#	Control	What it does
1	**Monitor field**	Shows the chosen monitor; click to open the list.
2	**Monitor entries**	*number: width* × *height*, ★ = the main display. Click an entry: the board moves there at once and the choice is saved.

Second Monitor, Projector or TV

A monitor, TV or projector shows the whole picture of its input, so the board simply fills it:

1. Open the **Outputs** page.
2. In the **Standard (LED)** row choose the second monitor in **Monitor** (for example *2: 1920×1080*).
3. Tick **Full Screen**.
4. Tick **Show** (or click **St** on the Game page). The board fills the second monitor at once.

Full Screen on the Second Monitor

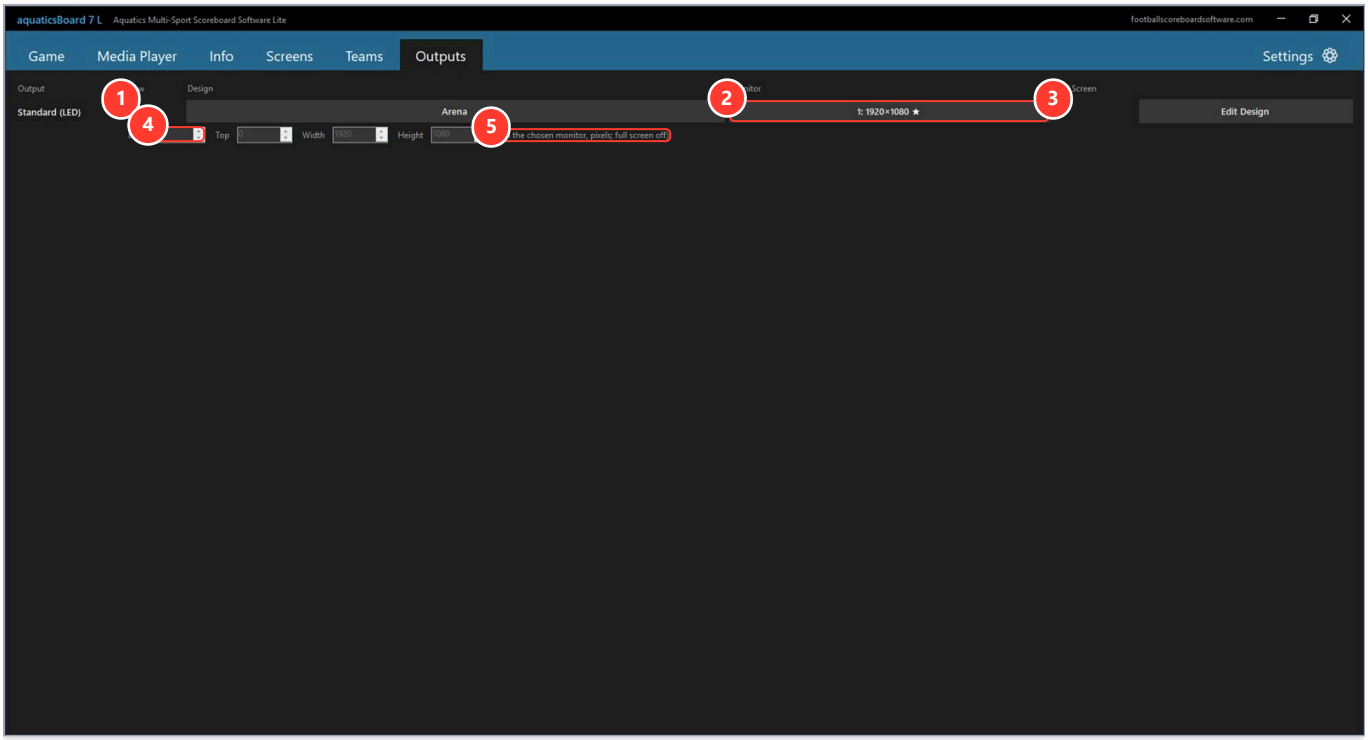


Figure 60. Standard (LED) on the whole monitor (Full Screen ticked)

#	Control	What it does
1	**Show**	Opens the St board window at once. It stays on, and the program opens it again by itself at every start.
2	**Monitor**	The display the board goes to: number, resolution, ★ = the main display of Windows. Choose the display that is the TV, the video processor or the sender card.
3	**Full Screen**	**Ticked**: the board fills the whole chosen monitor, whatever its resolution. The four position fields below are greyed out.
4	**Left**	Left, Top, Width, Height: used only when Full Screen is off.
5	**Hint**	Reminder: the values are pixels on the chosen monitor and apply when Full Screen is off. A value is applied when you press `Enter`, leave the field or click its arrows.

> **Tip** To try the settings on a PC with only one monitor, untick Full Screen and give the board a small area (for example Left 1000, Top 100, Width 800, Height 450): the board then sits next to the operator window instead of covering it.

LED Video Processor (Scaler)

An LED video processor (also called scaler or video controller) takes a normal video signal – usually 1920 × 1080 – and scales it to the pixel size of the LED screen, whatever that is (for example 768 × 384 or 2560 × 640). The scaling or cropping is set in the processor's own menu or software.

1. Set the Windows resolution of the processor's output to the processor's input resolution (often 1920 × 1080, 60 Hz), Scale 100 %.
2. On the Outputs page choose that monitor for **Standard (LED)** and tick **Full Screen** and **Show**.
3. In the processor, scale the whole input to the LED (or choose the part of the input it should show).

When the processor takes only a fixed part of its input (for example the top 1920 × 480 of a 1920 × 1080 signal for an LED strip), untick Full Screen and type that part: Left **0**, Top **0**, Width **1920**, Height **480**. The design adapts its layout to the shape of the window:

A 1920 × 480 Strip

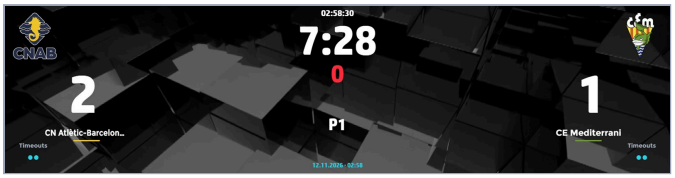


Figure 61. The St board in a 1920 × 480 area (Full Screen off, Left 0, Top 0, Width 1920, Height 480)

LED Sender Card (Direct Connection)

An LED sender card (sending card or LED controller box) is connected straight to the PC and does **not** scale. It takes a pixel area of its HDMI / DVI input – usually starting at the top left corner – and sends exactly those pixels to the LED cabinets; the rest of the picture is ignored. Which area it takes and how the cabinets are arranged (the "LED mapping") is set in the LED vendor's software; that part belongs to the LED supplier.

So the board must sit exactly on that area, pixel for pixel:

1. Set the Windows resolution of the sender card's output to what the card expects (often 1920 × 1080), Scale 100 %.
2. On the Outputs page choose the sender card's monitor for **Standard (LED)**.
3. Untick **Full Screen**.
4. Type **Left 0** and **Top 0** (the corner where the card's mapping starts – if the vendor software starts the LED elsewhere, type that position).
5. Type the LED size in pixels as **Width** and **Height**, for example 384 × 192.
6. Tick **Show**. The board appears on the LED at once.

LED screen	Full Screen	Left	Top	Width	Height
3 × 2 cabinets of 128 × 96 pixels	off	0	0	384	192
Wall of 768 × 384 pixels	off	0	0	768	384
Long strip of 1920 × 480 pixels	off	0	0	1920	480
Mapping starts at x 0, y 200 in the vendor software	off	0	200	LED width	LED height
LED of exactly 1920 × 1080	on	–	–	–	–

The Sender-Card Area on the Outputs Page

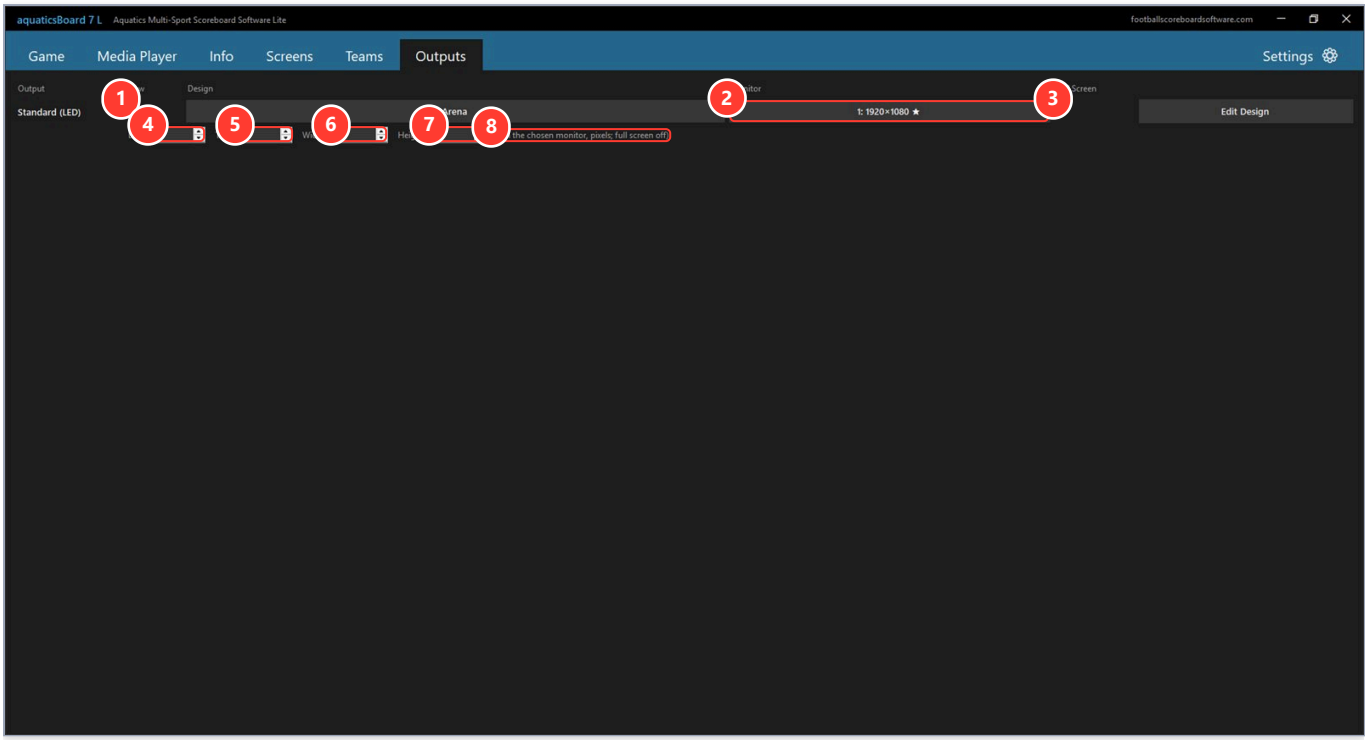


Figure 62. Standard (LED) on a 384 × 192 area at the top left of the sender card's monitor

#	Control	What it does
1	**Show**	Opens the St board window at once. It stays on, and the program opens it again by itself at every start.
2	**Monitor**	The display the board goes to: number, resolution, ★ = the main display of Windows. Choose the display that is the TV, the video processor or the sender card.
3	**Full Screen**	**Not ticked**: the board uses the rectangle of the four fields below instead of the whole monitor.
4	**Left**	Distance from the left edge of the chosen monitor in pixels. **0** = the left edge (sender cards map the LED from there).
5	**Top**	Distance from the top edge of the chosen monitor in pixels. **0** = the top edge.
6	**Width**	The width of the LED screen in pixels (here 384). At least 160.
7	**Height**	The height of the LED screen in pixels (here 192). At least 90.
8	**Hint**	Reminder: the values are pixels on the chosen monitor and apply when Full Screen is off. A value is applied when you press `Enter`, leave the field or click its arrows.



Figure 63. The board in the 384 × 192 window: the design arranges itself for the small screen

Several Outputs

aquaticsBoard 7 L has one board output, **St**. Choose the monitor and area of your LED screen for it as described above. The Pro edition of the program adds further outputs for more screens (see *Pro and Lite Editions* in the introduction).

Pixels, Monitors and Window Scaling

- Left, Top, Width and Height are pixels **on the chosen monitor**: 0 / 0 is the top left corner of that monitor, wherever it stands in the Windows arrangement (also left of or above the main display). Width and Height are at least 160 × 90.
- A value is applied when you press `Enter`, leave the field or click its arrows; the board moves at once.
- The program remembers the monitor by its Windows name as well as by its number. If Windows changes the order of the monitors (after a driver update or when a monitor is added), the board still finds its monitor.
- If the chosen monitor is not connected at the start, the board opens on the last monitor of the list (on a PC with one monitor: on the operator screen). Connect the device or switch it on: when Windows reports the change, the board moves back to its place by itself – also when you change a resolution while the program runs.
- A board on another monitor than the operator window stays on top of other windows and of the taskbar, and the mouse pointer is hidden over it. A board on the operator's own monitor is a normal window (the operator window can come in front of it).
- Set Scale to 100 % for the LED monitor in the Windows display settings (see above); the operator monitor may use any scale.

A One-Time Setting

- **Saved automatically.** There is no Save button: every change on the Outputs page (Show, Monitor, Full Screen, Left / Top / Width / Height, design) is saved at once in *data\config\outputs.json*.
- **Restored at every start.** When aquaticsBoard 7 L starts, every output that was on opens again by itself on the same monitor, at the same place, with the same design. Start the program and the board is on the LED.
- **Not before every match.** Repeat the setting only when the hardware changes: another LED size or mapping, another processor or sender card, another Windows resolution, another cable / graphics output, or a new PC.
- **New PC or reinstallation.** Copy the *data* folder (see *Files and Folders*); the outputs open at the same place on a PC with the same monitor arrangement.

Troubleshooting the LED Output

Problem	What to do
The board is on the wrong screen.	Choose the other entry in **Monitor** (pick it by its resolution). Check that Windows uses **Extend** (`Win`+`P`).
The operator window appears on the LED.	Windows is in *Duplicate* mode or the LED is the main display: choose **Extend** and make the operator monitor the main display in the Windows display settings.
Black borders around the board on the LED.	Sender card: Width and Height must be exactly the LED size in pixels, Left / Top the start of the mapping. Video processor: use Full Screen and let the processor scale the whole input.
Part of the board is cut off.	The area is larger than the LED mapping, or Left / Top are wrong, or the Windows resolution differs from the one the device expects. Check the values against the LED vendor software.
The board looks soft or blurry.	Set Scale to 100 % and the device's own resolution for the LED monitor in the Windows display settings. A processor that scales a small signal up also softens it.
The taskbar or another window covers the board.	Put the board on its own monitor (not the operator's): there it stays on top. On the operator's monitor it is a normal window.
The mouse pointer shows on the LED.	The pointer is hidden over a board on its own monitor; move the mouse back to the operator monitor. Arrange the monitors in the Windows display settings so that the LED monitor is not in the way of the mouse (for example diagonally below).
The board did not open at the start.	Is **Show** ticked for the output? Is the device switched on and connected? Without its monitor the board opens on the last monitor of the list and moves back as soon as Windows reports the monitor again.
The board is on the monitor but the LED stays dark.	Check the input selection of the processor, and the sender card, its mapping and brightness in the LED vendor's software – these are outside aquaticsBoard 7 L.

10 Media Player

The **Media Player** page puts videos, pictures, sound files and web pages on the board instead of the scoreboard: a walk-on video, sponsor clips, a half-time slide show, a stream or a YouTube link. It has one playlist. A clip plays on the St board.

- The St output must be open (Outputs page or the St button); otherwise the page asks you to switch it on first.
- Playback goes on while you work on other pages. While a clip plays, the **Settings** tab shows the time left (▶ m:ss) and the taskbar button shows a progress bar.
- The scoreboard comes back with the **Game** tab, with Stop / Finish, at the end of a single clip, and – with *Return to the Scoreboard* on – at the end of the playlist.
- A picture stays on the board for the **Image Play Duration** of the Settings page (default 5 seconds), then the playlist goes on.
- While something plays, the playlist cannot be changed (Add Clip, Delete Clip are hidden or blocked).

The Media Player Page

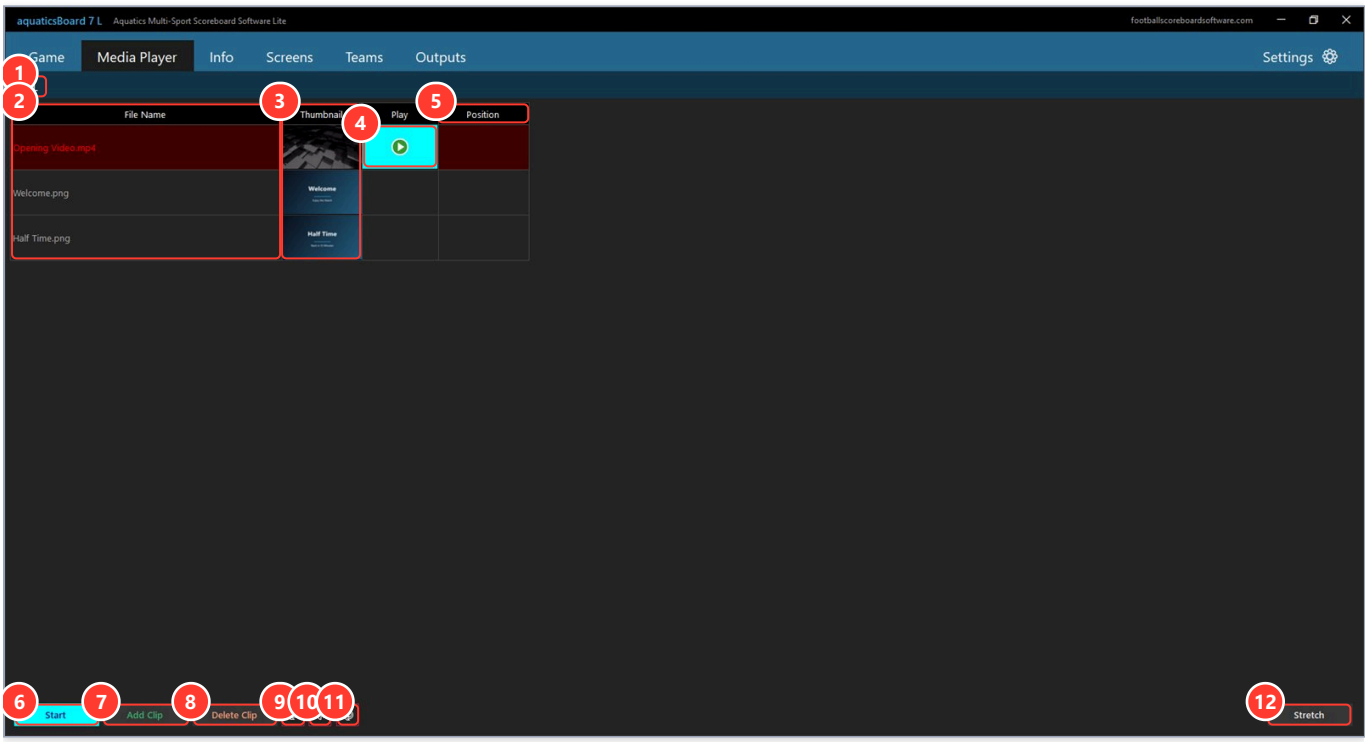


Figure 64. The Media Player page with three clips

#	Control	What it does
1	**URL**	Opens the list of web addresses (web pages, streams, YouTube links) to show on the board (below).
2	**File Name**	The clips of the playlist. Videos in white, pictures in grey, a file that no longer exists in red (it is skipped). The tooltip shows the full path. Drag a row up or down to change the order.
3	**Thumbnail**	A small picture of the clip (videos: the Windows thumbnail).
4	**Play**	The selected row has a turquoise ▶ button: it plays this one clip on the board (with Repeat on: again and again).

#	Control	What it does
5	**Position**	While a clip plays: the time left (m:ss).
6	**Start**	Plays the playlist from the selected row to the end. Start switches Repeat off. While the playlist runs the button says **Finish** and stops it.
7	**Add Clip**	Adds videos (MP4, M4V, WEBM, MOV, MKV, OGV), sound files (MP3, M4A, AAC, WAV, OGG) and pictures (BMP, GIF, JPG, PNG, WEBP). The files are used where they are – keep them in a folder that stays.
8	**Delete Clip**	Removes the selected row from the playlist (the file stays).
9	**Return to the Scoreboard**	Green frame = on: when the playlist reaches its end the board shows the scoreboard again. Red frame = off: the playlist starts again from the top.
10	**Sound On / Off**	Green frame = the sound of the clips plays. Off by default.
11	**Auto Repeat**	Green frame = the playing clip starts again when it ends (Play of one clip).
12	**Display Mode**	How a clip fills the board (list below).

While a Clip Plays

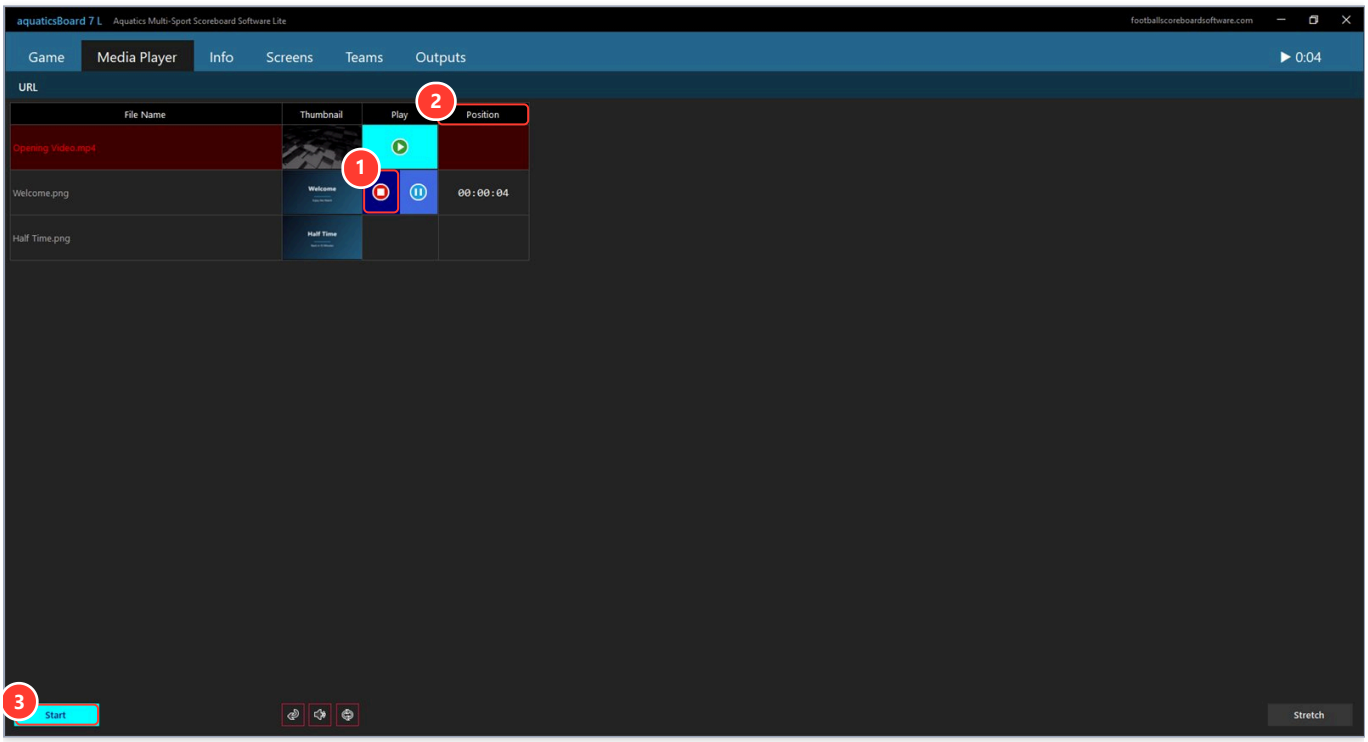


Figure 65. A slide of the playlist on the board

#	Control	What it does
1	**Stop ■ / Pause ▮▮**	On the playing row the Play cell turns into **Stop** (back to the scoreboard) and **Pause** (pause / continue).
2	**Position**	The time left of the playing clip.
3	**Start**	Starts the playlist (Finish while the playlist runs).

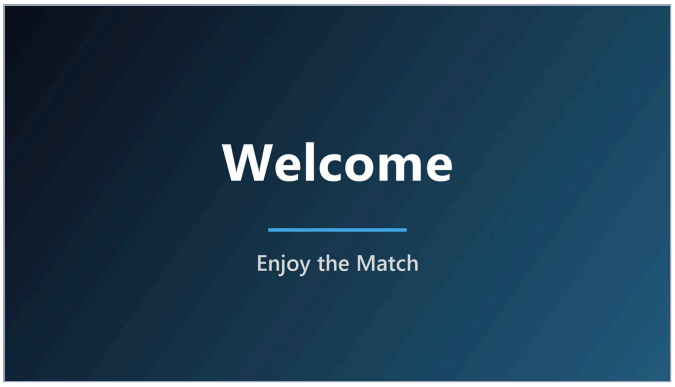


Figure 66. The St board showing the slide “Welcome” of the Media Player

Select another row while a clip plays: its Play cell offers ▶ to switch straight to that clip.

Display Modes

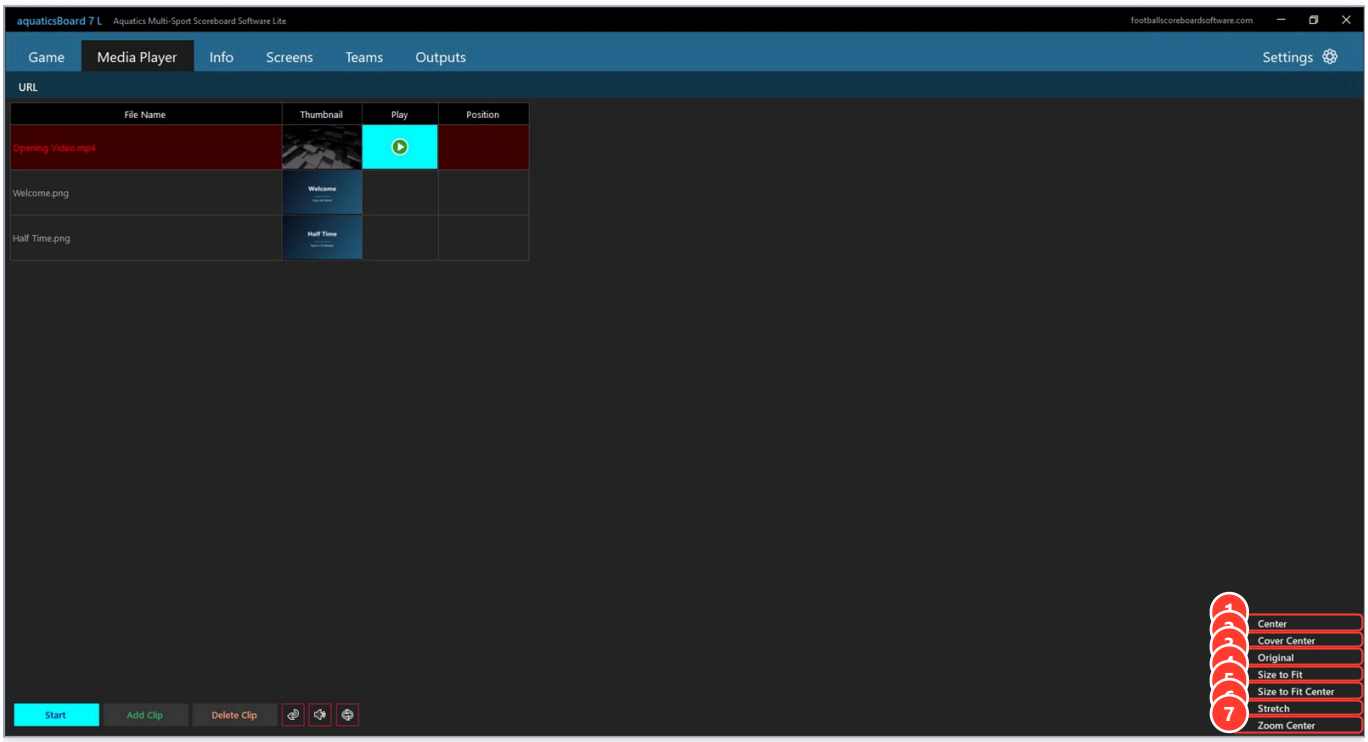


Figure 67. The display modes of the Media Player

#	Control	What it does
1	Center	Original size in the middle of the board (a large clip is cut at the edges).
2	Cover Center	Fills the board, keeps the shape, cuts the edges that do not fit.
3	Original	Original size from the top left corner.
4	Size to Fit	The whole clip as large as possible, from the top left corner (bars where the shape differs).
5	Size to Fit Center	The whole clip as large as possible, in the middle.
6	Stretch	Fills the board exactly; a clip of another shape is distorted. The default.
7	Zoom Center	Fills the board, keeps the shape, cuts the edges (like Cover Center).

Web Pages and Streams (URL)

The URL list holds web addresses that the board can show full screen: a web page, a live stream page or a YouTube link (it plays the video). The list is saved by itself.

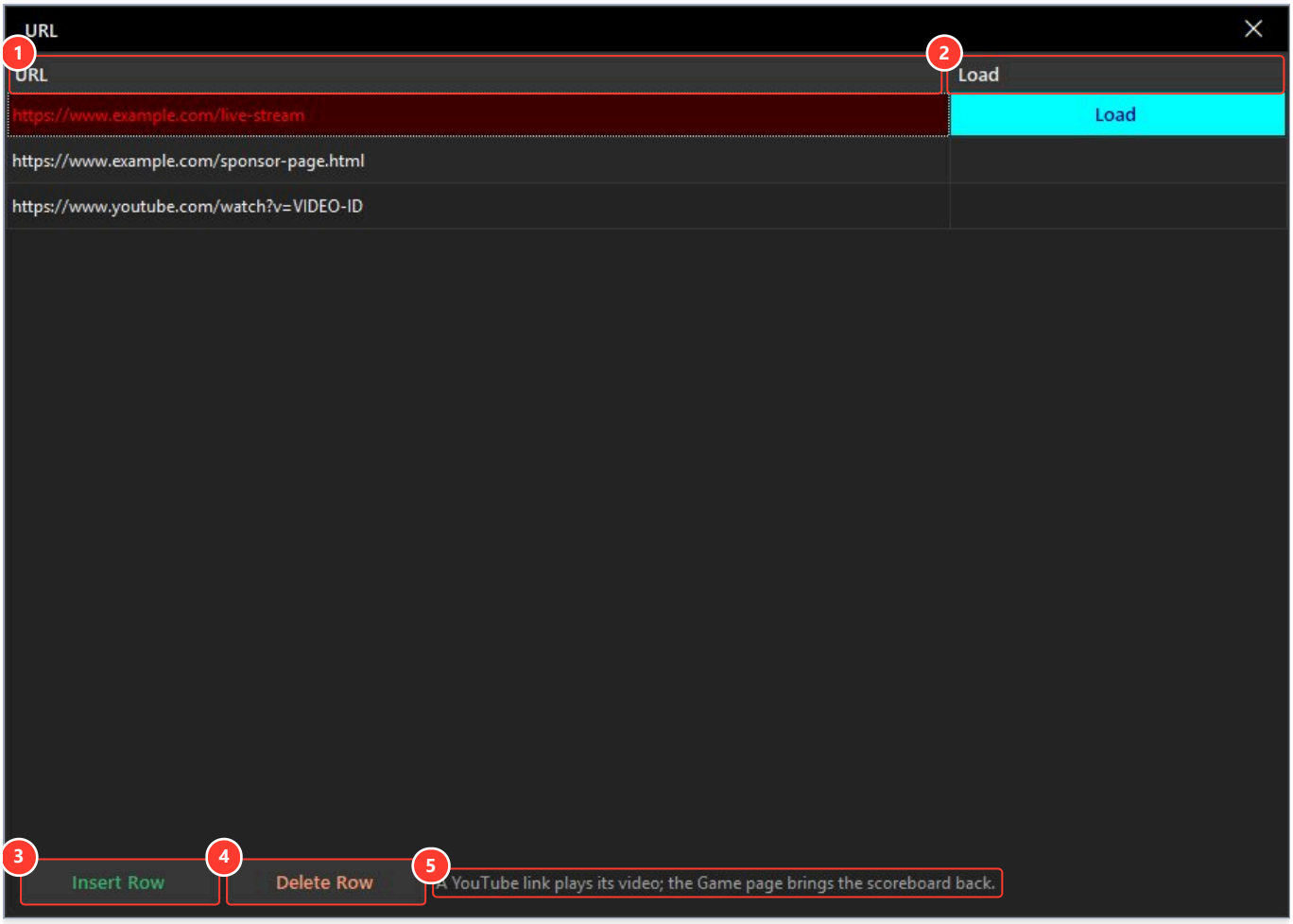


Figure 68. The URL list

#	Control	What it does
1	URL	One address per row. Click a cell and type (or press `F2`).
2	Load	The **Load** button of the selected row shows that address on the board.
3	Insert Row	Inserts an empty row above the selected one (or at the end) and starts editing it.
4	Delete Row	Removes the selected row.
5	Hint	A YouTube link plays its video; the **Game** tab brings the scoreboard back.

Media Player from the Remote Control and the Keyboard

The remote control has a **Media Player** block at the end of its panel: **Start / Finish**, **Pause**, **Next Clip** and **Back to the Scoreboard**, with a line that shows what plays and the time left. Starting a playlist from the phone opens the Media Player page on the PC.

Command (POST /api/command)	What it does
media.start	Plays the playlist from the first clip.
media.stop	Back to the scoreboard.

Command (POST /api/command)	What it does
media.pause	Pause / continue.
media.next	The next clip of the running playlist.
media.repeat, *media.volume*, *media.return* [on|off]	Auto Repeat, Sound, Return to the Scoreboard (without a value: switch over).

GET /api/media returns the state (playlist, what plays, time left, the switches). In the keyboard shortcut editor two Media Player actions can get a key (no key by default): **Start / Finish** of the playlist and **Back to the Scoreboard**.

The Media Player Block of the Remote

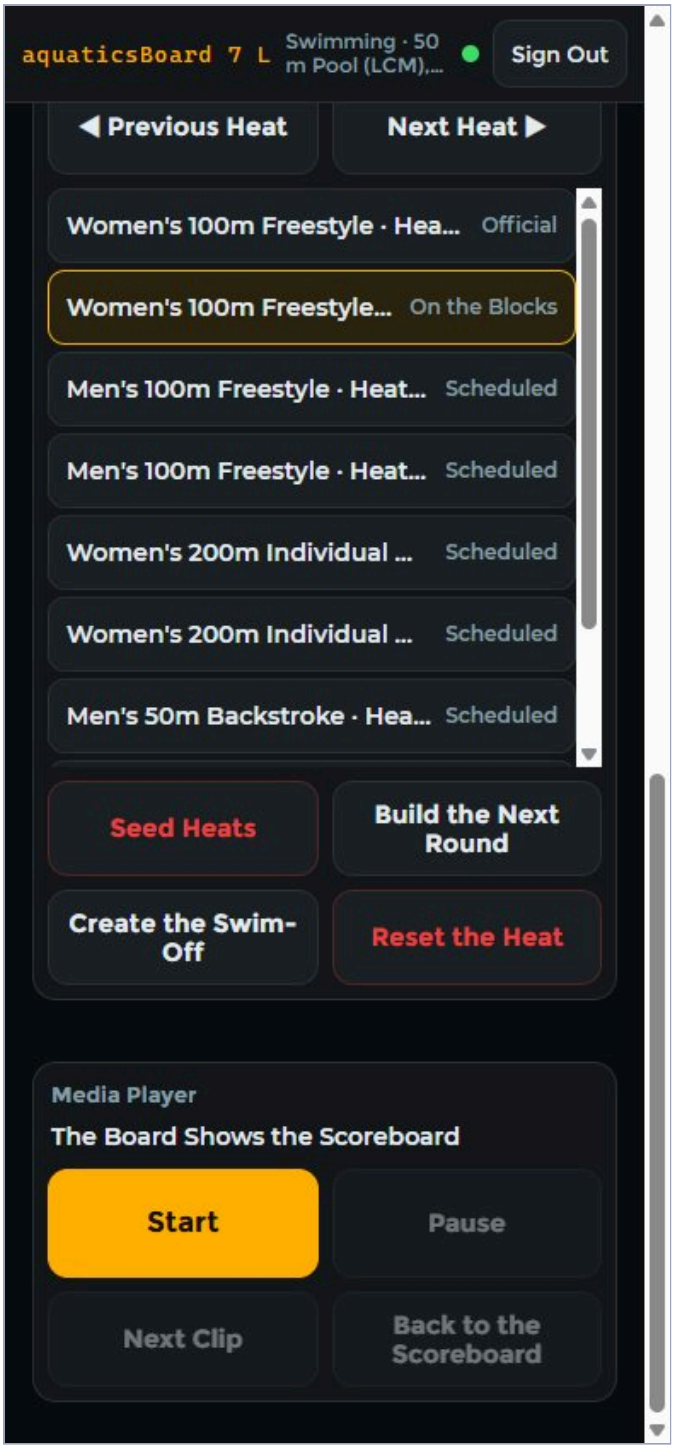


Figure 69. The Media Player block at the end of the remote panel (phone)

11 Board Designs

Every sport comes with three master designs: **Arena** (black LED look with big digits and corner logos), **Broadcast** (header strip and team rows) and **Split** (team panels left and right of a centre column). A design contains all screens of the St board.

Master designs are read-only. To change one, open it in the editor and save a copy: the copy is an **own design** that you can change, rename and delete. Program updates never change your own designs.

Preview Design (Design Gallery)

Click the design icon under St on the output strip of the Game page. The gallery shows every design of the running sport, rendered live with the current match.

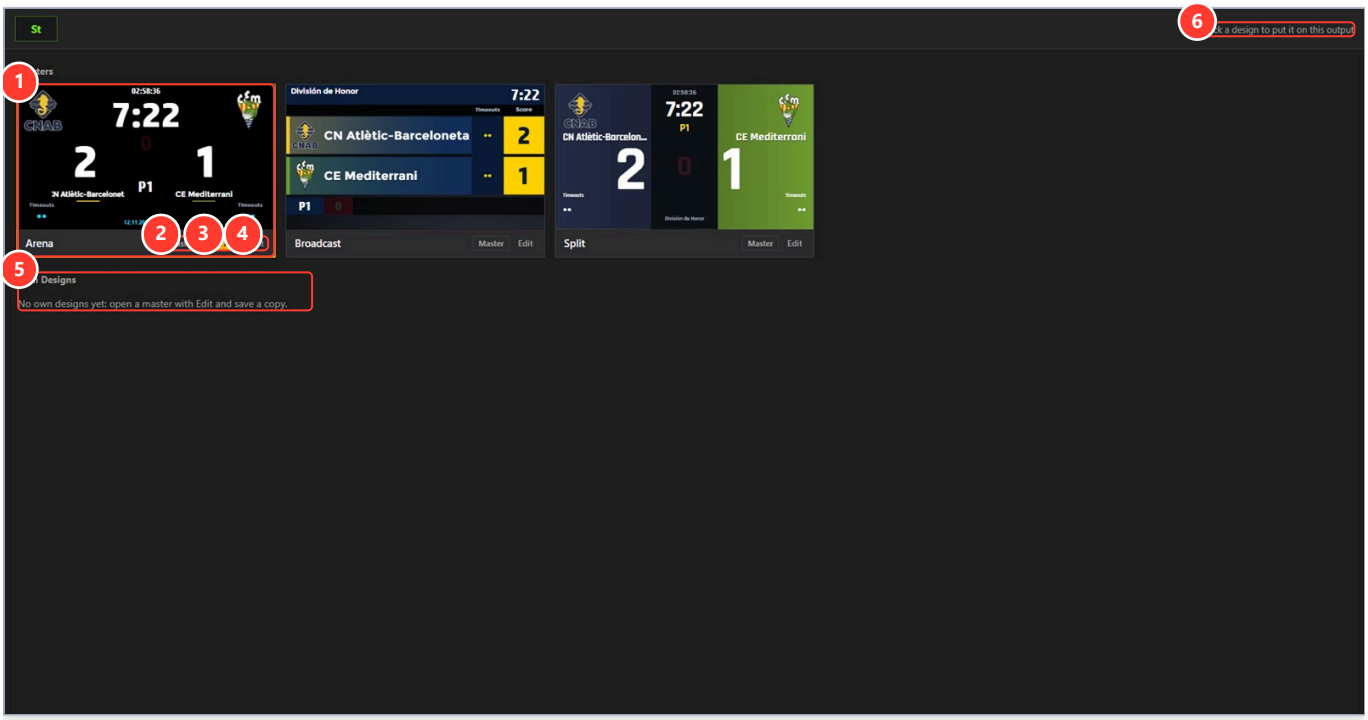


Figure 70. The design gallery

#	Control	What it does
1	**Design card**	A live preview of the design's game screen for that output. **Click the card** (or press `Enter`) to put this design on the chosen output at once.
2	**Master / Own**	Whether the design is a factory master or one of your own designs.
3	**On Air**	Marks the design the output uses now (the card also has an amber frame).
4	**Edit**	Opens this design in the design editor.
5	**Own Designs**	Your own copies. Until you save a copy of a master, this part says that there are no own designs yet.
6	**Hint**	Reminder: a click on a design puts it on this output.

The gallery follows the match live. Close it with `Esc` or the window button. The design choice is saved per sport and output; it is the same choice as the Design list on the Outputs page.

The Design Editor

Open the editor with **Edit** in the gallery or **Edit Design** on the Outputs page. What you see on the canvas is exactly what goes on air.



Figure 71. The design editor

#	Control	What it does
1	Sport	The sport whose designs are edited.
2	Design	The design to edit (masters and own designs). A lock marks a read-only master.
3	Save / Save a Copy / Rename / Delete	**Save** (`Ctrl` + `S`) stores the changes of an own design; outputs that use it update at once. **Save a Copy** asks for a name and creates a new own design. **Rename** and **Delete** work on own designs only (Delete asks first and cannot be undone).
4	Screens	All St screens of the design: St Game, the info screens, St Game Players and the event screens. Click a tab to edit that screen; the arrows scroll the row.
5	Read-only notice	Shown for factory masters: **Save a Copy** creates your own editable copy.
6	Add Element	Adds a **Text**, a **Data Field** (any value of the match: score, clock, names, fouls …), a **Box**, a **Team Logo**, an **Image** (up to 8 MB).
7	Layers	All elements of the screen, the top one in front. Per element: show / hide (eye), lock, bring forward ▲, send backward ▼. Click a name to select it; names in italics are hidden by a rule at the moment (e.g. penalty elements while no penalty runs).
8	Undo / Redo	`Ctrl` + `Z` / `Ctrl` + `Y`.
9	Duplicate / Delete	Duplicates the selected elements (`Ctrl` + `D`) or deletes them (`Del`).
10	Align and distribute	Aligns several selected elements left, centre, right, top, middle or bottom, or spaces them evenly.
11	Preview Size	Checks the design at 1920 × 1080, 1280 × 1024, 1920 × 480 or 1080 × 1920. Positions are relative to the edges, so one design fits several screen shapes.

#	Control	What it does
12	**Preview Data**	Sample match data on the canvas: a mid-match situation, or a special moment (penalties, timeouts, possession …) to check elements that only appear then.
13	**Preview**	Hides the selection frames and handles to see the screen as on air.
14	**Scale**	The preview size, the editor unit (1 u = 1 % of the smaller side), the screen in units and the zoom of the canvas.
15	**Canvas**	Click to select, drag to move, drag the handles to resize. `Shift`+click or drag a frame to select several. Arrow keys move by 0.5 units, `Shift`+arrow by 5.
16	**Properties / Theme / Scene JSON**	**Properties**: position, size, text, data field, font, colours and rules (e.g. turn red when the shot clock runs out) of the selected element. **Theme**: theme presets, digit and text font and the colour tokens – a colour change applies to every element and screen that uses it. **Scene JSON**: the screen as text, for advanced users (**Apply** checks and loads it).

> **Tip** Change colours in the **Theme** tab first: one change recolours the whole design on every screen. Use element properties only for single exceptions.

12 Settings

Open **Settings** ⚙ at the right end of the tab strip. All settings are stored in *data\config\settings.json*.

The Settings Page

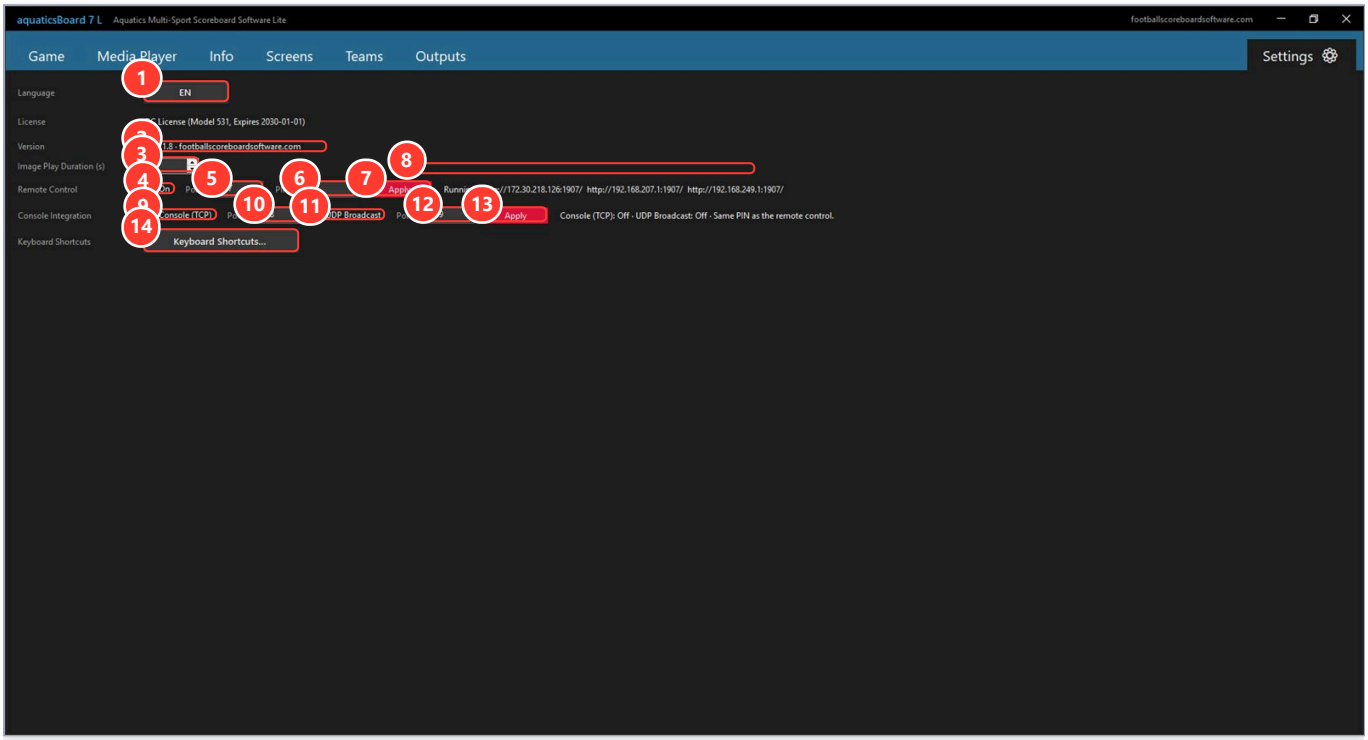


Figure 72. The Settings page

#	Control	What it does
1	**Language**	The language of the program, the board texts and the remote control pages (sign-in page, headings, buttons and questions on the phone follow it). Click to open the list of languages (the same list as on the right strip of the Game page). The new language is used after a restart.
2	**Version**	Program version and web site.
3	**Image Play Duration (s)**	How long a picture of a Media Player playlist stays on the board before the next clip (1–3600 seconds, default 5). Videos always play to their end.
4	**Remote Control: On**	The built-in web server for phones and tablets (and the HTTP API). On by default.
5	**Port**	The TCP port of the web server (default 1907).
6	**PIN**	The PIN a phone needs to sign in (four random digits are set on the first start). Empty = nobody can sign in. A new PIN applies to new sign-ins.
7	**Apply (remote)**	Saves the three values (On, Port, PIN) and restarts the server. The button sits on the same line as the text boxes.
8	**Status and addresses**	**Running** and the addresses to open on the phone (one per network adapter), or **Off** / **Not running** with the reason (e.g. the port is in use).
9	**Console (TCP)**	The console link for table consoles, statistics and automation software (default port 1908, off by default). Uses the same PIN.

#	Control	What it does
10	**Console port**	TCP port of the console link.
11	**UDP Broadcast**	Sends every change of the board as UDP datagrams to the local network (off by default). No PIN; listeners only receive.
12	**UDP port**	The UDP port of the broadcast (default 1909).
13	**Apply (console)**	Saves the console and UDP settings and restarts the services. The status line shows Off / Running (with the number of connected consoles).
14	**Keyboard Shortcuts…**	Opens the keyboard shortcut editor.

Choosing the Language

Click the language button at the top of the right strip on the Game page (or the Language field of the Settings page). The list shows every language by its code; the current one is ticked.

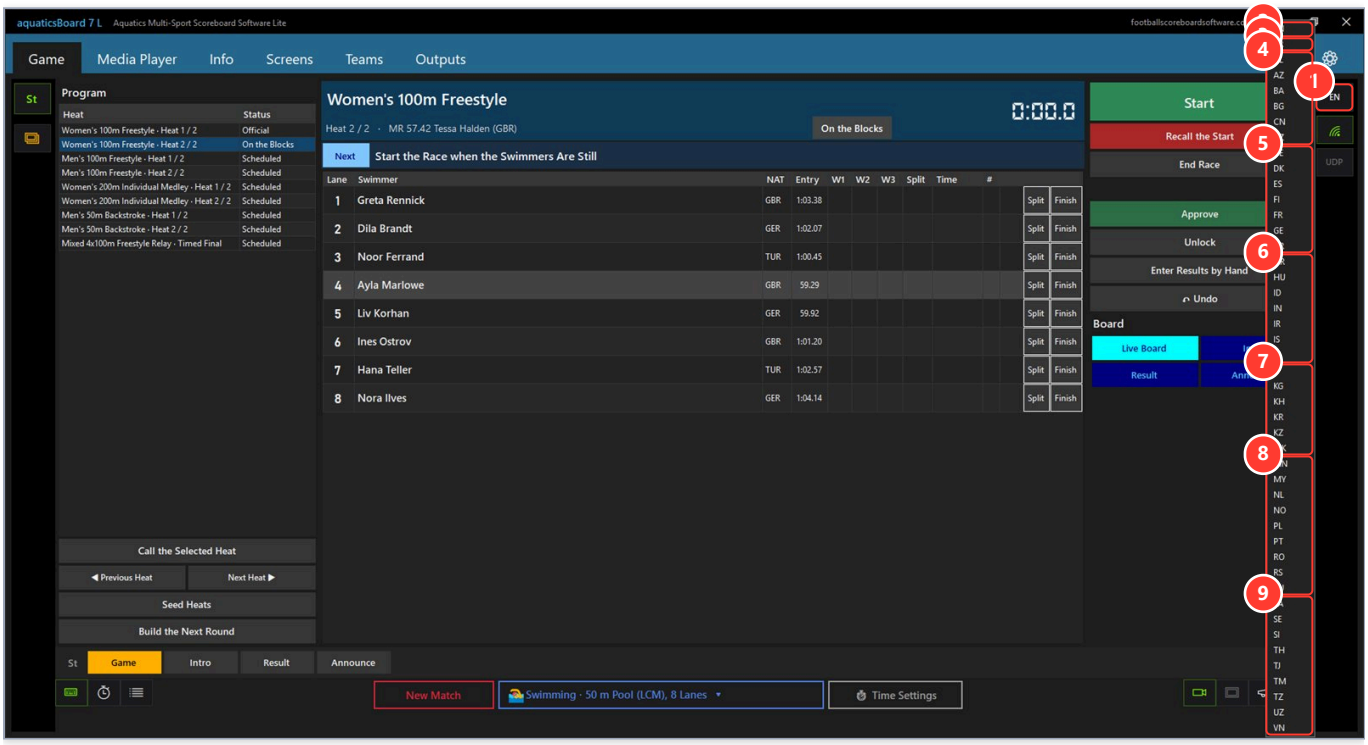


Figure 73. The language menu on the right strip

#	Control	What it does
1	**Language button**	Shows the current language code and opens the menu.
2	**EN**	English – the language of this guide and the fall-back for every text that a language file does not have.
3	**TR**	Turkish.
4	**AL · AZ · BA · BG · CN · CZ**	Albanian, Azerbaijani, Bosnian, Bulgarian, Chinese, Czech.
5	**DE · DK · ES · FI · FR · GE · GR**	German, Danish, Spanish, Finnish, French, Georgian, Greek.
6	**HR · HU · ID · IN · IR · IS · IT**	Croatian, Hungarian, Indonesian, Hindi, Persian (written right to left), Icelandic, Italian.

#	Control	What it does
7	JP · KG · KH · KR · KZ · MK	Japanese, Kyrgyz, Khmer, Korean, Kazakh, Macedonian.
8	MN · MY · NL · NO · PL · PT · RO · RS · RU	Mongolian, Malay, Dutch, Norwegian, Polish, Portuguese, Romanian, Serbian, Russian.
9	SA · SE · SI · TH · TJ · TM · TZ · UZ · VN	Arabic (written right to left), Swedish, Slovenian, Thai, Tajik, Turkmen, Swahili, Uzbek, Vietnamese.

The menu is the same in every sport; here it is open over the panel of another sport:

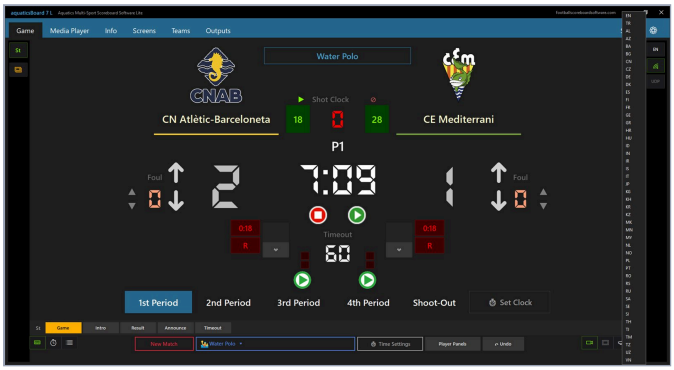


Figure 74. The language menu over the Water Polo panel

Restart for the New Language

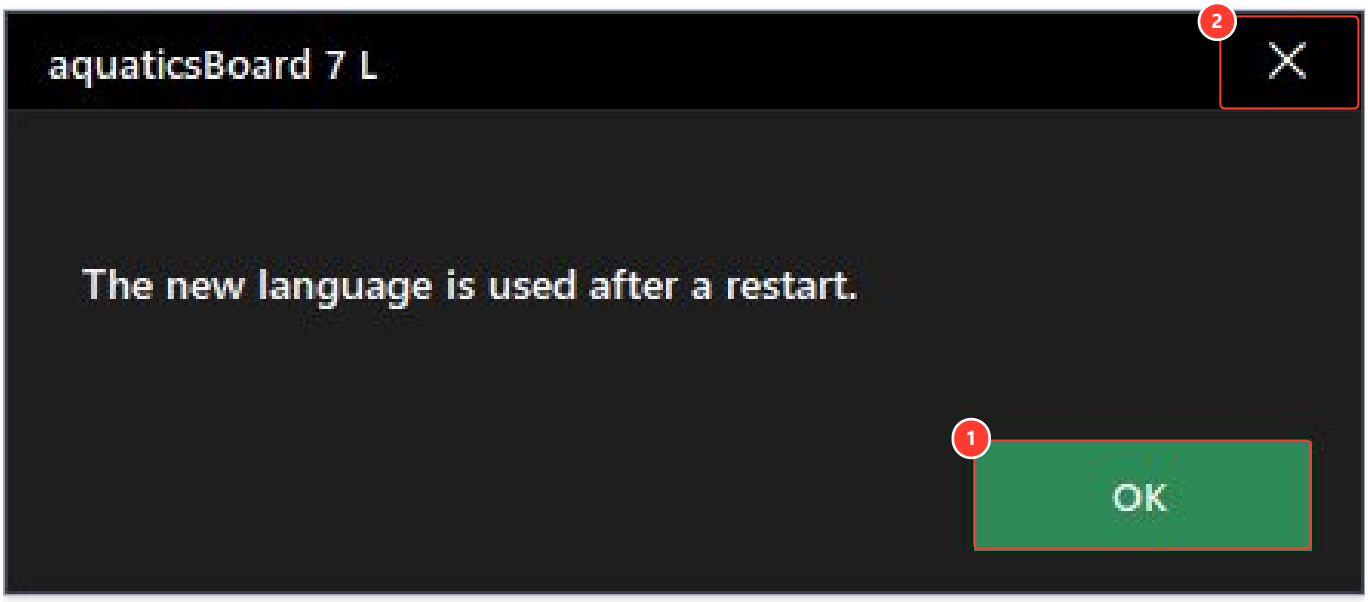


Figure 75. “The new language is used after a restart.”

#	Control	What it does
1	OK	Closes the message. The choice is already saved; close aquaticsBoard 7 L and start it again to switch the program, the boards and the remote to the new language.
2	Close (×)	The same as OK.

13 Keyboard Shortcuts

aquaticsBoard 7 L has global keyboard shortcuts: they work even while vMix, CasparCG, a browser or any other program has the focus, so you can score from a second keyboard or a numeric keypad while you work in another window. Only the F-keys `F1`–`F12` and the numeric keypad (`NumLock` on: `0`–`9`, `/`, `*`, `-`, `+`, `,`) can be used – never letters or the normal digits. The key still reaches the other program too.

Open the editor with the keyboard icon at the bottom left of the Game page or **Keyboard Shortcuts…** on the Settings page.

The Shortcut Editor

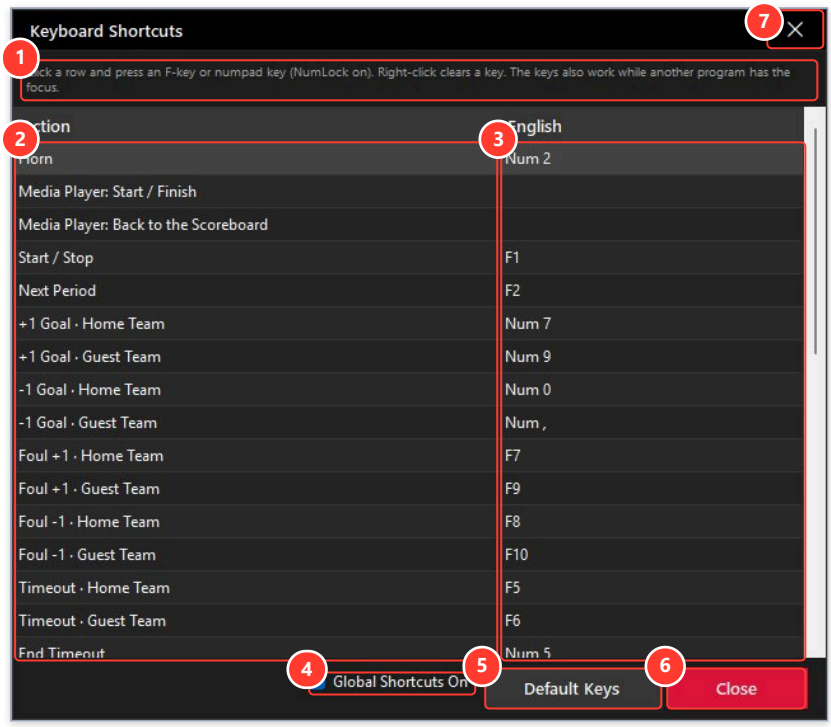


Figure 76. The keyboard shortcut editor

#	Control	What it does
1	**Help line**	How to assign and clear keys.
2	**Action**	Every action of the running sport and discipline, per team where it belongs to a team, plus the Horn. The names are the ones of the panel and the remote (*+2 Goal*, *Play Clock 40*, *Centre Pass* …). Actions that reset the match have no key, and actions that need a typed value or a choice are not listed (Set Clock, Added Time, Ball On, a cricket delivery or revised target, the lane times and lane status of swimming, the awards, dive selection and dive change of diving): use the panel or the remote for them.
3	**Key**	**Click a row**, then press an F-key or a numpad key: the key is assigned ("Press a Key…" is shown while waiting). A key belongs to one action only; it is taken away from its old action. **Right-click** a row (or press `Delete`) to clear its key. `Esc` first cancels waiting, a second `Esc` closes the window.
4	**Global Shortcuts On**	Switches all shortcuts on or off. While they are off you can still assign keys here.
5	**Default Keys**	Replaces the keys of this sport with the default keys (after a confirmation, below).

#	Control	What it does
6	**Close**	Closes the editor. Keys are saved at once.
7	**Close (×)**	The same as Close.

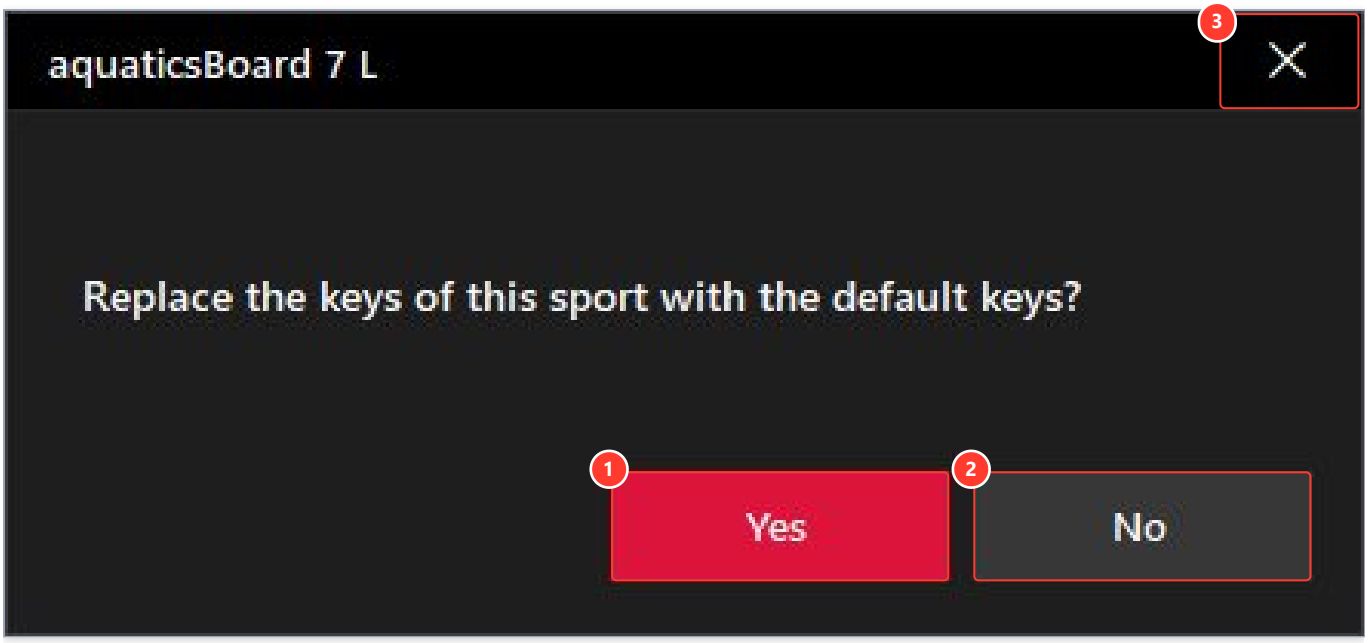


Figure 77. "Replace the keys of this sport with the default keys?"

#	Control	What it does
1	**Yes**	Every key of the running sport goes back to the default below; your own keys of this sport are lost. Other sports keep their keys.
2	**No**	Keeps your keys.
3	**Close (×)**	The same as **No**. `Esc` also answers No.

Default Keys

The keys are saved per sport in *data\config\hotkeys.json*. The default keys (when the sport has the action):

Key	Default action
`F1`	Start / stop the game clock
`F2`	Next period
`F3` / `F4`	Shot clock (American football: play clock) full reset / short reset. Where the short reset equals the full time (for example 30 / 30) there is only one reset action and `F4` stays free.
`F5` / `F6`	Timeout home / guest
`F7` / `F8`	Foul +1 / −1 home
`F9` / `F10`	Foul +1 / −1 guest
`F11`	Change possession (netball: Centre Pass)
`F12`	Undo

Key	Default action
`Num 7` / `Num 4` / `Num 1`	Home: first / second / third score type (e.g. +1 / +2 / +3); set sports: `Num 7` point home, `Num 1` point home −1
`Num 9` / `Num 6` / `Num 3`	Guest: the same score types; set sports: `Num 9` point guest, `Num 3` point guest −1
`Num 0` / `Num /` / `Num −`	Home: take back the first / second / third score type
`Num ,` / `Num *` / `Num +`	Guest: take back the first / second / third score type
`Num 5`	End the timeout (set sports)
`Num 2`	Horn

> **Note** While you type in a text box of aquaticsBoard 7 L (team names, Info page, time settings), the numpad types digits and does not score. The shortcuts are switched off when you untick Global Shortcuts On.

The Actions of Each Sport

The editor lists the actions of the running sport, so it looks different for every sport:

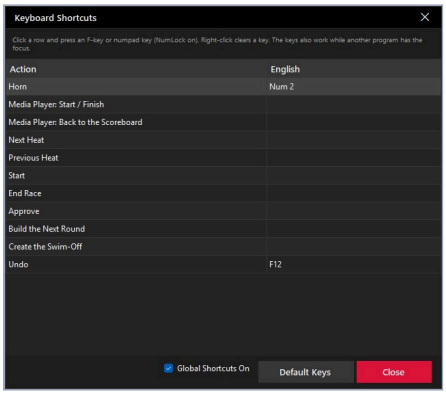


Figure 78. Swimming

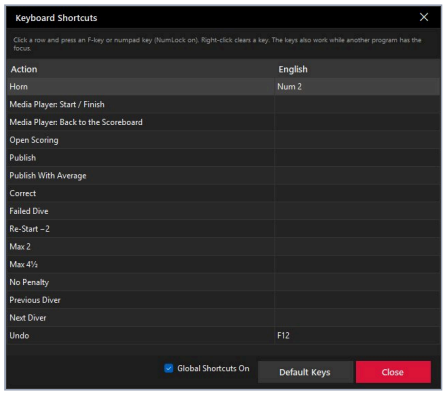


Figure 79. Diving

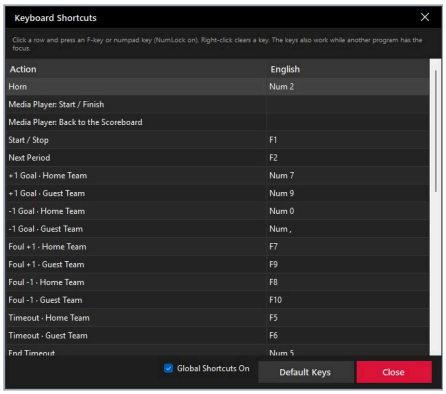


Figure 80. Water Polo

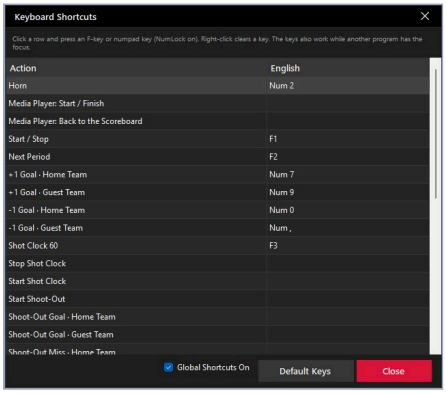


Figure 81. Canoe Polo

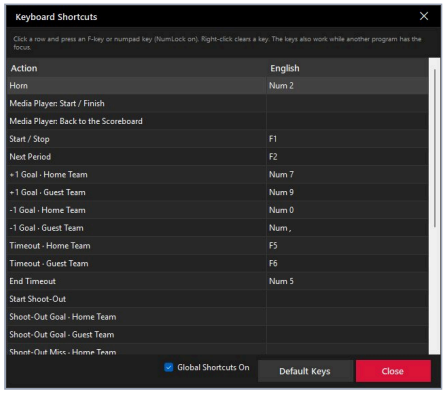


Figure 82. Underwater Rugby

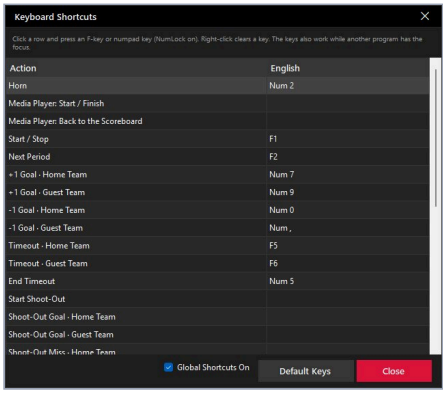


Figure 83. Underwater Hockey

14 Remote Control

Any phone, tablet or second PC on the same network can control the scoreboard in its web browser – no app to install. The built-in web server is on by default. The remote builds its buttons from the running sport and discipline, so one page serves every sport; the buttons of each sport are shown in the chapter of that sport.

Connecting a Phone or Tablet

1. Connect the phone to the same network (Wi-Fi) as the scoreboard PC.
2. Open **Settings** on the scoreboard PC. The **Remote Control** row shows **Running** and one or more addresses such as *http://192.168.1.50:1907/*, and the **PIN**.
3. Type that address into the phone's browser (use the address of the adapter that is on the phone's network).
4. Enter the PIN on the number pad and press ✓.
5. The remote opens with the running sport. Score, clock and period follow the scoreboard live.

> **Tip** Add the page to the home screen of the phone (browser menu → *Add to Home Screen*): it then opens full screen like an app.

Signing In

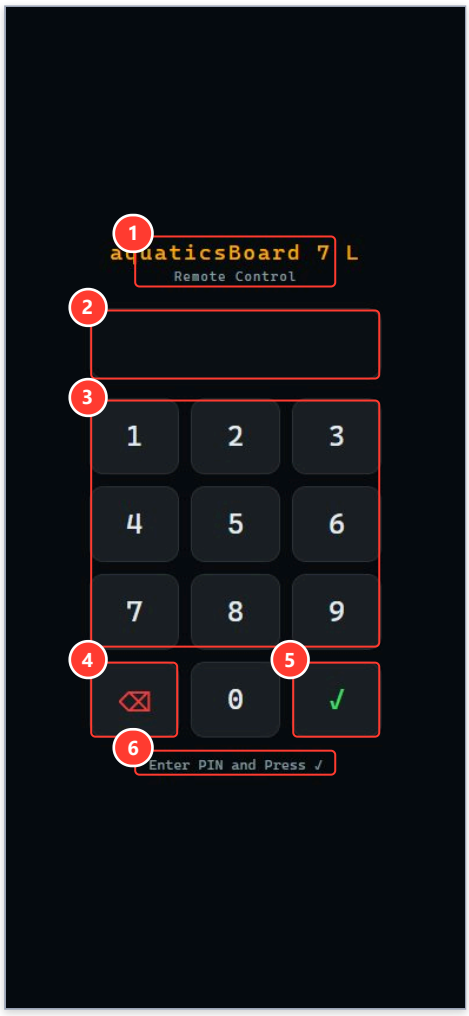


Figure 84. The sign-in page on a phone

#	Control	What it does
1	**Title**	The product name (aquaticsBoard 7 L) and *Remote Control*: you know at once which scoreboard you are signing in to.
2	**PIN display**	Shows a dot for every digit you typed (up to 8). The PIN itself is never shown.
3	**Number pad**	Tap the digits of the PIN. On a PC the number keys, `Backspace` and `Enter` work too.
4	**⌫ Delete**	Deletes the last digit.
5	**✓ Sign In**	Sends the PIN. Right: the panel opens. Wrong: the line below says so.
6	**Hint line**	“Enter PIN and Press ✓”, “Signing In…”, a wrong PIN, “No Connection to the Scoreboard”, or the lockout countdown “Too Many Wrong PINs. Wait … s”. These texts, like every text of the remote pages, are in the language of the program (see *Settings*).

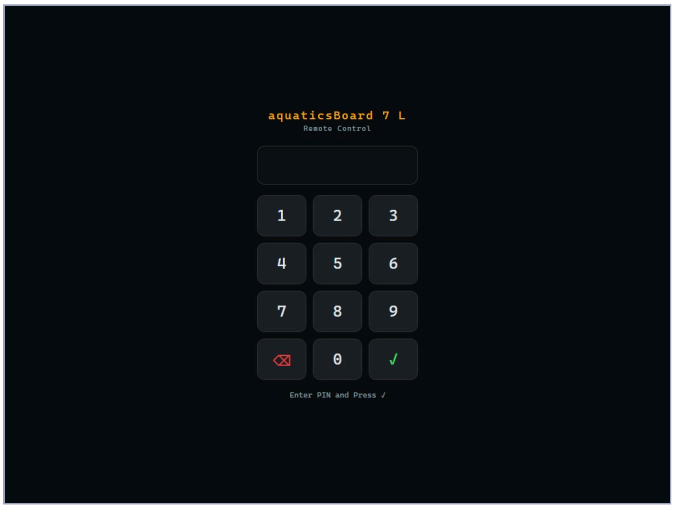


Figure 85. The same page on a tablet

- After five wrong PINs from one device it is locked for 30 seconds; every further wrong PIN doubles the wait, up to 15 minutes. The pad is disabled while the countdown runs.
- The sign-in lasts while the browser tab is open; a device that is still signed in skips the PIN page. Closing the tab ends it.
- An empty PIN in Settings switches the remote sign-in off.

The Remote Panel

On a tablet (or a phone held sideways, from 760 pixels width) the two teams stand side by side with two buttons per row, next to the Match column; on a phone held upright the two teams stay side by side and the Match and Match Control sections follow below, so you scroll down to them. The layout is the same in every sport:

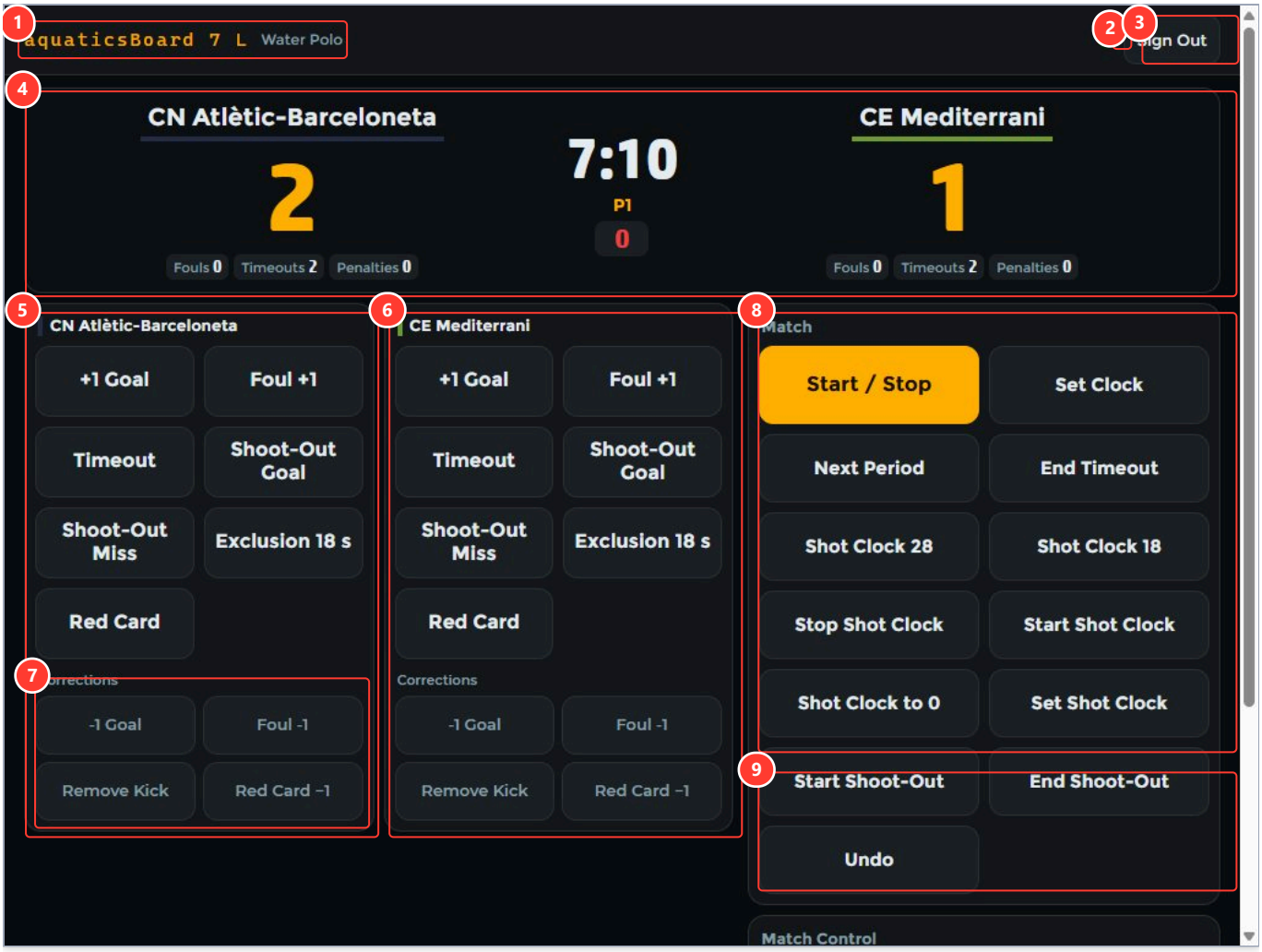


Figure 86. The remote panel on a tablet (Water Polo)

#	Control	What it does
1	Title and sport	The product name (aquaticsBoard 7 L), then the running sport and discipline (shown once when the discipline name already contains the sport, e.g. just *Football*; a long text takes two lines). The page rebuilds itself after a new match or a change of sport.
2	Connection dot	Green while the remote receives the scoreboard; red when the connection is lost (it reconnects by itself).
3	Sign Out	Asks “Sign Out?” and returns to the PIN page.
4	Score	Team names in their colours (a long name takes two lines instead of being cut), scores, clock, period, shot clock and chips such as fouls, timeouts or possession – live from the scoreboard. A **Penalties** chip (the number of running penalties) appears only in sports with timed penalties; netball shows **Centre Pass** instead of Possession.
5	Home team	The actions of the home team (goals or points, fouls, timeouts, cards …), headed by the team name (two buttons per row on a tablet, one on an upright phone). A score button shows its value once: *+2 Goal*, *+6 Goal*, *+1 Free Throw*. A long label wraps between words onto a second line.
6	Guest team	The same actions for the guest team.
7	Corrections	The −1 actions of the team (take back a goal, a foul, a card …), small so they are not hit by mistake.

#	Control	What it does
8	Match	Actions that belong to the match: **Start / Stop** (amber), Set Clock, Next Period, shot clock, timeouts, Undo … Actions that need a value (Set Clock) open an input sheet.
9	Match Control	Actions that reset or end something (**New Match** …). They always ask for a confirmation and cannot be undone from the remote.

- Every button does exactly what the same control on the panel does, including Undo. Several devices can be connected at the same time, also together with the operator at the PC.
- A refused action (for example a timeout when none is left) shows its reason in a red message at the bottom.
- The remote pages use the language of the program: headings (Match, Corrections, Match Control), the action labels, the chips, the sheets (OK / Cancel, Yes / No) and the messages are shown in the language chosen in Settings; the browser tab shows the product name and the sport.
- Swimming and diving have their own remote view (heat and lanes, or diver, judges and standings).
- At the end of the panel the **Media Player** block starts and stops the clips of the Media Player (see *Media Player*).

Running Penalties on the Remote

In sports with time penalties the phone lists the running penalties of a team under its buttons: number, time left and a red ✕ that takes exactly that penalty off early (the same as the ✕ on the Game page). The list appears only while a penalty runs.

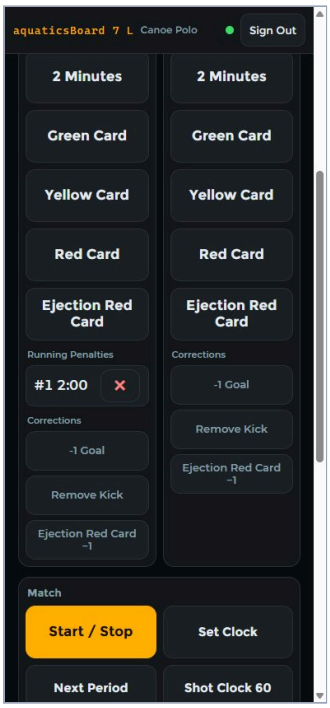


Figure 87. Canoe Polo: a running penalty on the phone

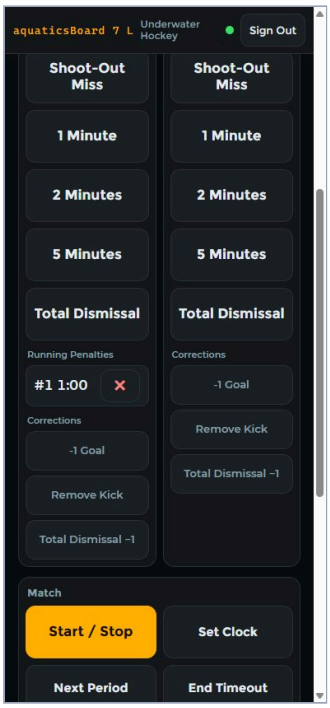


Figure 88. Underwater Hockey: a running penalty on the phone

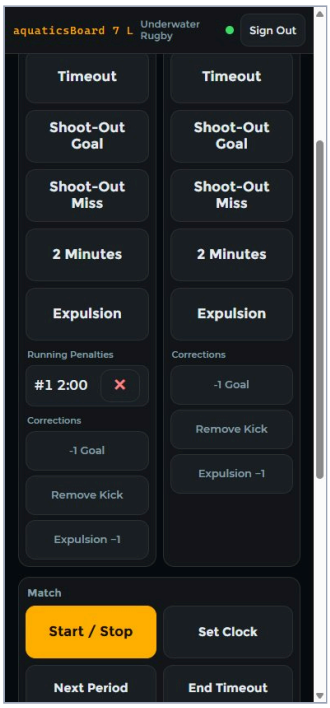


Figure 89. Underwater Rugby: a running penalty on the phone

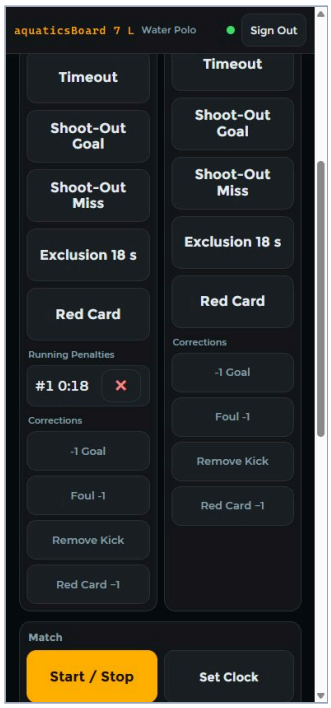


Figure 90. Water Polo: a running penalty on the phone

Input and Confirmation Sheets

Some buttons need more than a tap. The remote then shows a sheet at the bottom of the screen:

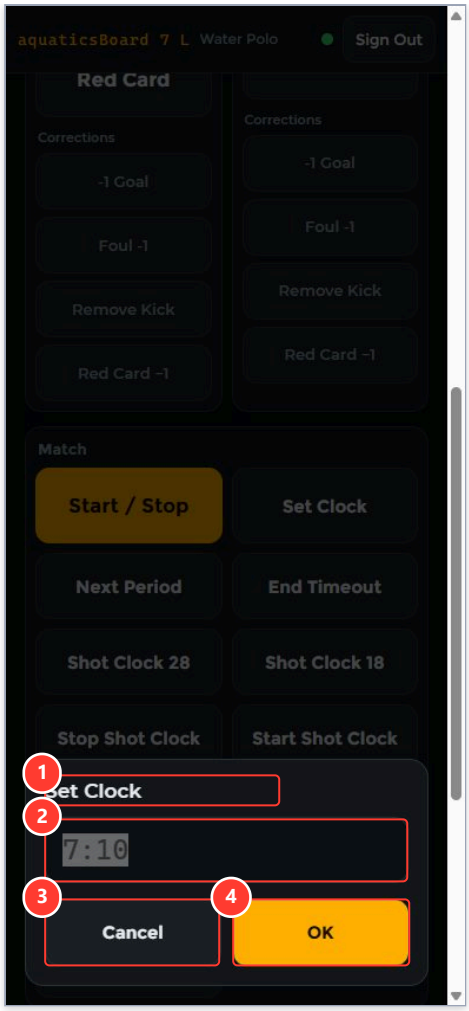


Figure 91. An input sheet (Set Clock) on a phone

#	Control	What it does
1	**Title**	The action, with the team where it belongs to one.
2	**Input**	Type the value (Set Clock: *m:ss*, the current time is filled in and selected). The phone shows its number keyboard. Where the value has a format of its own, the sheet shows an *Example:* … line above the box.
3	**Cancel**	Closes the sheet without a change (so does a tap outside the sheet).
4	**OK**	Sends the value (also `Enter`).

> **Note** Match Control actions (such as New Match) open a confirm sheet with the question, “This cannot be undone from the remote.”, **No** and a red **Yes** .

15 Data Exchange

aquaticsBoard 7 L offers three data channels for other software and devices. They are the same in every scoreboard product of the family and are described for developers in the separate integration API document.

Channel	Default	Switch	Use it for
HTTP API	TCP 1907	Settings → Remote Control (on by default)	Scripts, web pages, graphics systems that poll the state (vMix data source, CasparCG templates) and send commands. Needs the PIN.
Console link	TCP 1908	Settings → Console Integration → Console (TCP)	Table consoles and statistics software: one connection for many commands and the live state. Same PIN and the same lockout as the remote.
UDP broadcast	UDP 1909	Settings → Console Integration → UDP Broadcast, or UDP on the right strip	LED controllers and displays that only listen: every change is sent as JSON to the local network, no sign-in.

All channels use the same commands as the panel (for example *score.add*, *clock.toggle*, *timeout.take*) and the same data keys as the board designs (for example *home.score*, *clock.text*, *period.name*, *home.fouls*). The list of actions and keys of the running discipline is available from the HTTP API (*/api/catalog*).

> **Note** Commands only change the score with a POST request; a plain web link can never change the board. Allow TCP 1907 / 1908 in the Windows firewall of the scoreboard PC when other devices connect. UDP broadcast does not cross routers.

16 Typical Workflows

1. Connect the second display and set it to *Extend* in the Windows display settings (`Win` + `P`), Scale 100 %.
2. Start aquaticsBoard 7 L, click the sport button in the bottom bar and choose the sport and discipline.
3. Open **Teams**: type the event, team names, short names, choose colours and logos, fill the team lists and click **Apply**.
4. Open **Outputs**: in the Standard (LED) row choose monitor 2, tick **Full Screen** and **Show** (for a sender card: Full Screen off and the LED's pixel area, see *Sending the Board to the LED Screen*).
5. Click the design icon on the output strip and pick the master design you like for St.
6. Optionally switch on the background video with the icon at the bottom right.
7. Go back to **Game** and run the match; use the St on-air row for Intro before the start and Result at the end.

1. Connect the sender card, press `Win` + `P` → **Extend**, and set the card's monitor to 1920 × 1080, Scale 100 %, in the Windows display settings.
2. Let the LED supplier map the screen in the vendor software from the top left corner (0, 0) of the card's input.
3. On **Outputs**, Standard (LED): choose the sender card's monitor, untick **Full Screen**, type Left 0, Top 0, Width 384, Height 192 and tick **Show**.
4. Check the LED: the board fills it exactly. Close aquaticsBoard 7 L.
5. On match day just start aquaticsBoard 7 L: the board opens on the LED by itself.

1. Before the match open **Media Player**, click **Add Clip** and choose the video and the two pictures; drag the rows into order.
2. Switch **Return to the Scoreboard** on (green frame), set the sound on if the video has music, and check **Image Play Duration** on the Settings page.
3. At half-time select the first row and click **Start**: the clips play one after the other on the board.
4. At the end of the playlist the scoreboard comes back by itself (or click **Finish** / the **Game** tab earlier).

1. Open **Settings** and note the address and the PIN of the Remote Control row (set your own PIN and click Apply if you like).
2. Connect the phone to the same Wi-Fi and open the address in its browser.
3. Enter the PIN and press ✓.
4. Use the team buttons for scores, fouls and timeouts and the Match buttons for the clock; mistakes are fixed with the Corrections buttons or Undo.
5. Keep the PC operator for info graphics and screens; both can work at the same time.

1. Before the day, open **Teams** and type the event name and the venue.
2. Type the first match's teams with their team lists (number, name, Show) and click **Apply**.
3. For each later match, change names, short names, colours, logos and team lists and click **Apply**, then click **New Match** (the team setup is kept, the score is reset).
4. Untick **Show** for injured or absent players instead of deleting them.
5. Before each match, show the Intro screen and the team lists (Info page → Team Lists, with **Slide** for a player-by-player presentation).

1. Type only the team names and click **Apply** on the Teams page.
2. Score on the Game page as usual (team scores without players).

3. For a goal or a card graphic, open the Info page, choose the team and type just the number (or number and name) into the player field.
4. Click **Show**. A number with a name is added to the team list, so it can be picked from ▾ next time.

1. Start the PC and aquaticsBoard 7 L again.
2. Answer **Yes** to *"The program did not close normally. Restore the last match?"*.
3. Check score, fouls and penalties on the Game page; the clock is stopped at the time of the last recorded action.
4. Ask the table officials for the official time and correct it with **Set Clock**.
5. Check that the board is open (it opens again by itself at its place) and start the clock with the referee's signal.

1. Click the design icon on the output strip, then **Edit** on the Arena card.
2. Click **Save a Copy** and give the design the club name.
3. Open the **Theme** tab and change the colour tokens (accent, panel, text) and the fonts – every screen of the design follows.
4. Check the special moments with **Preview Data** and the shapes of your screens with **Preview Size**.
5. Click **Save** (`Ctrl` + `S`), close the editor and choose the new design (★) for St on the Outputs page or in the gallery.

17 Swimming

Swimming runs on the race desk: one window with the program on the left, the called heat with its lanes in the middle and the race actions and board screens on the right. aquaticsBoard 7 L keeps a whole meet — sessions, events, heats, lanes, entries, results and records — and shows the called heat on every output.

Rule	As implemented
Pool	the preset: 50 m (LCM) or 25 m (SCM) with 6, 8 or 10 lanes (lanes 0–9)
Watches	three per lane; the official time follows hand timing (2 equal = that time, 3 different = the middle one, 2 = the average); a typed official time replaces them
Times	cut (not rounded) to hundredths
Splits	every 50 m; the press after the last split is the finish
End of the race	by itself when every swimmer has a time, or End Race
Places	live during the race, final after the approval; the boards sort the lanes by place after the race
Approval	only when every lane has a time or is DNS / DNF; locked until Unlock
Team points	9-7-6-5-4-3-2-1, relays double
Records	the record line of the event (e.g. MR); a new record is marked at the approval

Choosing the Pool

Discipline (Swimming)	What it is
50 m Pool (LCM), 8 Lanes	Long course, lanes 1–8 (the default).
25 m Pool (SCM), 8 Lanes	Short course, lanes 1–8.
50 m Pool (LCM), 10 Lanes 0-9	Long course with ten lanes numbered 0 to 9.
25 m Pool (SCM), 6 Lanes	Short course, lanes 1–6. A click on a discipline switches at once; the meet is saved first.

The Race Desk

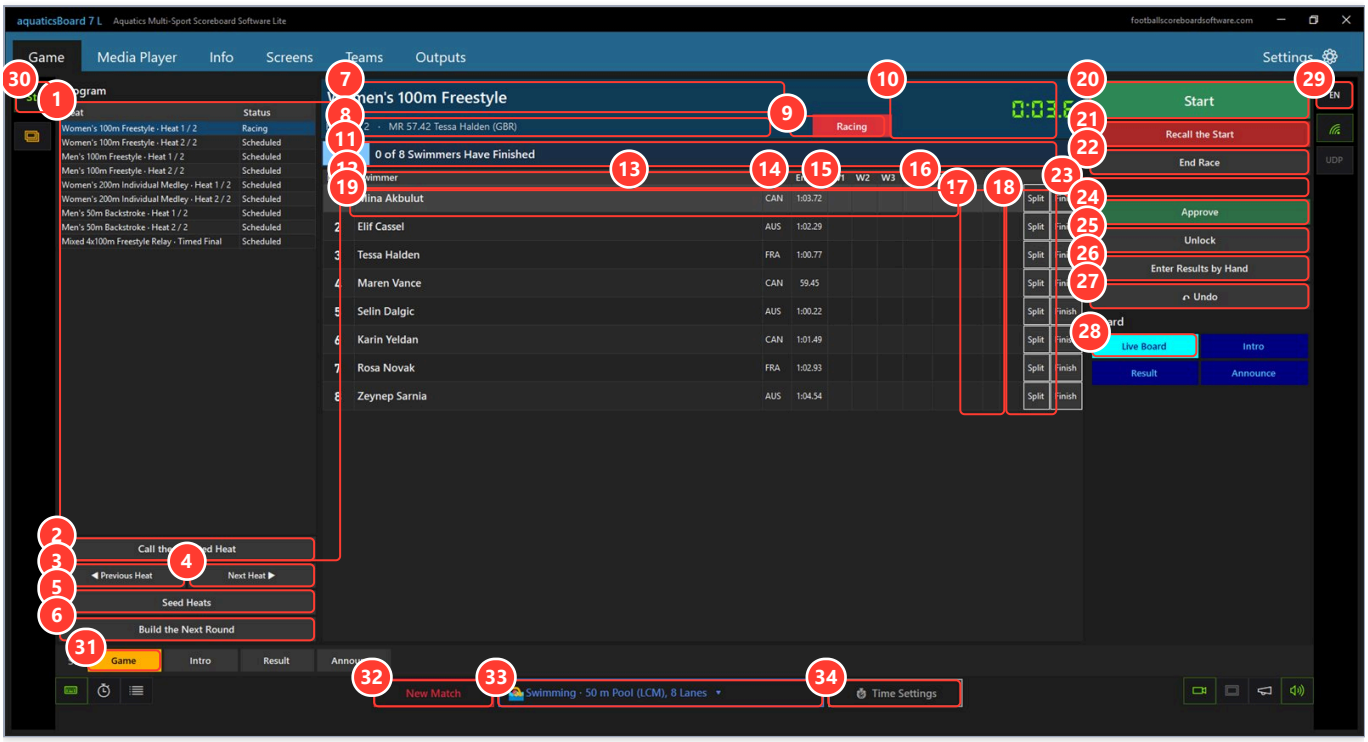


Figure 92. The swimming race desk (Game page) during the first heat of the program

#	Control	What it does
1	**Program**	Every heat of every event in order, with its status (Scheduled, On the Blocks, Racing, Unofficial, Official). The heat on the blocks is lit blue. A click only **selects** a row; it does not call it.
2	**Call the Selected Heat**	Calls the heat selected in the program: it becomes the current heat, goes *On the Blocks* and appears on every board. Refused while another race is running.
3	**◀ Previous Heat**	Calls the heat before the current one (the last heat of the previous event at the start of an event).
4	**Next Heat ▶**	Calls the next heat, then the first heat of the next event. Shows *End of the program* after the last heat.
5	**Seed Heats**	Seeds the heats of the current event again from its entries (by entry time, circle seeding of the fastest heats; semi-finals and finals by rank). Refused once a heat of the event has started.
6	**Build the Next Round**	After the heats (or semi-finals) are approved: puts the qualified swimmers (Q) into the lanes of the next round. Refused when the event has no next round.
7	**Event**	The name of the called event, e.g. *Women's 100m Freestyle*.
8	**Heat and record line**	The heat (*Heat 1 / 2*, *Final*) and the record to beat (e.g. **MR** meet record, time and holder).
9	**Heat status**	Scheduled · On the Blocks · **Racing** (red) · Unofficial · **Official** (green).
10	**Race clock**	0:00.0 when the heat is on the blocks, the running race time (green) during the race, the winning time afterwards.
11	**Next line**	The step the desk expects: *Start the Race when the Swimmers Are Still*, *3 of 8 Swimmers Have Finished*, *Lane 4: Enter the Time, or Mark It DNS or DNF*, *Check the Times and Approve the Result*. The same text is shown at the bottom of the St board.

#	Control	What it does
12	**Lane · Swimmer · NAT · Entry**	Lane, swimmer (relay: the team), nation and entry time (*NT* = no time). A disqualified or absent lane is written in red.
13	**W1 · W2 · W3**	The final times of the up to three watches of the lane. The official time follows hand timing: two equal watches = that time, three different = the middle one, two = their average.
14	**Split**	The last split of the lane during the race (every 50 m in the presets).
15	**Time · #**	The official time (or DSQ / DNS / DNF) and the place: live during the race, final after the approval.
16	**Status · ⚠**	The lane status. After the race an amber ⚠ marks a lane to check: watches 0.30 s or more apart, only one or two watches, or a time more than 25 % away from the entry time. Hover the status or the swimmer for the reasons.
17	**Split (per lane)**	Records the next split of the lane at the race clock (watch 1). When all splits of the distance are in, the next press counts as the finish. A press within 4 seconds of the last one is ignored.
18	**Finish (per lane)**	Records the touch at the race clock. The button turns **green** when the lane's final time is in and stays dark while it is to come; an empty lane has no button colour. When every swimmer has touched the race ends by itself (*Unofficial*).
19	**Lane row (right-click)**	A left click selects the lane for *Enter Results by Hand*; a right click opens the lane menu (see *The Lane Menu*).
20	**Start**	Starts the race clock of the called heat (only when it is On the Blocks and at least one swimmer can swim). Disabled while a race runs.
21	**Recall the Start**	False start recalled: the heat goes back On the Blocks, the clock and every split and touch are dropped. DNS and a false-start disqualification stay.
22	**End Race**	Ends the running race by hand (the heat becomes *Unofficial*). On a heat On the Blocks that was never started it closes the heat for times entered by hand (paper timing).
23	**Warning line**	Empty while all is well. When lanes need a check an amber ⚠ **Check Lanes 2, 5** names them; its tool tip lists every reason. It stays until the heat is approved.
24	**Approve**	The referee's approval: places, points and record marks are written, the heat becomes *Official* and is locked. Refused while a lane has no time and is not marked DNS or DNF.
25	**Unlock**	Takes the approval back (Official → Unofficial) so a time or a status can be corrected; approve again afterwards.
26	**Enter Results by Hand**	Opens *Official Time* for the selected lane (lane 1 when no row is selected). On a heat that never started the desk then asks whether to close the heat for hand timing (see the dialogs below).
27	**Undo**	Takes back the last action (a press, a status, a call …). The race clock itself is never turned back.
28	**Board: Live Board · Intro · Result · Announce**	Puts the St board on the race (Live Board), the intro, the event result or the announcement. The screen on air is lit cyan.
29	**Tool strip**	Language, remote control and UDP (see *Tabs and Side Strips*).
30	**St**	Opens or closes the St board (lit green = open). See *The Main Window* and *Outputs*.

#	Control	What it does
31	**St on-air row**	The screen the board shows now (lit amber = on air): Game, Intro, Result, Announce. See *On-Air Rows and Bottom Bar*.
32	**New Match**	Starts the sport again after a confirmation. The competition (heats, results) is saved first and loaded again, so finished results are kept.
33	**Sport · discipline** ▾	Shows the sport and discipline. Click it to open *Choose Sport and Discipline* (see *Choosing the Sport and Discipline*).
34	**Time Settings**	Opens the Time Settings window. Swimming has no clock lengths to set: the window only says *This Discipline Has No Time Settings* (see below).

> **Note** When an action is refused, the reason appears in red under the bottom row (e.g. *The heat is approved: unlock it first.*). Nothing is changed in that case.

The Lane Menu

Right-click a lane row to open its menu. It works on that lane only, at any time before the approval (after the approval: Unlock first).

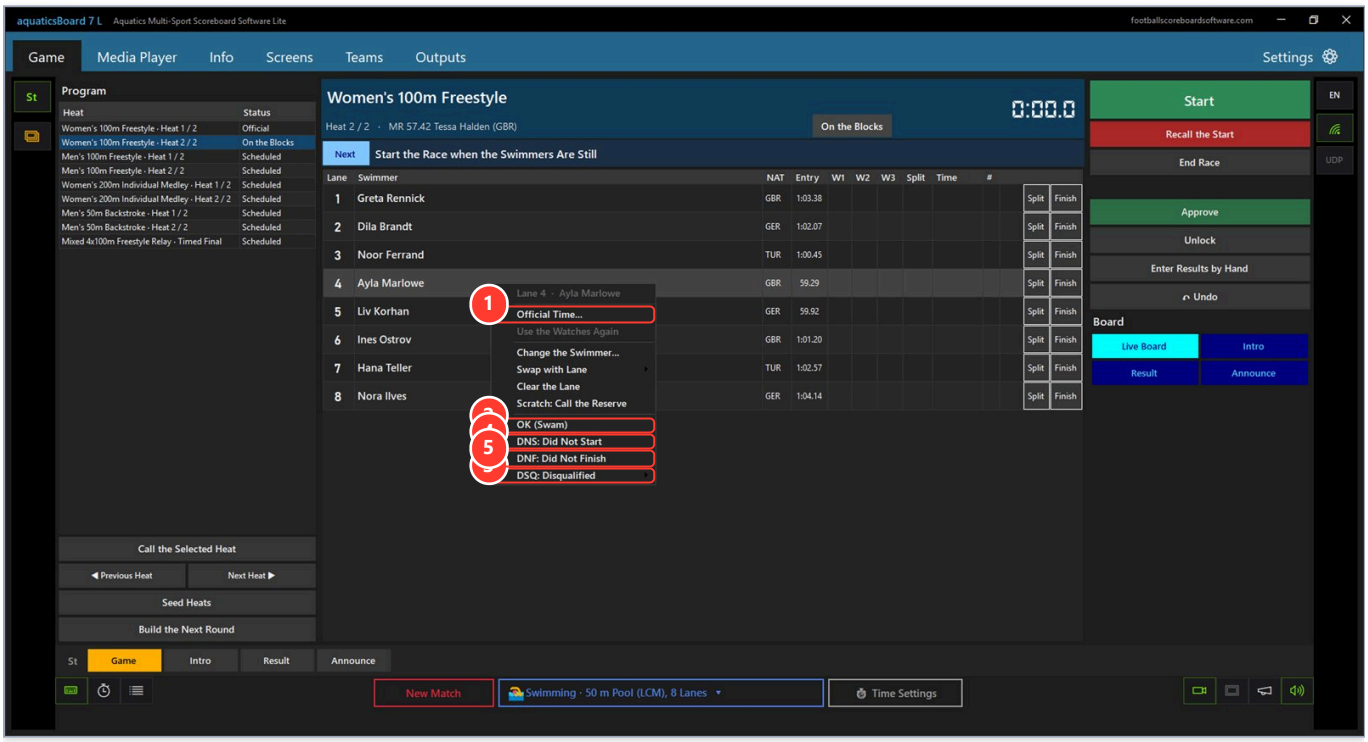


Figure 93. The lane menu (right click on lane 4) with the heat On the Blocks

#	Control	What it does
1	**Official Time...**	Opens *Official Time* for this lane: type the time (m:ss.hh, e.g. `1:02.47`). A typed official time replaces the watches; an empty answer leaves the lane unchanged.
2	**OK (Swam)**	Puts the lane back to normal (removes DQ, DNS or DNF).
3	**DSQ: Disqualified**	Disqualifies the swimmer: the time column shows DSQ, the lane is written in red and gets no place. Its presses are kept.

#	Control	What it does
4	**DNS: Did Not Start**	Did not start: the lane cannot be timed (Split and Finish are refused). Mark absent swimmers before the start so the race can end by itself.
5	**DNF: Did Not Finish**	Did not finish: the lane needs no time for the approval and gets no place.

Lane Time and Hand Timing Dialogs



Figure 94. Official Time – opened by Enter Results by Hand, a time typed

#	Control	What it does
1	**Official time of the lane (m:ss.hh)**	Type the time as `m:ss.hh` (e.g. `1:02.47`) or `ss.hh` for times under a minute. It becomes the official time of the lane and replaces the watches.
2	**OK**	Sends the time. Refused on a heat that is approved (Unlock first) or on an empty lane.
3	**Cancel**	Closes without a change.

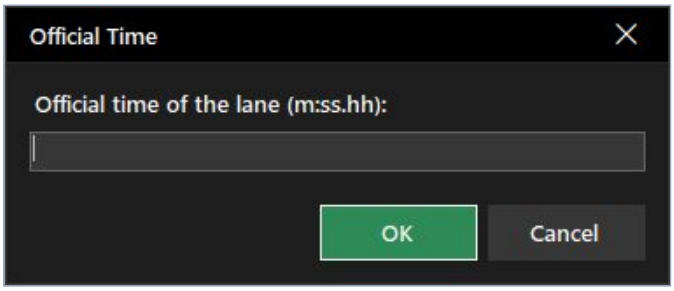


Figure 95. Official Time – opened from the lane menu (Official Time…): the same dialog, empty

A time is accepted only after the race has started. When you enter a time on a heat that is still On the Blocks (paper timing, no Start pressed), the desk asks:

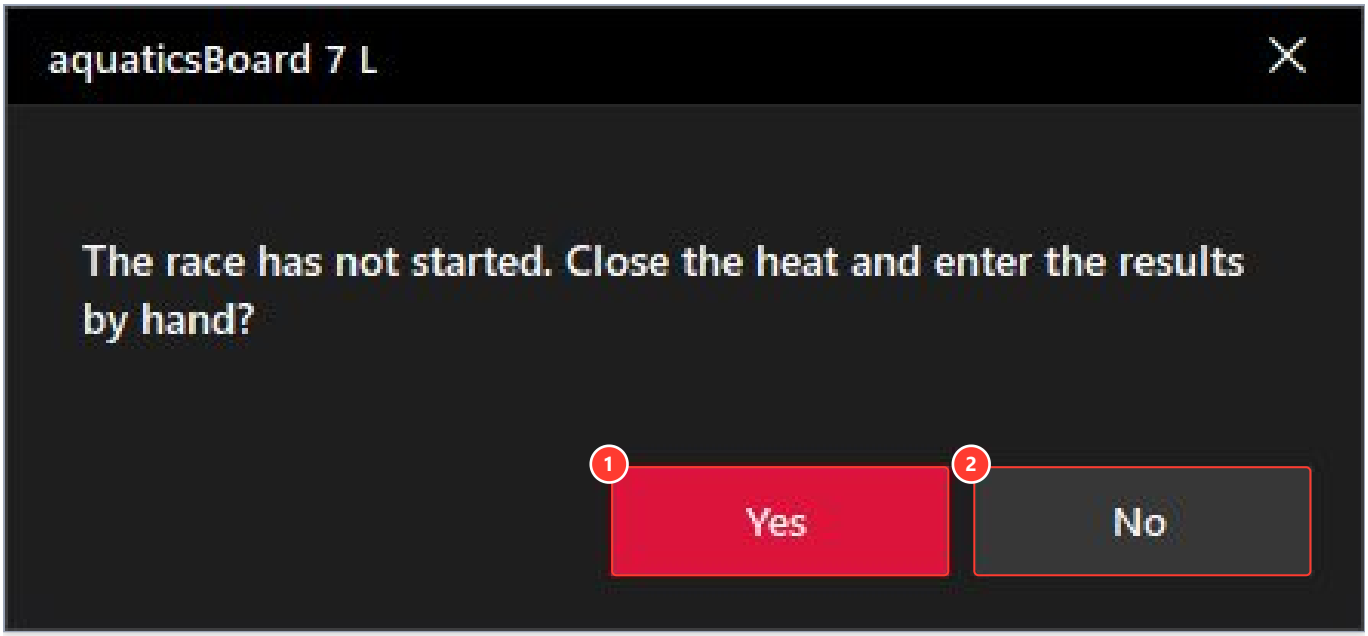


Figure 96. Closing a heat that never started for hand timing

#	Control	What it does
1	Yes	Closes the heat (the same as End Race on a heat On the Blocks) and stores the time you typed. Enter the other lanes the same way.
2	No	Nothing is changed; the heat stays On the Blocks so you can still start it.

The Life of a Heat

Status (desk and remote)	St board	How it gets there	What you can do
Scheduled	Scheduled	seeded, not yet called	Call the Selected Heat, Next Heat ▶
On the Blocks	On the Blocks	the heat is called	Start; mark DNS; End Race to close it for paper times
Racing	Race in Progress	Start	Split, Finish, DQ / DNF, Recall the Start, End Race
Unofficial	Unofficial	every swimmer touched, or End Race	Official Time..., DQ / DNS / DNF, Approve
Official	Official	Approve	Unlock (to correct), Next Heat ▶

> **Tip** The **Next** line always names the step that is due. Read it when you are not sure what the desk expects.

Timing

The race clock starts with **Start**. Every **Split** and **Finish** press — on the desk or on the remote — takes the elapsed race time as watch 1 of that lane. The official time is the hand-timing result of the watches, unless you typed an official time.

- Watches 2 and 3 can be sent by another program through the HTTP interface (command *lane.watch*, see *Data Exchange*); the desk and the remote record watch 1.

- A press less than 4 seconds after the previous one of the same lane is ignored (a slip of the finger).
- After the race has ended a Finish press is refused (*No race is running: give the time*): use the lane menu → **Official Time...** instead.
- A lane marked DNS cannot be timed; a DQ or DNF lane keeps its presses but gets no place.

> **Note** The meet (events, entries, heats, records) belongs to the competition stored with the sport and is saved with it.

Officials' Phones and PINs

The officials of the meet (referee, starter, timekeepers of every lane, stroke and turn judges ...) can work on their own phones: **Phones and PINs...** on the Teams page opens the list of seats. Each seat has its own random four-digit PIN (never the operator PIN of the remote control) and its own QR code. A phone opens the address of the card (or scans the code), signs in with the seat PIN and sees only what its seat may do.

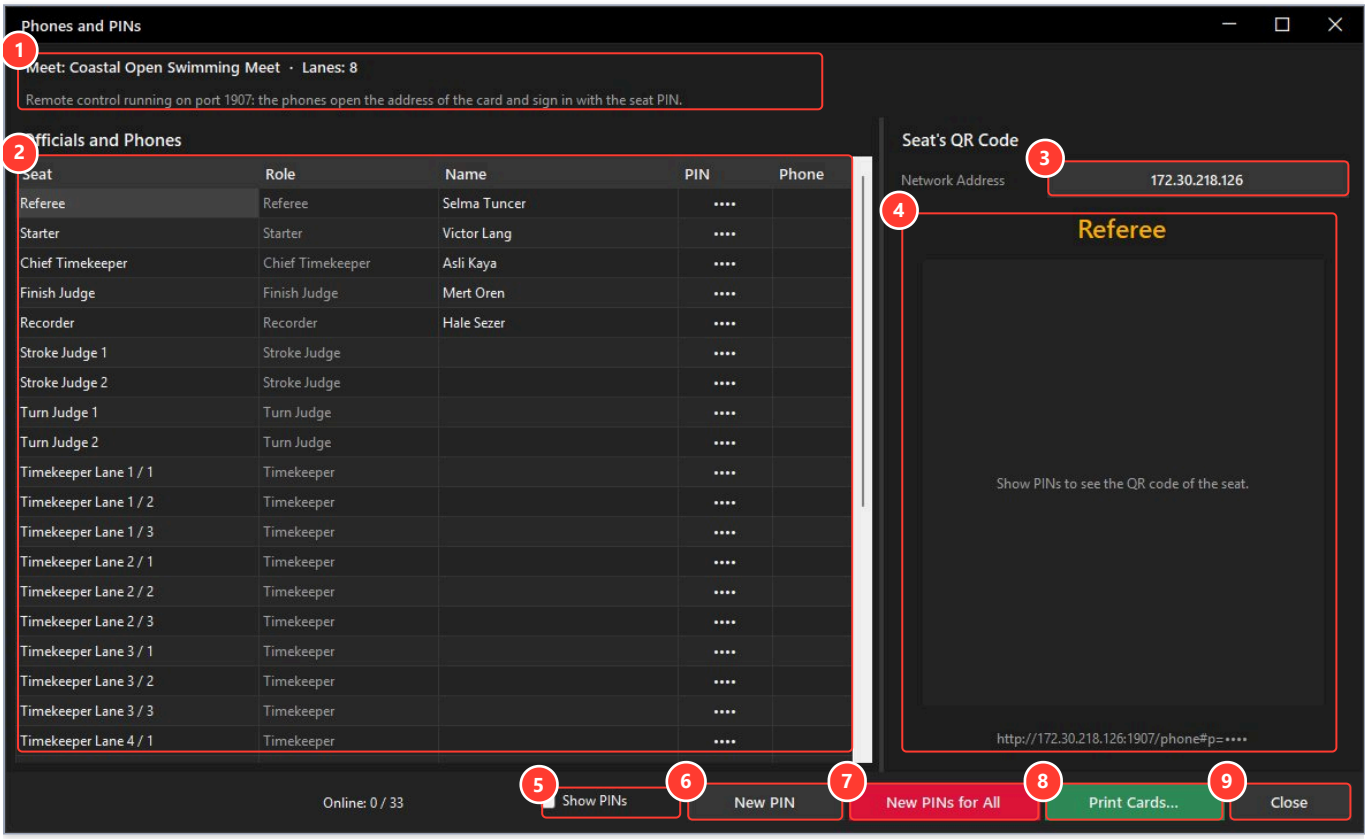


Figure 97. Phones and PINs (swimming: officials and lanes)

#	Control	What it does
1	**Competition and server**	The meet and the number of lanes, and whether the remote control runs (the phones need it: Settings → Remote Control).
2	**Seats**	**Seat**, **Role**, **Name**, the **PIN** (•••• until Show PINs is ticked) and **Phone** (a dot when the phone of the seat is online). Select a seat to see its QR code on the right.
3	**Network Address**	The address of the PC that the phones use (one entry per network adapter); the QR code and the cards use it.
4	**Seat's QR Code**	The code and the address of the selected seat, shown only while **Show PINs** is ticked.
5	**Show PINs**	Shows the PINs and the QR code. Keep it off while others can see the screen.

#	Control	What it does
6	**New PIN**	Gives the selected seat a new PIN after a question; its phone must sign in again.
7	**New PINs for All**	Gives every seat a new PIN after a question; all phones must sign in again.
8	**Print Cards…**	Opens one card per seat (seat, address, PIN and QR code) in the browser for printing. The cards are confidential: each holds the PIN of its seat.
9	**Close**	Closes the window; the PINs stay.

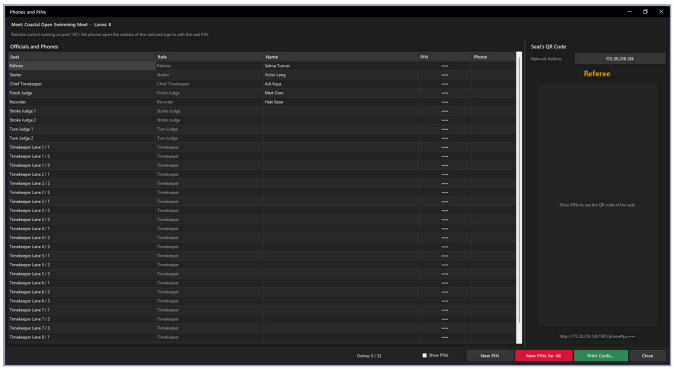


Figure 98. The same window maximised: all seats at a glance

Meet Data, Info and Screens Pages

For swimming the Teams page holds the meet instead of two team lists (picture and every field: *Teams and Players → Swimming and Diving: the Competition Page*):

- **Event Name**, **Event Subtitle**, **Venue** – the meet, a second line (session, date) and the pool, shown on the Intro screen.
- A summary line: the meet, the called event and the number of lanes (e.g. *Lanes: 8*). It follows at once when another event is called on the desk or from the remote.
- **Save Competition** – saves the texts and the competition (entries, heats, results) at once. The competition is also saved by itself when you switch the sport, start a new match or close the program.

The Info page of swimming has only the rows the swimming boards can show: Show On, Announce and the Info Screens **Intro**, **Result**, **Announce** (see *The Info Page of Each Sport*). The Screens page offers Game, Intro, Result, Announce (see *The Screens Page of Each Sport*).

Lenex and the Meet Managers

Most swimming meets are run with a meet manager: **SPLASH Meet Manager** (Lenex files) or **Hy-Tek Meet Manager** (Active Hy-Tek). The meet manager holds the entries, seeds the heats and prints the results; aquaticsBoard 7 L shows the heats on the boards, times them and approves them. The two programs exchange files: the start lists come in, and after every approved heat the results go back to the meet manager.

File	Direction	What it holds	Where in aquaticsBoard 7 L
Lenex *.lxf* / *.lef* (SPLASH Meet Manager, most federations)	in and out	the whole meet: sessions, events, heats, clubs, swimmers, relays, entries, results, records	Teams page → **Import…**; **Results…** → **Export Lenex…**
Hy-Tek *.hy3*, SDIF *.cl2* / *.sd3*, MM's export *.zip*	in	the meet with Meet Manager's heats and lanes (and results already swum)	Teams page → **Import…**

File	Direction	What it holds	Where in aquaticsBoard 7 L
Hy-Tek scoreboard start lists *.scb* (E001.scb …)	in	the heats of one event per file, names and teams	Teams page → **Import…** (several files at once)
Hy-Tek GNET heat file *.ge2*	out	the results of one approved heat for MM's timing interface	Teams page → **Heat Files…**
SPLASH heat file *SessionA-EventB-HeatC.txt*	out	the results of one approved heat for SPLASH's generic timing import	Teams page → **Heat Files…**

> **Note** aquaticsBoard 7 L keeps the meet manager's own numbers (event, heat, club and age group ids, Hy-Tek event numbers such as 12A). The results it sends back therefore land in the right events and heats of the meet manager, also after heats were seeded again.

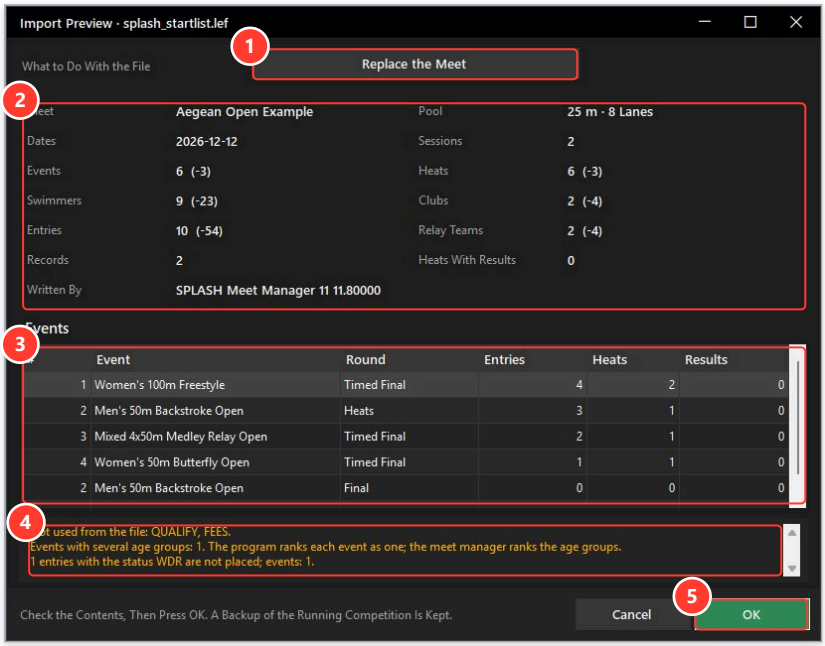


Figure 99. The import preview of a SPLASH start list (nothing changes before OK)

#	Control	What it does
1	What to Do With the File	**Replace the Meet** (a Lenex or Hy-Tek meet) or **Records Only (Keep the Meet)** (Lenex). For .scb start lists: **Take the Start Lists (Events with Results Stay)**.
2	Summary	Meet, pool (taken from the file: course and lanes), dates and how many sessions, events, heats, swimmers, clubs, entries, relay teams, records and heats with results the file brings; in brackets the difference to the meet you have now. **Written By** names the program that wrote the file.
3	Events	Every event with its round, entries, heats and results. A heat-and-final event comes twice (Heats and Final), like in the meet manager.
4	Notes	What aquaticsBoard 7 L did with the file: parts it does not use (fees, qualifying times …), withdrawn entries (status WDR / SICK / RJC / DNS) that are not placed, events with several age groups (the meet manager ranks its age groups; aquaticsBoard 7 L ranks each event as one), unknown strokes. Every note is also written to the log.
5	OK	Takes the file into the competition editor; **Apply** starts it on the desk (a backup of the running competition is kept).

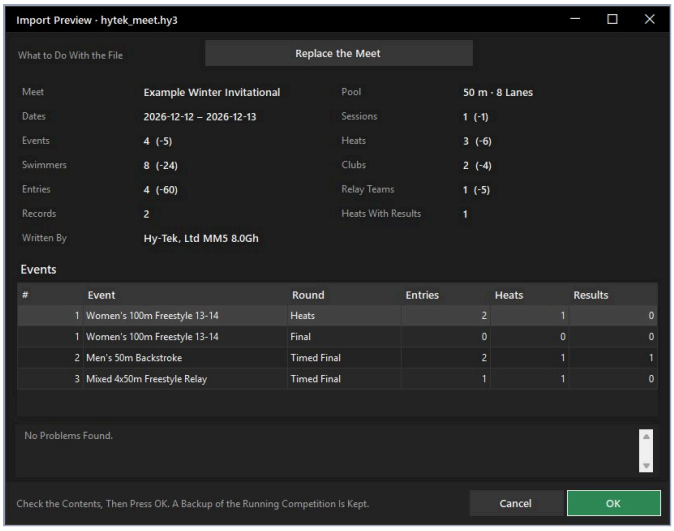


Figure 100. A Hy-Tek Meet Manager meet (.hy3): Heats and Final of event 1, results of event 2

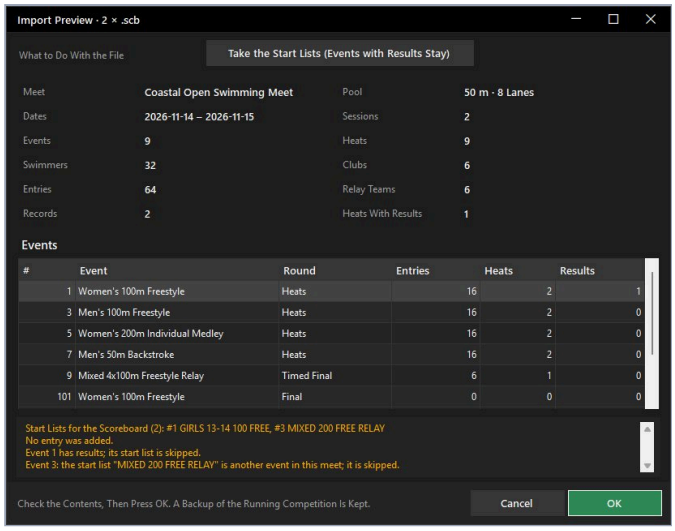


Figure 101. Two Hy-Tek scoreboard start lists (.scb) taken into the running meet: an event with results keeps them

1. **Workflow with SPLASH Meet Manager.** In SPLASH seed the session, then export the meet through the *Transfer* menu as **Lenex** with entries and heats (a .lxf file). Copy the file to the aquaticsBoard 7 L PC (a USB stick or a shared folder).
2. In aquaticsBoard 7 L open the Teams page of swimming and click **Import…**. Choose the .lxf file and read the preview: events, heats and notes. Click **OK**, then **Apply** in the competition editor. The pool (25 m / 50 m, lanes) follows the file.
3. Click **Heat Files…**, choose the folder SPLASH reads (a shared folder on the SPLASH PC, e.g. *MEET-PC**Timing*), tick **SPLASH Meet Manager (Generic Txt Heat Files)** and **Write the Files When a Heat Is Approved**, then **Save**.
4. Run the session on the race desk as usual. Every **Approve** writes *SessionA-EventB-HeatC.txt* for that heat. In SPLASH add the timing system **Generic Txt Heat Files**, point it to the same folder and read the results of the heat.
5. At the end (or at any time) click **Results… → Export Lenex…**: the .lxf holds every approved result with splits, DSQ / DNS / DNF and the places, under SPLASH's own event, heat and club ids. Import the results from it through the *Transfer* menu of SPLASH. SPLASH makes the official result lists.

1. **Workflow with Hy-Tek Meet Manager.** In Meet Manager seed the session and export the start lists for the scoreboard: *File → Export → Start Lists for Scoreboard*, format **CTS**. It writes one .scb file per event (E001.scb, E002.scb …). Or export the whole meet from the same *File → Export* menu (results for Team Manager, or entries: a .zip with a .hy3 and a .cl2).
2. In aquaticsBoard 7 L click **Import…** on the Teams page. Choose all .scb files at once (Ctrl+A in the file window): their events are put into the meet, events that already have results are not touched. A .hy3, .cl2 or .zip file replaces the meet instead (heats and lanes as Meet Manager seeded them; events with preliminaries come as Heats and Final). Check the preview, **OK**, **Apply**.
3. After Meet Manager seeds the next round (or changes a heat) export the .scb files again and import them again: the swimmers are found again by name and team.
4. Click **Heat Files…**, choose the folder Meet Manager reads, tick **Hy-Tek Meet Manager (Generic Network File Sharing, .ge2)** and **Write the Files When a Heat Is Approved**, **Save**.
5. In Meet Manager choose the timing interface *Set-up → Timing Console Interface → Generic Network File Sharing* (this needs Meet Manager's timing console interface option) with the same folder; in *Run*, **Get Times** (F3) reads the heat after each approval. Meet Manager uses the last split as the time and shows the three watches as backup times. The file name carries the session, Meet Manager's event number (12A stays 12A), the heat, the round (P / S / F) and the race number.

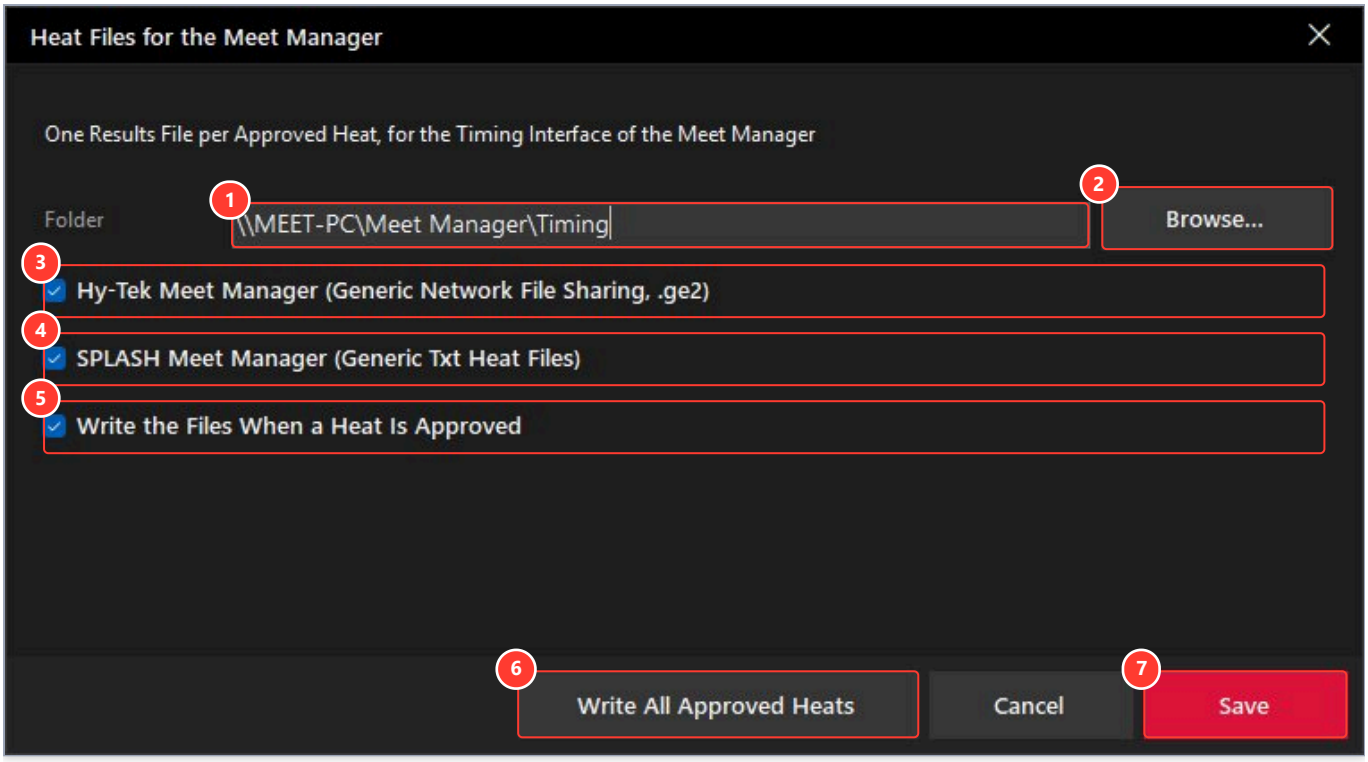


Figure 102. Heat Files for the Meet Manager (Teams page → Heat Files...)

#	Control	What it does
1	**Folder**	The folder the meet manager reads: a folder on this PC or a shared folder on the meet manager's PC (*PC**share*). It must be a full path.
2	**Browse...**	Chooses the folder in a folder window.
3	**Hy-Tek Meet Manager**	One *.ge2* file per heat (Hy-Tek's "Format for File Sharing of Results"): the place, the splits and the finish in seconds, the three watches as backup times; a disqualified lane is **Q**.
4	**SPLASH Meet Manager**	One *SessionA-EventB-HeatC.txt* per heat: lane, the split times, the finish time and the three watches. Lanes without a time (DNS, DNF) are left out: SPLASH keeps its own decisions for them.
5	**Write the Files When a Heat Is Approved**	Writes the files of a heat at its approval, whoever approves it: the desk, the remote, the Referee's phone. A heat approved again after **Unlock** replaces its files. A failure (folder not reachable) never stops the approval; it is shown in this window and written to the log.
6	**Write All Approved Heats**	Writes the files of every approved heat now (after a change of folder, or when the meet manager was started late).
7	**Save**	Keeps the settings on this PC (settings.json). Without a folder and a meet manager the files are off. **Cancel** (or Esc) asks before it drops changes.

Heat file	Example
Hy-Tek GNET	*001-012A01F0007.ge2*: first line *12A;1;2;F;110;aquaticsBoard 7 L;version* (event, heat, number of times per lane, round), then twelve lane lines *place;split;finish;watch 1;watch 2;watch 3;;;;*, e.g. *1;30.50;64.50;64.48;64.50;64.52;;;;*
SPLASH	*Session1-Event12-Heat1.txt*: *LANE;TIME50;TIME100;BACKUP1;BACKUP2;BACKUP3*, then one line per lane, e.g. *4;30.50;1:04.50;1:04.48;1:04.50;1:04.52*

- The meet manager stays the master of the entries: change entries and seeding there and import again. Results already swum in aquaticsBoard 7 L stay (an import with results asks first and keeps a backup).

- Lenex out writes results without a time as *00:00:00.00* with their status, a disqualified swimmer with the time and the reason, the relay swimmers in order, and the places of the event; SPLASH ranks its age groups itself.
- What cannot go across: Hy-Tek's own files (.hy3, .cl2) are read, never written (Meet Manager takes results only through its timing interface); SPLASH and Meet Manager send no live data (start lists come as files); reaction times and touchpad times do not exist in hand timing.
- Hy-Tek pools in yards are shown as a 25 m pool (the times are not changed); Hy-Tek files do not say how many lanes the pool has: 8, more when the file uses lanes 9 or 10, numbered from 0 when it uses lane 0.

Troubleshooting the Meet Manager Files

Problem	What to do
The import says *Not a Lenex file* or *not valid XML*.	Export the meet again as Lenex (.lxf) from the meet manager. A .lxf is a zip file: do not unpack or edit it.
Swimmers are missing after the import.	Read the notes of the preview: entries with the status WDR, SICK, RJC or DNS, and entries without a heat in a seeded event (late or withdrawn) are not placed. Seed the session in the meet manager and export again.
The results do not reach SPLASH / Meet Manager.	Open **Heat Files...**: the folder must be the one the meet manager reads, **Write the Files When a Heat Is Approved** must be ticked and the right meet manager chosen. The last files written (or why they could not be written) are shown at the bottom of the window. A shared folder needs write access from the aquaticsBoard 7 L PC. **Write All Approved Heats** writes everything again.
An .scb start list is skipped: *is another event in this meet*.	The meet has an event of the same number that is another kind of event (a relay list for an individual event, another distance): the meet was not made from this Meet Manager meet. Import Meet Manager's .hy3 / .zip first (it replaces the meet), or give the events the numbers Meet Manager uses.
Meet Manager reads the wrong event.	The .ge2 file names Meet Manager's own event number only when the meet came from Meet Manager (.scb, .hy3, .cl2). For a meet typed in aquaticsBoard 7 L the event numbers of aquaticsBoard 7 L are used: keep them the same as in Meet Manager.
SPLASH does not find the heat file.	The file name is *Session1-Event12-Heat3.txt*: the session and event numbers of aquaticsBoard 7 L must be SPLASH's (they are when the meet came from SPLASH's Lenex file).
SPLASH puts the results into a different event.	Import the meet from SPLASH (Lenex) instead of typing it: the Lenex export then carries SPLASH's event and heat ids. Events added in aquaticsBoard 7 L get new ids SPLASH does not know.
A heat file has an empty lane that swam.	The lane had no time at the approval (DNS / DNF, or no watch). Unlock the heat, give the time, approve again: the files are written again.

Time Settings

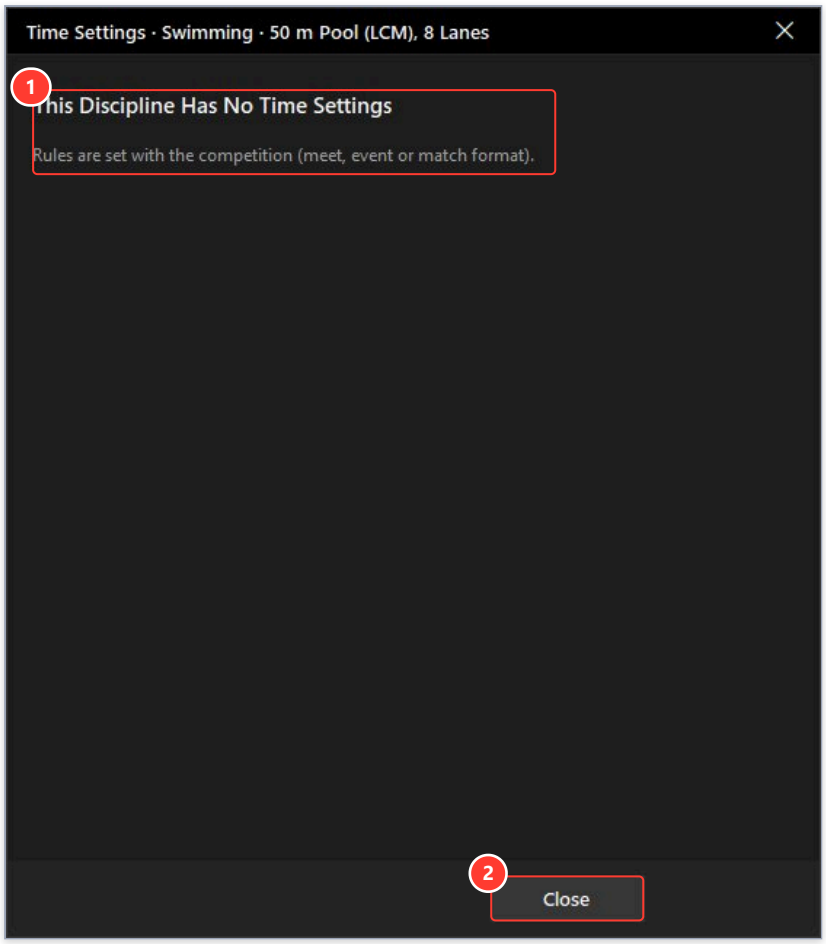


Figure 103. Time Settings of swimming

#	Control	What it does
1	**This Discipline Has No Time Settings**	Swimming has no periods or clock lengths: pool, lanes, splits, watches and seeding come from the preset; the rest belongs to the meet.
2	**Close**	Closes the window (there is nothing to save or reset).

Keyboard Shortcuts

The keyboard shortcut list follows the sport: it lists every command of the swimming panel (the picture of this list is in *Keyboard Shortcuts → The Actions of Each Sport*; how to assign keys, Global Shortcuts On and Default Keys are explained there). The factory keys:

Command	Default key
Horn	Num 2
Undo	F12
Next Heat, Previous Heat, Start, End Race, Approve, Build the Next Round, Create the Swim-Off	none – assign the keys you need

> **Note** Commands that need a lane, a heat or a typed time (Call Heat, Split, Finish, Watch Time, Official Time, DNS, DNF, Disqualify, Status OK) and the commands that cannot be undone (Recall the Start, Unlock, Reset the Heat, Seed Heats, Scratch) are not in the list: use the desk or the remote for them.

The Swimming Boards

Every output follows the called heat. The St board lists the lanes with swimmer and club, the status box (Scheduled, On the Blocks, Race in Progress, Unofficial, Official), the race clock and the Next line at the bottom; during the race splits and places appear, after the race the lanes are sorted by place.

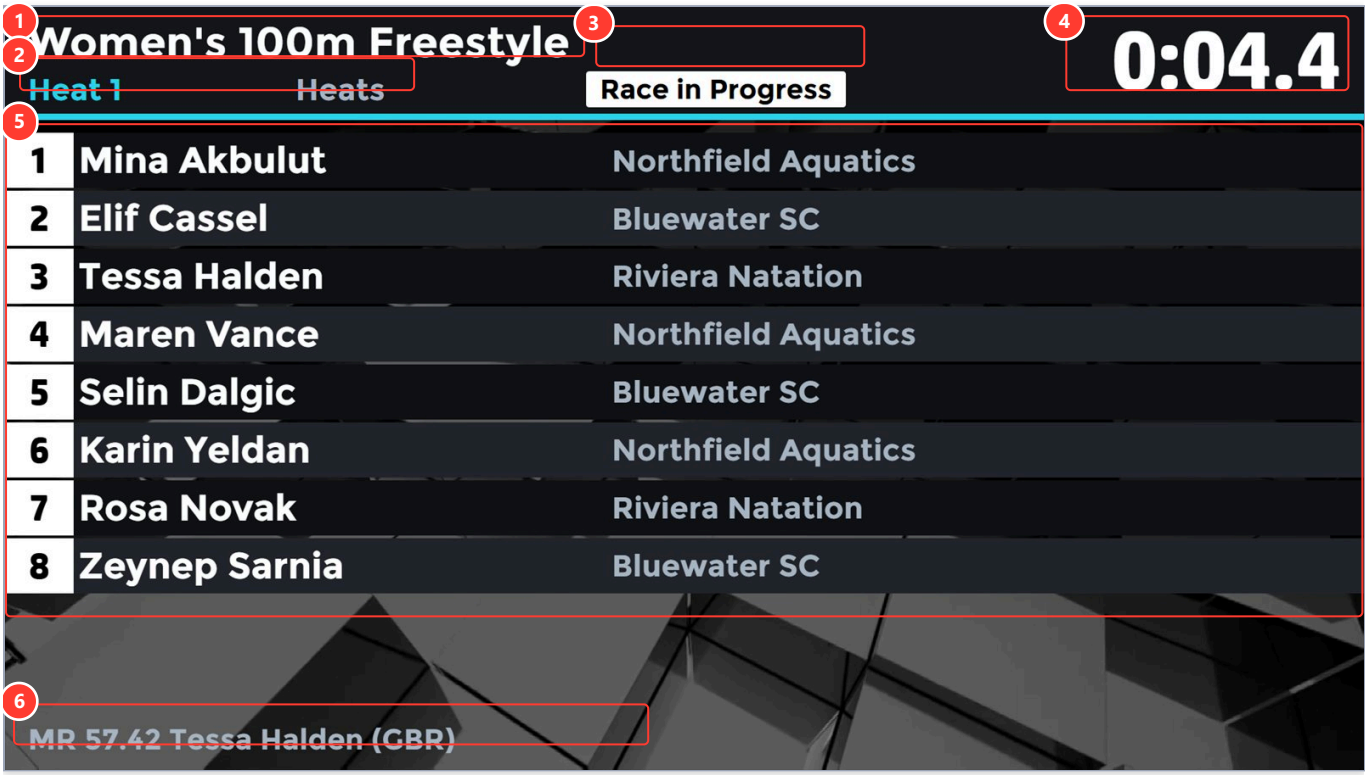


Figure 104. St – the heat during the race

#	Control	What it does
1	Event	The called event.
2	Heat · round	The heat (*Heat 1*) and the round (*Heats*, *Final* …).
3	Status	Scheduled · On the Blocks · Race in Progress · Unofficial · Official.
4	Race clock	Runs from Start; shows the winning time after the race.
5	Lanes	Lane, swimmer, club; during and after the race also split / time and place. The Live Board button puts this screen on air.
6	Next line	The same text as the Next line of the desk.

The other screens of swimming:



Figure 105. St Announce – the announcement title (a long title takes two lines) and the lines of the Info page – Announce under Board or Show on the Info page.

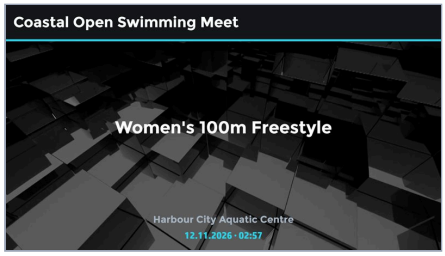


Figure 106. St Intro – the meet name, the called event, the venue, date and time – Intro under Board on the race desk, in the St row or on the Info page.



Figure 107. St Result – the result of the event over all its heats: place, swimmer, club, time and the qualification mark Q, with the status (Unofficial / Official) – Result under Board on the race desk after the approval.

Remote Control (Swimming)

Swimming has its own remote view: the heat, the lanes with Split and Finish, the race buttons and the program. Sign in as described in *Remote Control*. A timekeeper or the referee can work the race from the pool deck while the desk shows the same state.

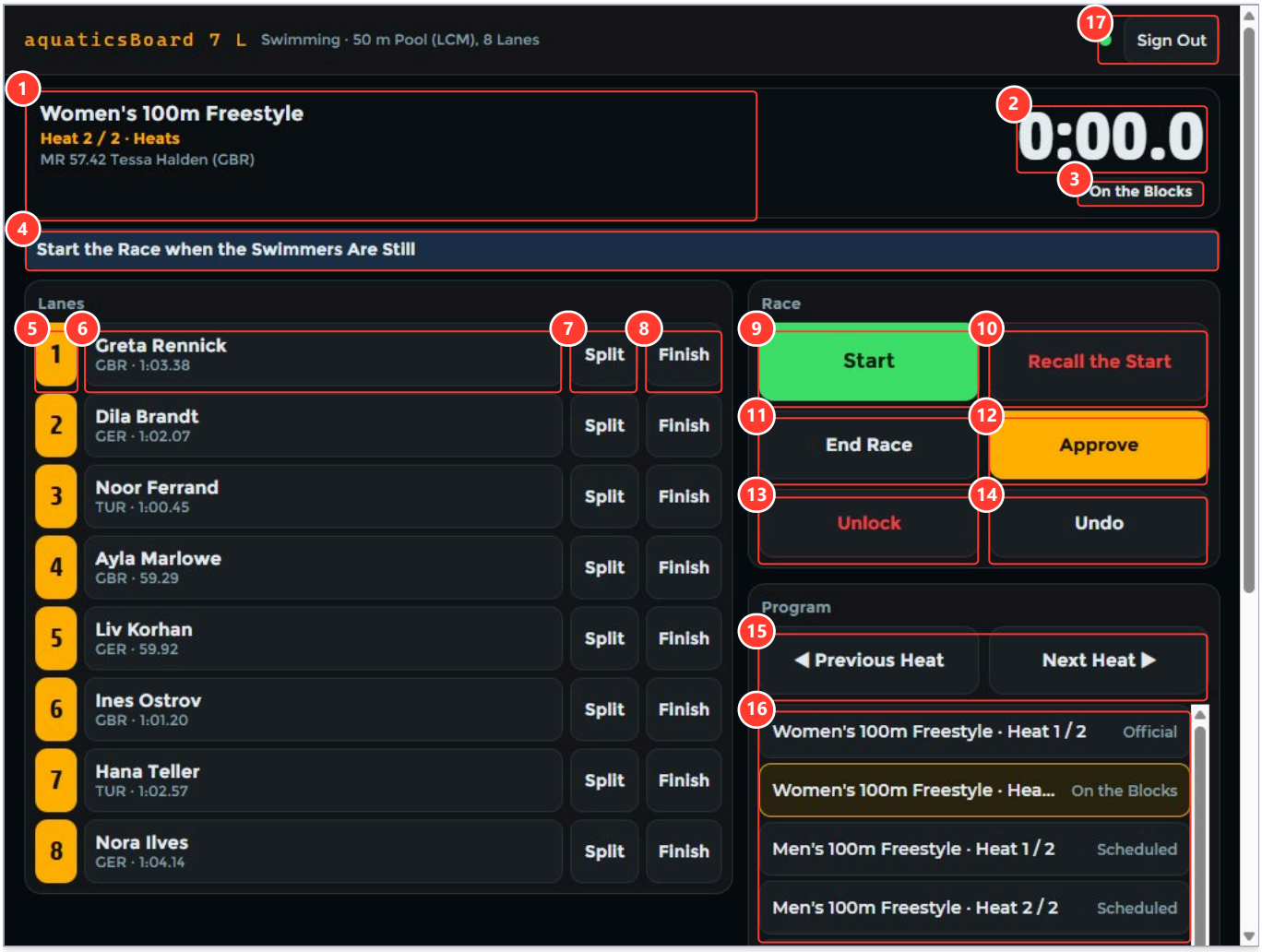


Figure 108. The swimming remote on a tablet (heat 2 On the Blocks)

#	Control	What it does
1	**Heat card**	Event, heat and round (amber) and the record to beat.
2	**Race clock**	Runs (green) during the race.
3	**Status chip**	On the Blocks, Racing (red), Unofficial, Official (green).
4	**Next line**	The step the desk expects. Below it an amber **⚠ Check Lanes …** line appears when lanes need a check.
5	**Lane number**	Lane 1 … 8 (0 … 9).
6	**Lane (tap)**	Swimmer, nation and entry time (later split or time) and the place. Tap it for the lane sheet: Official Time, DNS, DNF, Disqualify, Status OK, Scratch: Call the Reserve.
7	**Split**	Records the next split of the lane (watch 1), like the desk.
8	**Finish**	Records the touch; it turns green when the lane's time is in. Split and Finish are disabled for an empty, DQ, DNS or DNF lane.
9	**Start**	Starts the race; disabled while a race runs.

#	Control	What it does
10	**Recall the Start**	Asks *Recall the Start? This cannot be undone from the remote.* – Yes recalls the start.
11	**End Race**	Ends the race by hand, or closes a heat On the Blocks for paper times.
12	**Approve**	The referee's approval.
13	**Unlock**	Takes the approval back after a Yes.
14	**Undo**	Takes back the last action.
15	**◀ Previous Heat / Next Heat ▶**	Calls the previous or next heat.
16	**Program**	Every heat with its status; the called heat has an amber frame. Tap a heat: *Call Heat?* – OK calls it. Below the list: **Seed Heats** and **Reset the Heat** (both ask Yes / No first), **Build the Next Round** and **Create the Swim-Off**.
17	**● · Sign Out**	Green dot = connected. Sign Out ends the session after a Yes.

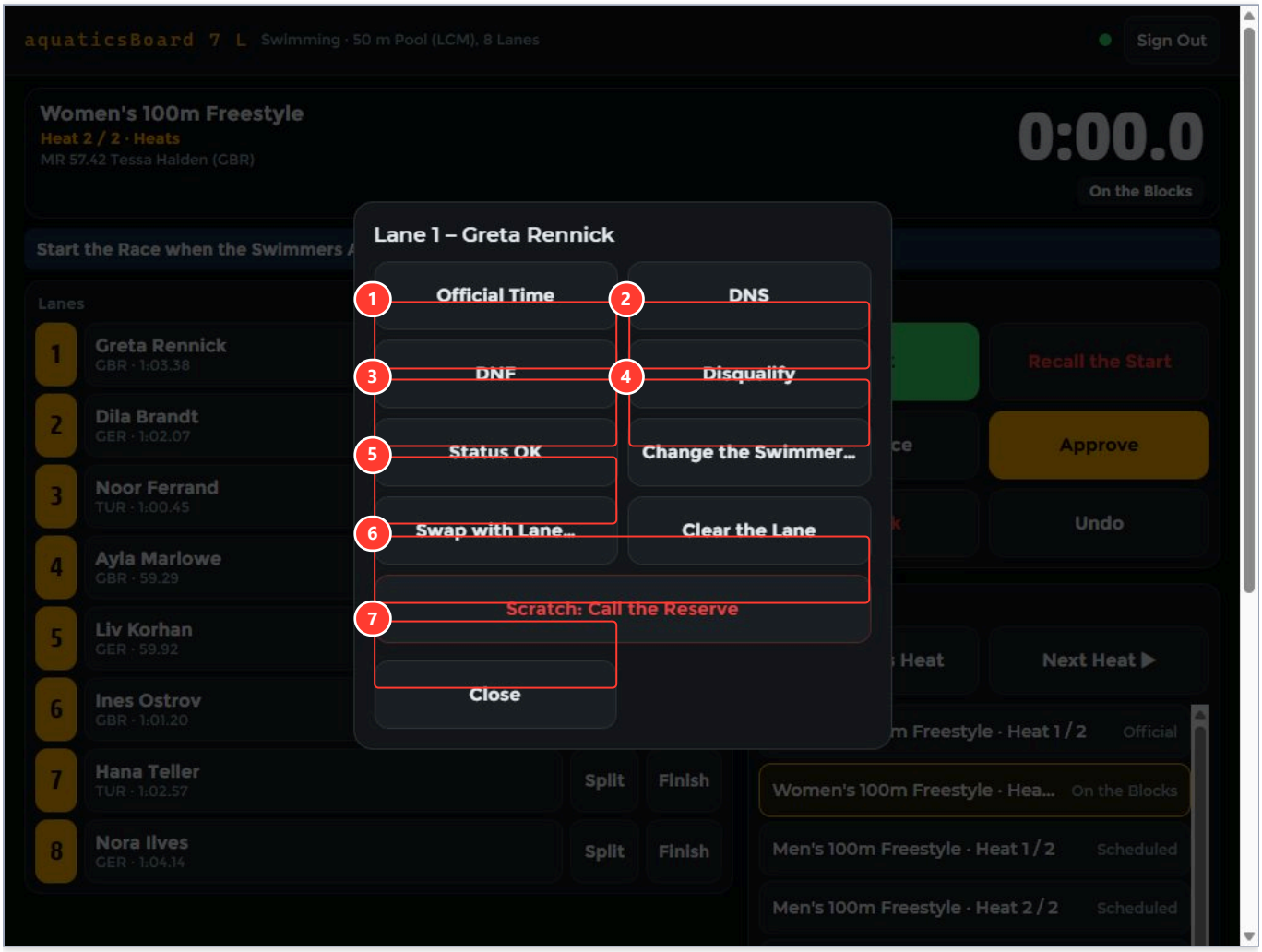


Figure 109. The lane sheet (tap on a lane)

#	Control	What it does
1	**Official Time**	Opens an input with the lane's time; type m:ss.hh and tap OK.
2	**DNS**	Did not start.

#	Control	What it does
3	DNF	Did not finish.
4	Disqualify	DQ – the lane gets no place.
5	Status OK	Removes DQ, DNS or DNF.
6	Scratch: Call the Reserve	Before the start of a semi-final or final: the swimmer withdraws, the next reserve is called and the round is seeded again; in a heat the lane becomes DNS. Asks Yes / No first; refused once the race has started.
7	Close	Closes the sheet.

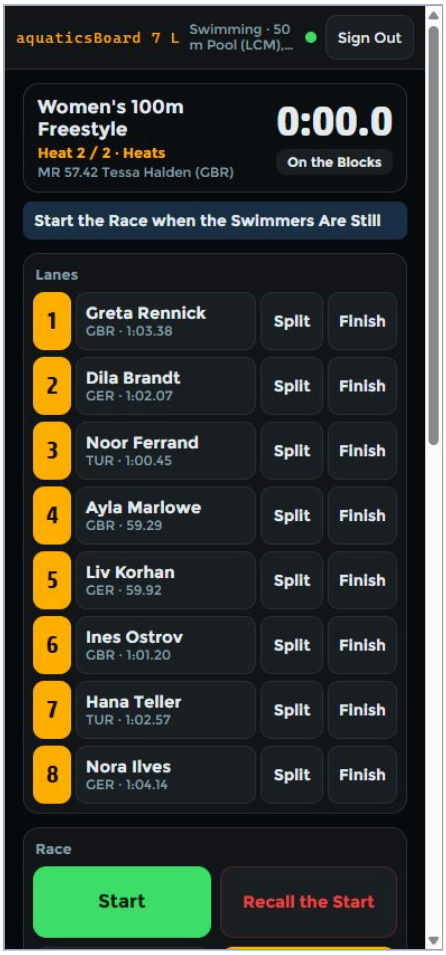


Figure 110. Phone – heat card and lanes

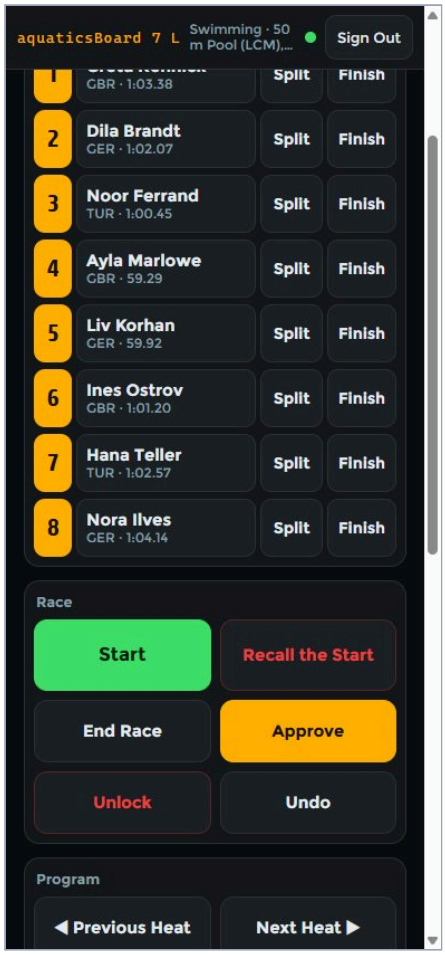


Figure 111. Phone – the Race buttons below the lanes

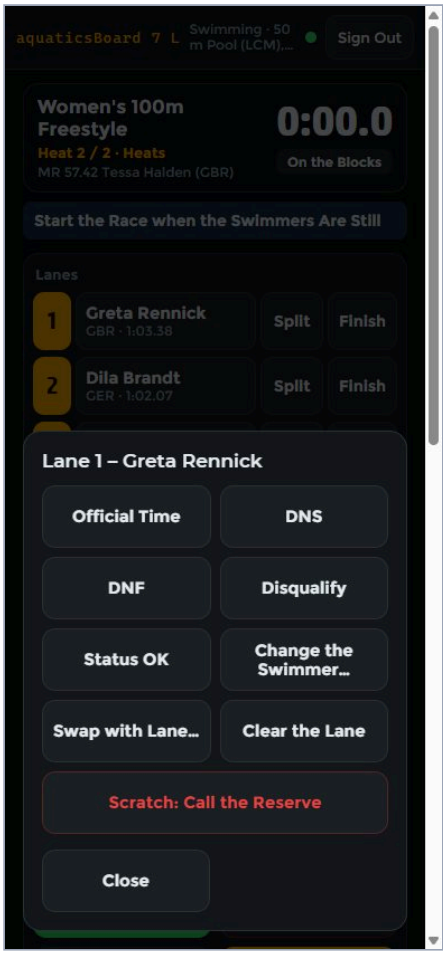


Figure 112. Phone – the lane sheet

Remote button	Desk equivalent	Confirmation on the remote
Split / Finish	Split / Finish in the lane row	none
Lane → Official Time / DNS / DNF / Disqualify / Status OK	lane menu (right click)	time input
Lane → Scratch: Call the Reserve	– (remote only)	Yes / No
Start · End Race · Approve · Undo	same buttons	none

Remote button	Desk equivalent	Confirmation on the remote
Recall the Start · Unlock	same buttons	Yes / No
◀ Previous Heat · Next Heat ▶ · program row	same buttons · Call the Selected Heat	program row: Call Heat? OK
Seed Heats · Reset the Heat	Seed Heats · – (Reset the Heat: remote only, puts the heat back On the Blocks and clears its race data; not while racing)	Yes / No
Build the Next Round · Create the Swim-Off	Build the Next Round · – (Create the Swim-Off: remote only, adds a swim-off after the event when swimmers tie for a qualifying place)	none

Swimming Scenarios

1. Click **Next Heat ▶**. The heat is *On the Blocks* on the desk and the board.
2. At the start signal click **Start**. The race clock runs green, the status turns red (Racing).
3. The recall rope drops: click **Recall the Start**. The clock and all presses are dropped and the heat is On the Blocks again.
4. If the referee disqualifies the swimmer who caused the false start, right-click the lane → **DQ**. The lane turns red and stays DSQ for the restart.
5. Click **Start** at the new start signal and time the heat with **Split** / **Finish** as usual.

1. The last swimmer touches; the race ends by itself and the status is *Unofficial*. The Next line says *Check the Times and Approve the Result*.
2. An amber ⚠ **Check Lanes 2** appears: hover lane 2 — only one watch was pressed. Right-click lane 2 → **Official Time…** and type the back-up time, e.g. `1:02.47`.
3. Right-click lane 6 → **DQ**. The time column shows DSQ and the lane loses its place.
4. The referee signs: click **Approve**. Places, points and any record mark are written; the board shows *Official*.
5. The DQ is withdrawn on appeal: click **Unlock**, right-click lane 6 → **OK**, then **Approve** again.
6. Click **Result** under Board to show the event result, then **Next Heat ▶**.

1. Turn the remote on (tool strip) and sign in on the tablet (see *Remote Control*). The swimming view shows the called heat.
2. The timekeeper taps **Start** at the signal and **Finish** in each lane at the touch; the desk and the St board follow at once.
3. A swimmer does not start: tap the lane → **DNS**, so the race can end by itself.
4. After the race the referee checks the times on the desk and clicks **Approve** (or taps Approve on the tablet).
5. The desk operator shows **Result**; the timekeeper taps **Next Heat ▶**.

18 Diving

Diving runs on the dive desk: the running order and the dive sheet on the left, the diver on the board, the judges' awards, the keypad and the referee's penalties in the middle, the standings and the info screens on the right. Each dive goes **Waiting** → **Scoring** → **Published**.

Preset group	Presets	Judges
World Aquatics individual	Men's / Women's 1m and 3m Springboard, 10m Platform	7 (2 highest and 2 lowest cancelled)
World Aquatics synchronised	Men's / Women's Synchronised 3m and 10m	9 or 11 in groups (execution and synchronisation)
Age group	Junior Synchronised 3m (9 Judges)	9
High school	High School 6-Dive Dual Meet, High School 11-Dive Championship	3 or more
College	College 1m / 3m Dual Meet, College 1m / 3m Championship (11 Dives)	as the preset

The points of a dive are the sum of the counted awards × the degree of difficulty (DD), rounded to two decimals; synchro: the counted sum × 3 / 5 × DD. The DD comes from the built-in dive table for the dive, the position and the height. Divers are ranked by the total of their published dives; equal totals share a rank, divers who have not dived yet are listed unranked (–), withdrawn divers last.

Choosing the Event

Discipline (Diving)	What it is
World Aquatics individual	Men's / Women's 1m and 3m Springboard and 10m Platform, seven judges.
World Aquatics synchronised	Men's / Women's Synchronised 3m and 10m with execution and synchronisation judges.
Junior Synchronised 3m (9 Judges)	The age-group synchro event.
High school	6-Dive Dual Meet and 11-Dive Championship.
College	1m / 3m Dual Meet and 1m / 3m Championship (11 Dives). The selected event is lit amber; a click switches at once (the competition is saved first).

The Dive Desk



Figure 113. The dive desk while the awards of a dive are typed (Scoring)

#	Control	What it does
1	**Running**	The running order: start number, diver, the dive of this round, DD and points so far. The diver on the board is lit blue. Click a row to call that diver for the current round.
2	**Dive Sheet**	All dives of the current diver: round, dive, DD, description and points. Click a row to go to that round of the diver (e.g. to correct an earlier dive).
3	**Status band**	What is happening (e.g. *Scoring*, *Now Diving*).
4	**Event and round**	Event name and *Round 1 / 5*.
5	**Dive state**	Waiting (grey) · Scoring (amber) · Published (green).
6	**Diver**	Name (synchro: both names), club and nation.
7	**Dive · DD · penalty**	Dive number with position letter (A straight, B pike, C tuck, D free), its DD and, on the right in red, a penalty set by the referee.
8	**Description · next · points**	Dive name, position and height; below it the next diver and dive, and on the right the points once the dive is published.
9	**Judge boxes J1 … J7**	One box per judge (synchro: E and S groups). Click a box to select that judge for the keypad; the selected box is blue. It shows the typed award, ✓ for an award received, and after publishing the awards — cancelled ones dimmed.
10	**Keypad 0 … 10**	Gives the selected judge that whole award and selects the next judge at once, so seven awards are seven clicks. The first award opens scoring by itself.
11	**½**	Adds a half point to the award just typed (7 → 7.5), even though the next judge is already selected. A 10 or an award that already has a half gets no further half.
12	**⌫**	Clears the award just typed and selects that judge again, ready for the right award.
13	**Open Scoring**	Opens the dive for scoring (Waiting → Scoring) when the judges show their cards.

#	Control	What it does
14	**Publish**	Scores the dive, adds the points to the diver's total and shows them on the boards. With an award missing the desk asks **Publish Anyway?** (see below). Without any award, and for a dive already published, it is refused. A Failed Dive needs no awards.
15	**Failed Dive**	Referee: failed dive — 0 points; it can be published without awards.
16	**Re-Start −2**	Referee: a second start (balk) — 2 points are deducted from every award.
17	**Max 2**	Referee: dive in the wrong position or not safe — no award above 2.
18	**Max 4½**	Referee: arms not as required at the entry — no award above 4½.
19	**No Penalty**	Removes the penalty. One penalty at a time: a new one replaces the old one. On a published dive the points change at once.
20	**◀ Previous Diver**	Goes back one dive in the running order (to the end of the previous round at the start of a round).
21	**Correct**	Reopens the current published dive — or the last published dive — for scoring. The awards stay; change the wrong one and click Publish again.
22	**Change Dive…**	Opens *Change Dive* (see below). Refused once awards are in.
23	**Next Diver ▶**	Calls the next diver (the first of the next round after the last). Refused while the current dive is not published. Withdrawn divers are skipped.
24	**Standings**	Rank, name and total of the published dives; divers who have not dived yet show – and no total.
25	**Info Screens**	Puts the St board on the live dive, the intro, the result or the announcement; the screen on air is lit cyan.
26	**St**	Opens or closes the St board (lit green = open). See *The Main Window* and *Outputs*.
27	**St on-air row**	The screen the board shows now (lit amber = on air): Game, Intro, Result, Announce. See *On-Air Rows and Bottom Bar*.
28	**New Match**	Starts the sport again after a confirmation. The competition (heats, results, published dives) is saved first and loaded again, so finished results are kept.
29	**Sport · discipline ▾**	Shows the sport and discipline. Click it to open *Choose Sport and Discipline* (see *Choosing the Sport and Discipline*).
30	**Time Settings**	Opens the Time Settings window. Diving has no clock lengths to set: the window only says *This Discipline Has No Time Settings* (see below).

Scoring a Dive

1. The diver is on the board: the desk shows name, dive and DD; the board shows the dive with empty judge boxes.
2. Optional: click **Open Scoring** when the judges show their cards (the state turns amber).
3. J1 is selected. Type the award: **7** gives J1 a 7 and selects J2 at once; for 7.5 click **½** straight after the 7.
4. Enter all judges the same way. A wrong award: ⌫ straight after it, or click that judge's box and type it again.
5. If the referee calls a penalty, click it (Failed Dive, Re-Start −2, Max 2, Max 4½).
6. Click **Publish**. The cancelled awards are dimmed, the points and the new total appear and the standings update.

7. Click **Next Diver ▶**.

Diving Dialogs

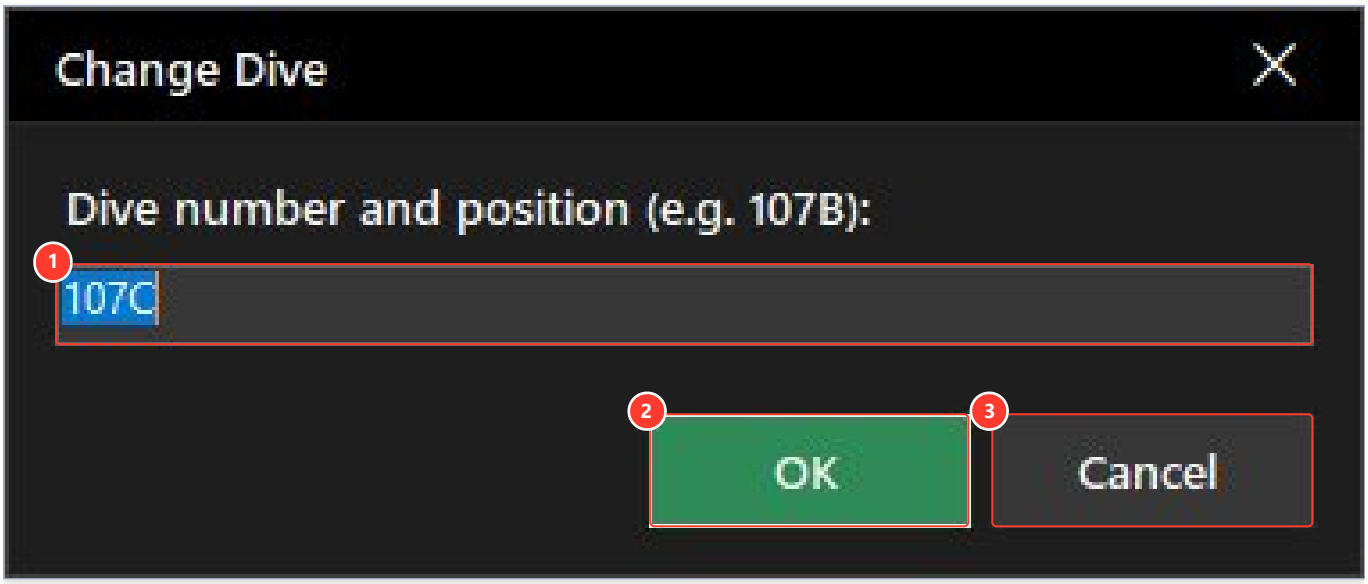


Figure 114. Change Dive

#	Control	What it does
1	**Dive number and position**	The current dive is filled in. Type the declared dive with its position letter, e.g. `205B`; the DD is looked up for the height of the event.
2	**OK**	Changes the dive on the desk and the boards. Refused when awards are already in, when the position letter is missing, or when the dive is not possible from that height.
3	**Cancel**	Keeps the dive.

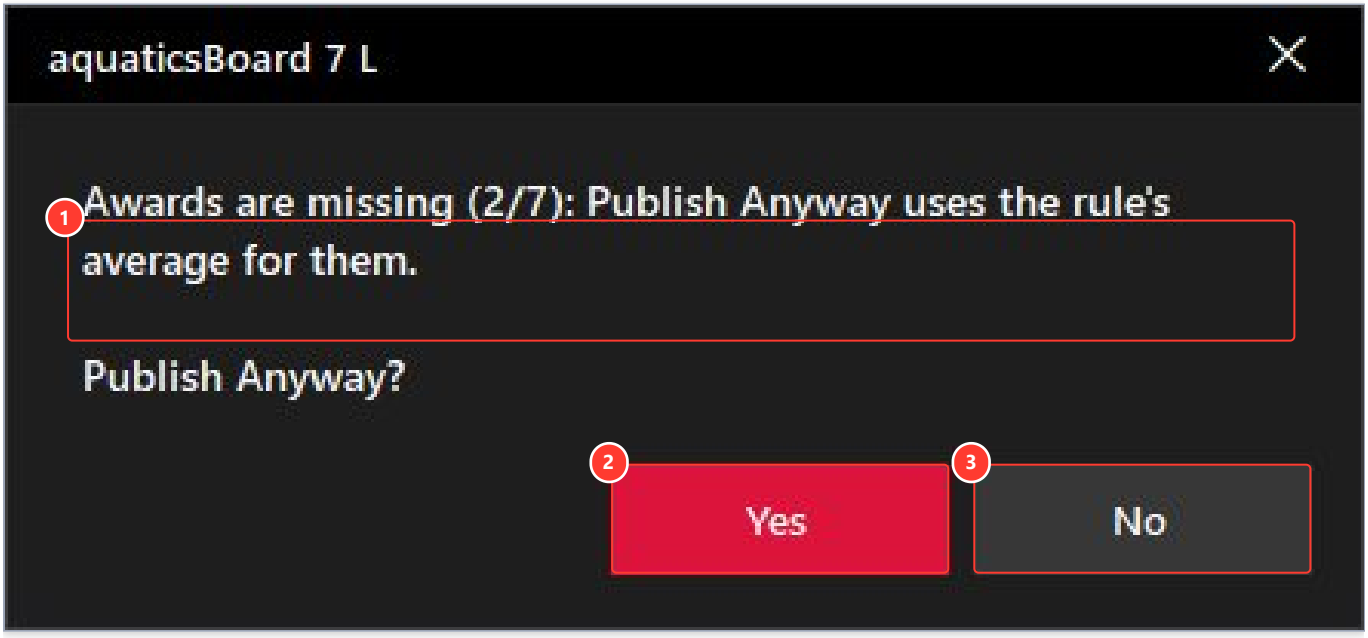


Figure 115. Publish Anyway? (two of seven awards typed)

#	Control	What it does
1	**Awards are missing (2/7)**	How many awards are in. Publish Anyway uses the rule's average for the missing ones (synchro: every judge group needs at least one award, otherwise publishing is refused).

#	Control	What it does
2	Yes	Publishes now with the average standing in for the missing awards.
3	No	Goes back to the keypad so you can type the missing awards first.

Officials' Phones and PINs

Every judge can enter the awards on an own phone: **Phones and PINs…** on the Teams page opens the list of seats. Each seat has its own random four-digit PIN (never the operator PIN of the remote control) and its own QR code. A phone opens the address of the card (or scans the code), signs in with the seat PIN and sees only what its seat may do.

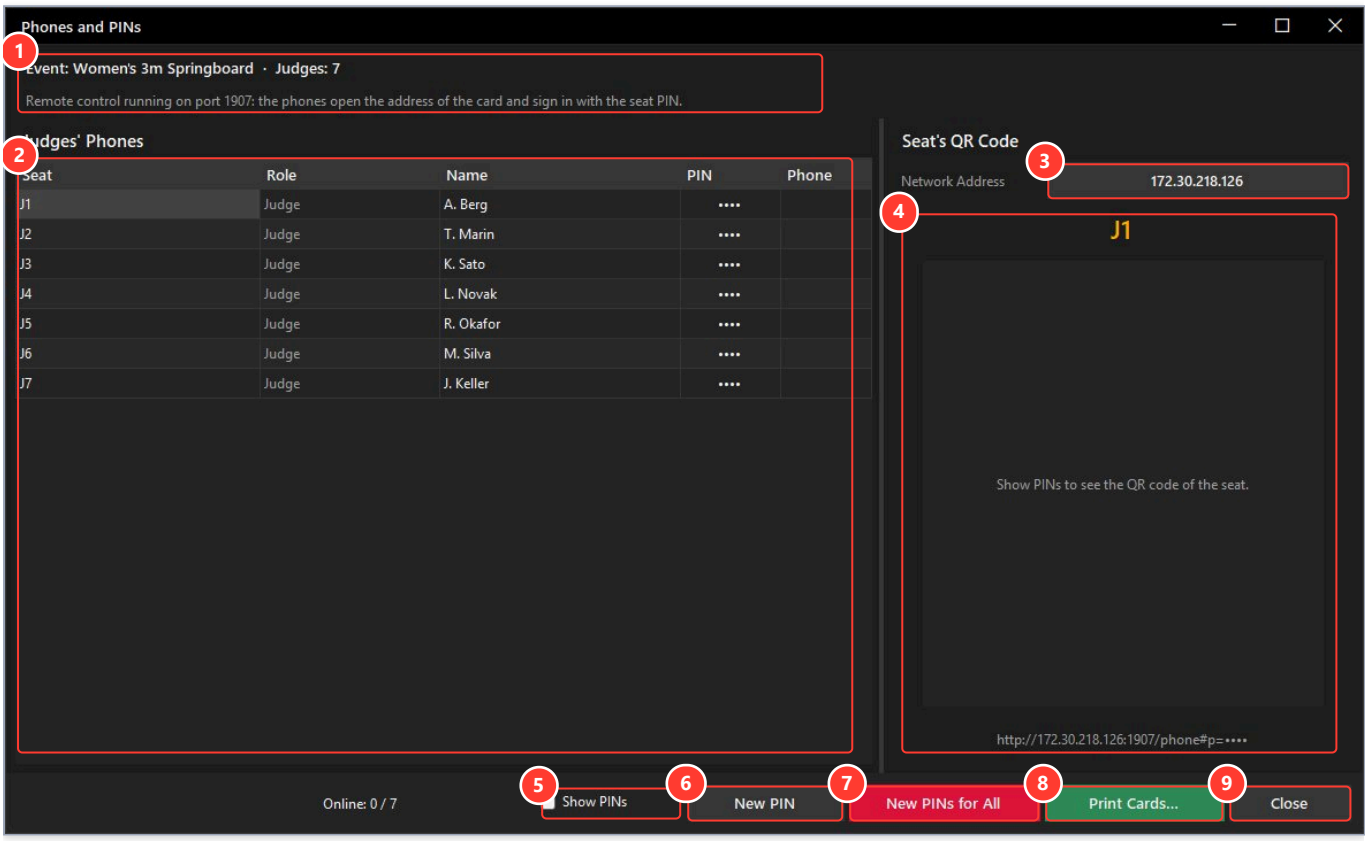


Figure 116. Phones and PINs (diving: the judges)

#	Control	What it does
1	Competition and server	The event and the number of judges, and whether the remote control runs (the phones need it: Settings → Remote Control).
2	Seats	**Seat**, **Role**, **Name**, the **PIN** (•••• until Show PINs is ticked) and **Phone** (a dot when the phone of the seat is online). Select a seat to see its QR code on the right. The judges' names come from the competition editor.
3	Network Address	The address of the PC that the phones use (one entry per network adapter); the QR code and the cards use it.
4	Seat's QR Code	The code and the address of the selected seat, shown only while **Show PINs** is ticked.
5	Show PINs	Shows the PINs and the QR code. Keep it off while others can see the screen.
6	New PIN	Gives the selected seat a new PIN after a question; its phone must sign in again.
7	New PINs for All	Gives every seat a new PIN after a question; all phones must sign in again.

#	Control	What it does
8	**Print Cards…**	Opens one card per seat (seat, address, PIN and QR code) in the browser for printing. The cards are confidential: each holds the PIN of its seat.
9	**Close**	Closes the window; the PINs stay.

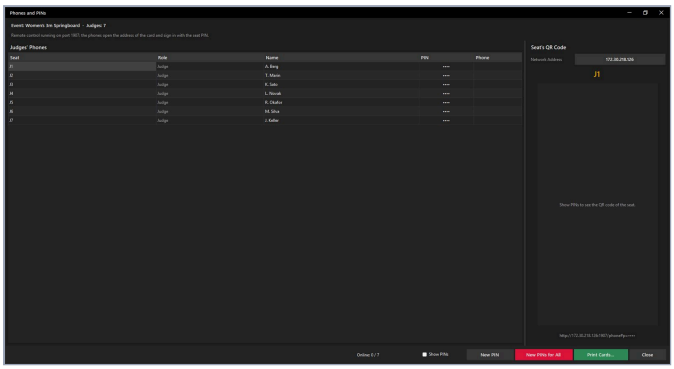


Figure 117. The same window maximised: all seats at a glance

Event Data, Info and Screens Pages

For diving the Teams page holds the event: **Event Name**, **Event Subtitle**, **Venue**, a summary with the event and the number of judges, and **Save Competition**, which saves the texts with the running order, the dive sheets, the awards and the results (see *Swimming and Diving: the Competition Page*).

The Info and Screens pages of diving have the same rows as those of swimming: Show On, Announce and the Info Screens Intro, Result and Announce; Game, Intro, Result, Announce (see *The Info Page of Each Sport* and *The Screens Page of Each Sport*).

Time Settings

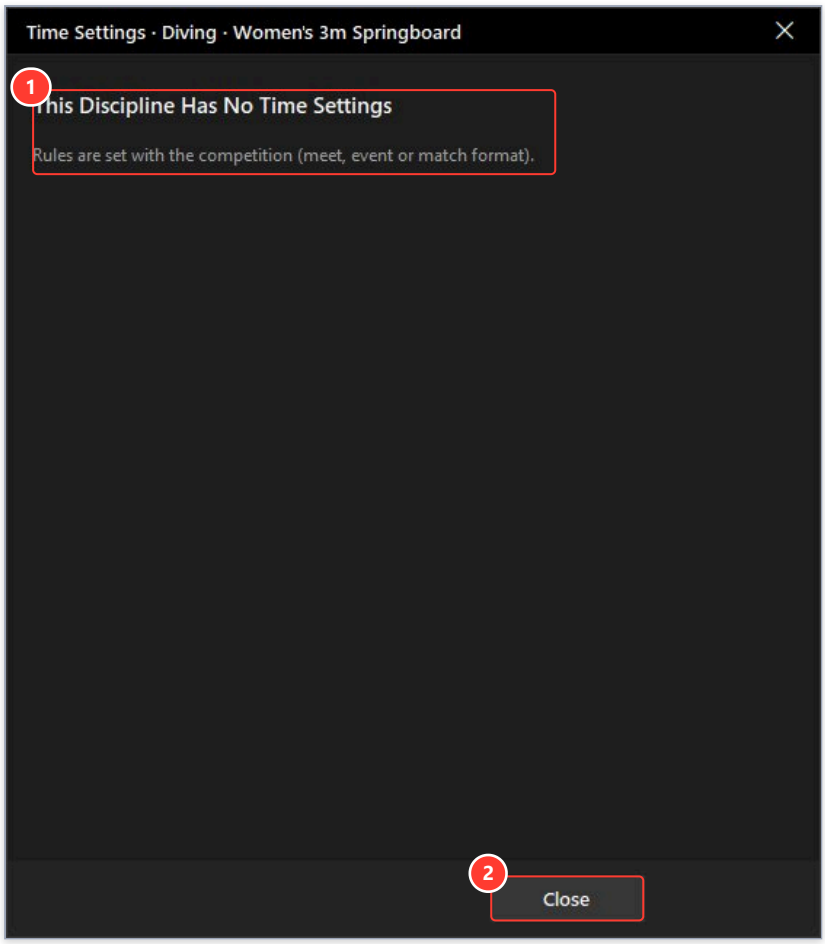


Figure 118. Time Settings of diving

#	Control	What it does
1	**This Discipline Has No Time Settings**	Diving has no clock. Judges, rounds, cancelled awards and penalty values come with the preset (event).
2	**Close**	Closes the window.

Keyboard Shortcuts

The keyboard shortcut list follows the sport: it lists every command of the diving panel (the picture of this list is in *Keyboard Shortcuts → The Actions of Each Sport*; how to assign keys, Global Shortcuts On and Default Keys are explained there). The factory keys:

Command	Default key
Horn	Num 2
Undo	F12
Open Scoring, Publish, Publish With Average, Correct, Failed Dive, Re-Start −2, Max 2, Max 4½, No Penalty, Previous Diver, Next Diver	none – assign the keys you need (Publish, Next Diver and the penalties are the useful ones)

> **Note** Commands that need a judge, a dive or a typed value (Award, Clear Award, Select Dive, Change Dive) and the commands that cannot be undone (Withdraw, New Match) are not in the list: use the desk or the remote for them.

The Diving Boards

The St board shows the event and round, the diver with club and nation, the dive with its description and DD, a box per judge, the points of the dive, the total and the rank, and the next diver. Points, Total and Rank stay hidden until there is a value.

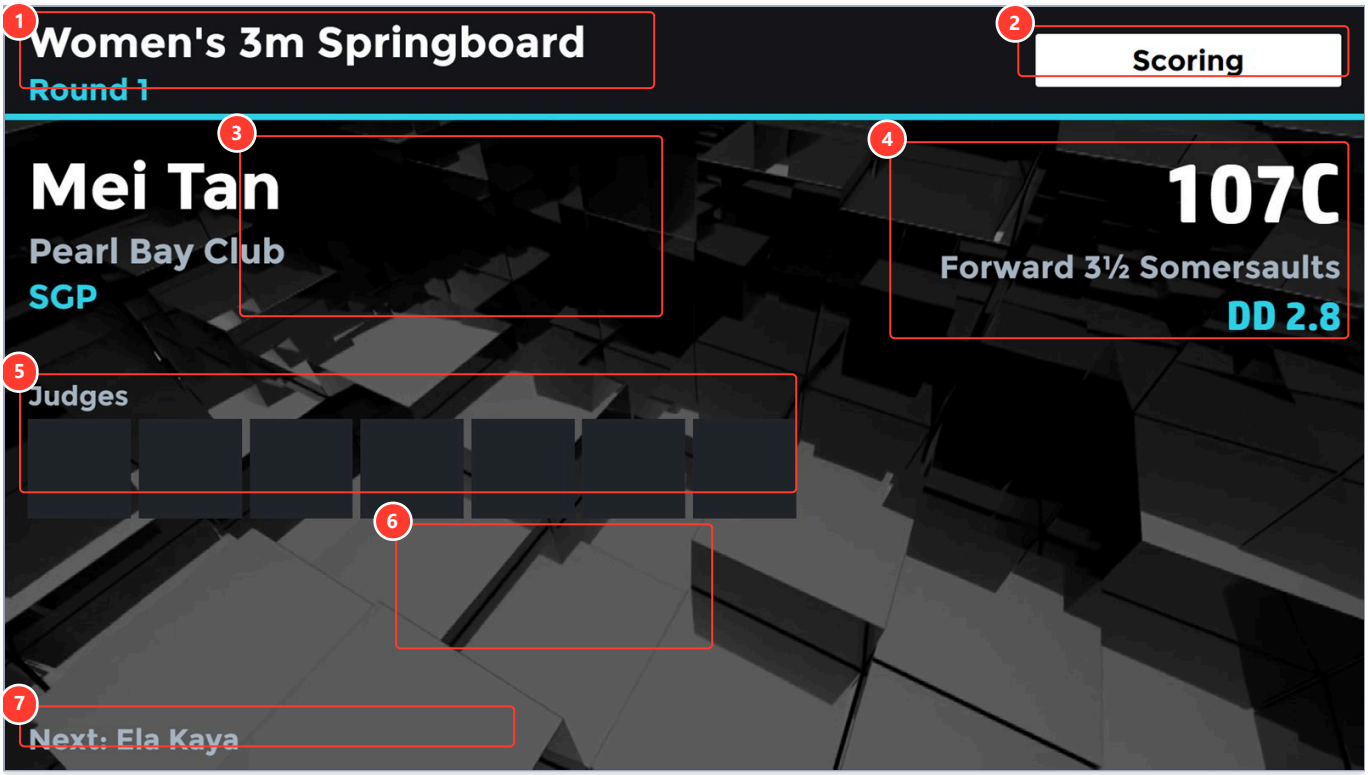


Figure 119. St – the diver on the board, before the awards

#	Control	What it does
1	Event · round	Event name and round.
2	State	Waiting, Scoring or Published.
3	Diver	Name, club and nation (synchro: both divers).
4	Dive	Dive number, description and DD.
5	Judges	One box per judge; the awards appear when the dive is published, cancelled ones dimmed.
6	Points · Total · Rank	Shown once the diver has a published dive.
7	Next	The next diver.

The other screens of diving:

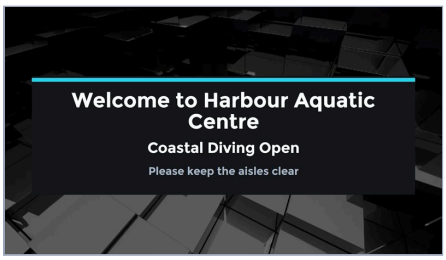


Figure 120. St Announce – the announcement title (a long title takes two lines) and the lines – Announce under Info Screens or Show on the Info page.

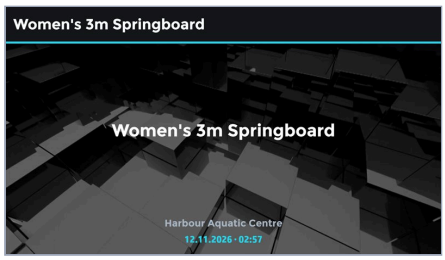


Figure 121. St Intro – the event name with date and time – Intro under Info Screens on the dive desk, in the St row or on the Info page.

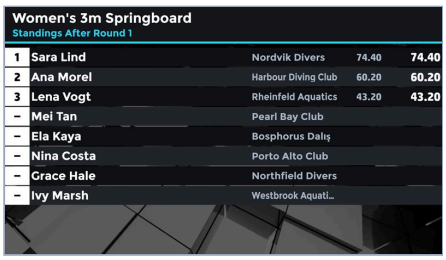


Figure 122. St Result – the standings after the round: rank, diver, club, points of the last dive and total – Result under Info Screens on the dive desk.

Remote Control (Diving)

Diving has its own remote view: the diver and the dive, the judges with the keypad, the penalties and the standings. A second operator can type the awards on a tablet next to the judges.

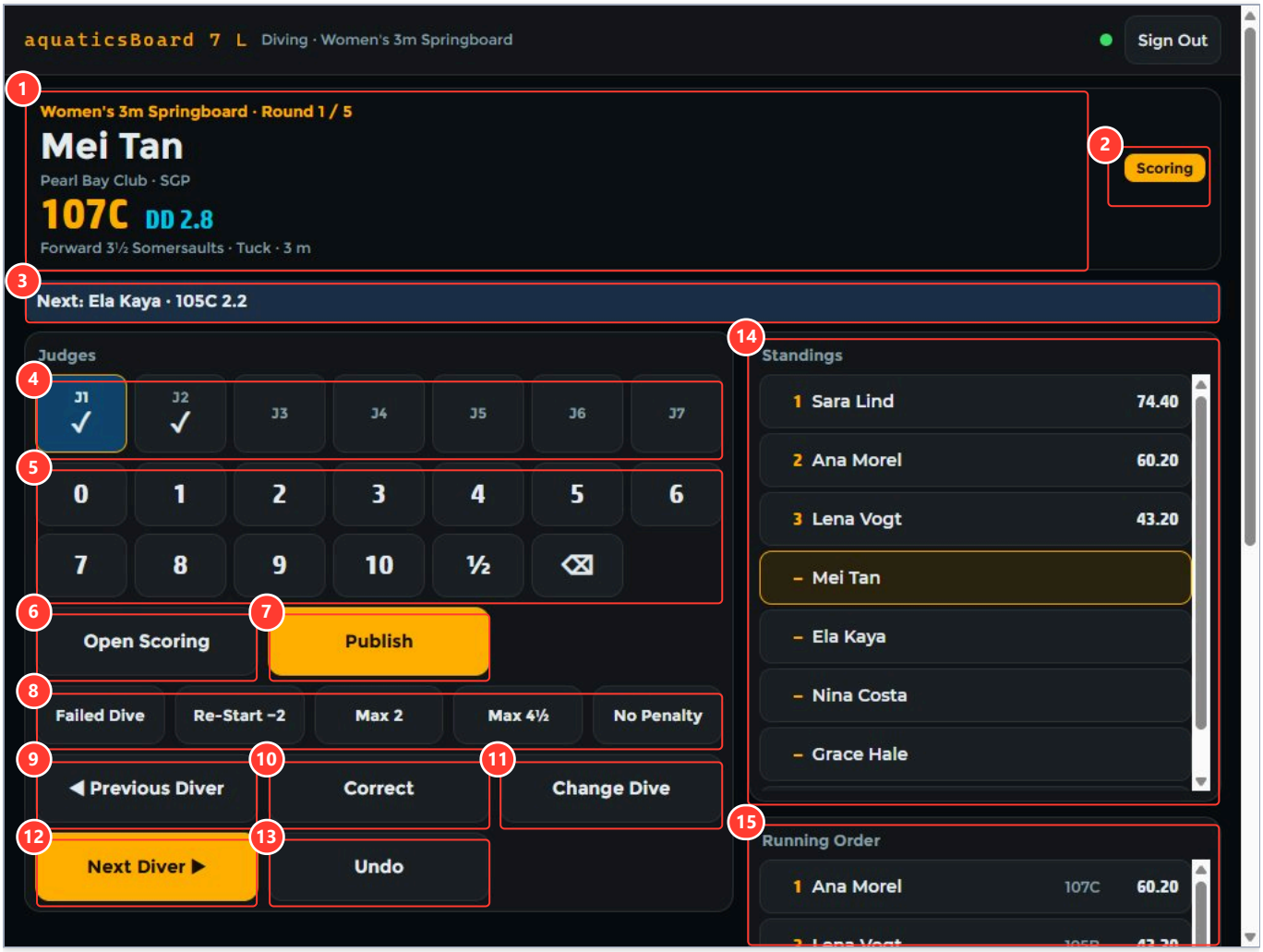


Figure 123. The diving remote on a tablet

#	Control	What it does
1	Dive card	Event and round, diver, club and nation, dive with DD and penalty, description.
2	State · total	Waiting / Scoring (amber) / Published (green), the points of the dive and the diver's total and rank.
3	Next	The next diver and dive.
4	Judges	Tap a judge to select it for the keypad (amber frame).
5	Keypad 0 … 10 · ½ · ⌫	Works like the desk: a whole award goes to the selected judge and selects the next; ½ and ⌫ act on the award just typed.
6	Open Scoring	Opens the dive for scoring.
7	Publish	Publishes the dive; with awards missing it asks *Publish Anyway?* – Yes publishes with the rule's average.
8	Penalties	Failed Dive, Re-Start −2, Max 2, Max 4½, No Penalty.
9	◀ Previous Diver	Back one dive.

#	Control	What it does
10	**Correct**	Reopens the last published dive.
11	**Change Dive**	Opens a sheet with the dive number; type the new dive and tap OK.
12	**Next Diver ▶**	Calls the next diver.
13	**Undo**	Takes back the last action.
14	**Standings**	Rank, name and total; the current diver has an amber frame.
15	**Running Order**	Start number, diver, dive and points. Tap a diver to call him or her. Further down: Match Control with **New Match** (Yes / No).

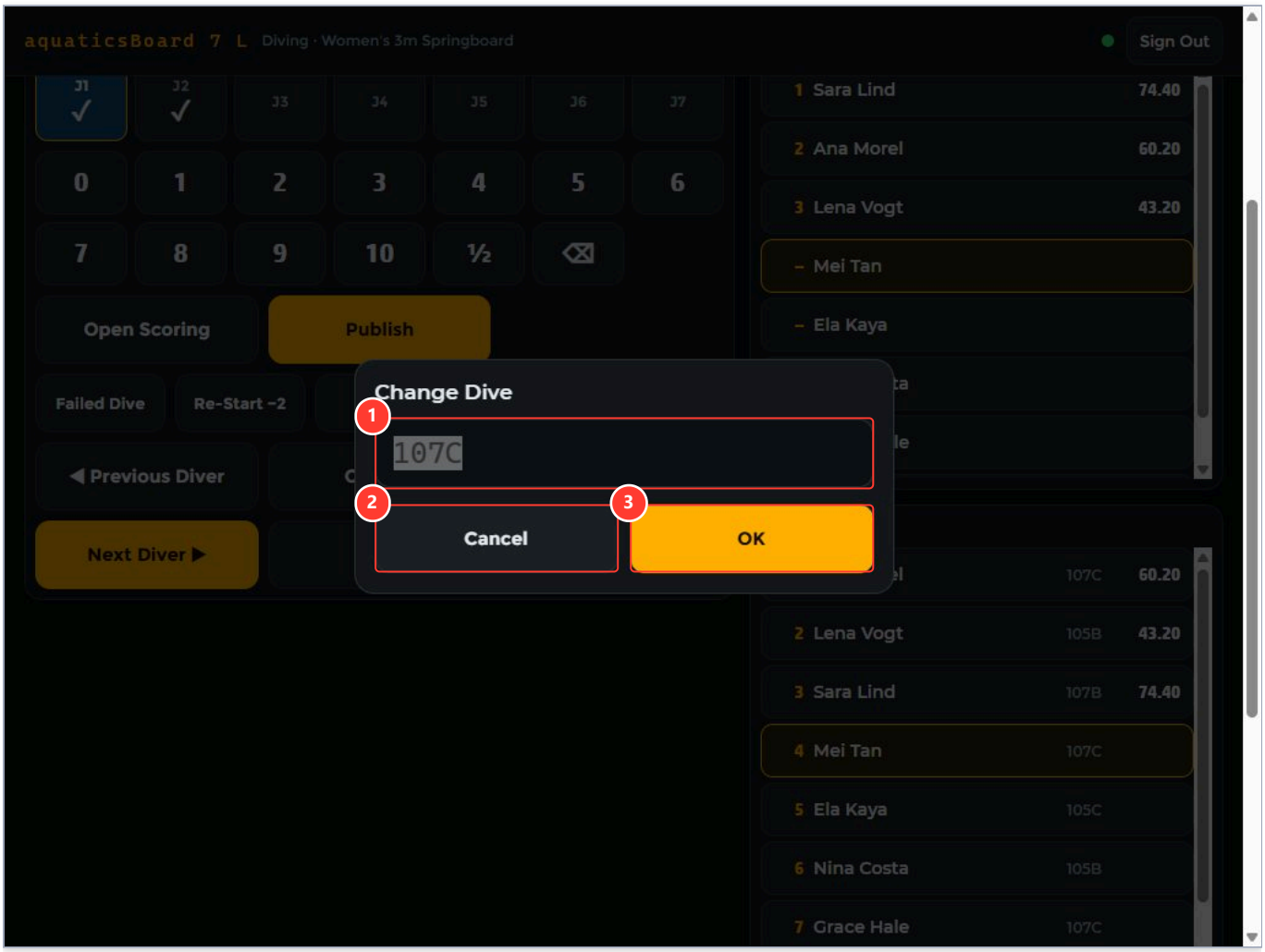


Figure 124. The Change Dive sheet on the tablet

#	Control	What it does
1	**Dive number**	The current dive is selected; type the new one, e.g. 205B.
2	**Cancel**	Closes the sheet.
3	**OK**	Sends the change (refused when awards are in).

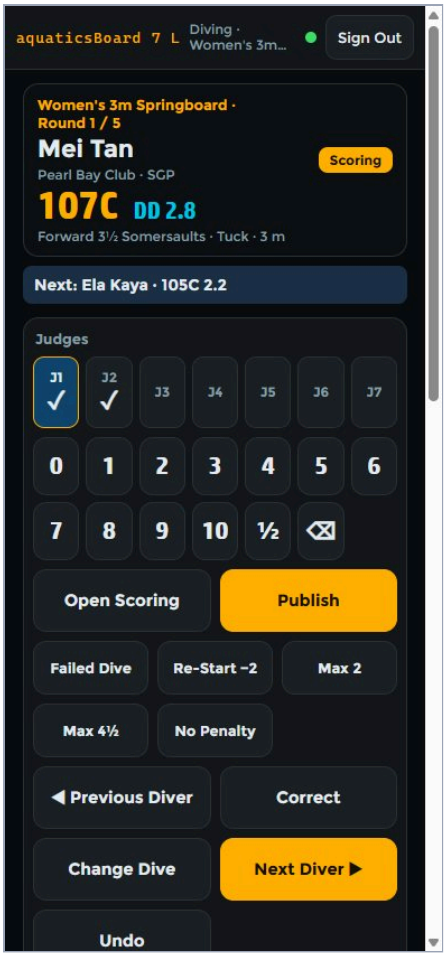


Figure 125. Phone – dive card and judges

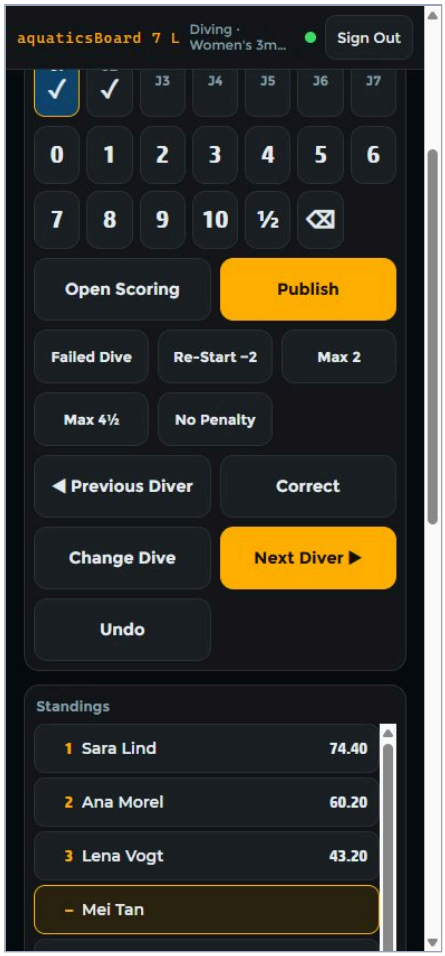


Figure 126. Phone – keypad, penalties and diver buttons

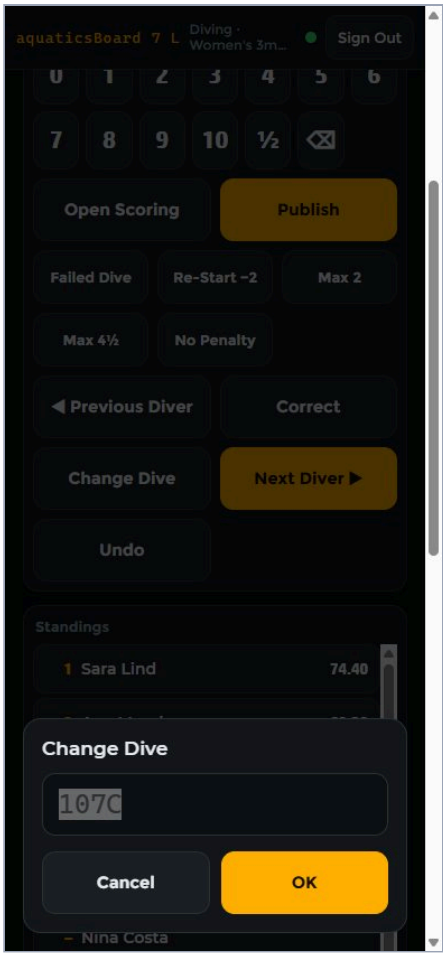


Figure 127. Phone – the Change Dive sheet

Diving Scenarios

1. The referee declares a failed dive. Click **Failed Dive** — the penalty appears in red.
2. Click **Publish** (no awards needed). The dive scores 0.00; click **Next Diver ▶**.
3. The next dive is published, then judge 4 reports a wrong card (6 instead of 6½).
4. Click **Correct**: the last published dive is open again with its awards.
5. Click the **J4** box, type **6** and then **½**, then click **Publish**. Points, total and standings are recalculated.
6. Click **Next Diver ▶** to go on.

1. Before any award is typed click **Change Dive…**, type `205B` and click OK. The desk and the boards show the new dive and DD.
2. Type the six readable awards; leave the seventh judge empty.
3. Click **Publish**. The desk asks *Awards are missing (6/7) … Publish Anyway?*
4. The referee agrees: click **Yes**. The rule's average stands in for the missing award and the points are published.

19 Water Polo

Water polo follows the World Aquatics rules as set in the preset **Water Polo**:

Rule	As implemented
Periods	4 × 8:00 (P1–P4), countdown, tenths below 1:00
Goal	stops the game clock, resets the shot clock to 28, ends **every** running exclusion of both teams
Shot clock	28 s full, 18 s reset, tenths from 5 s; runs with the game clock
Exclusion	18 s; up to six can run at the same time per team
Red card	a tally per team (no time), shown as red cards under the team name
Personal fouls	counted per team and per player; the 3rd personal foul marks the player as out
Timeouts	2 per team for the whole match, 60 s
Draw	no extra time; a penalty shoot-out of 5 (Shoot-Out button, PEN on the boards), the last 5 marks shown

The Water Polo Panel

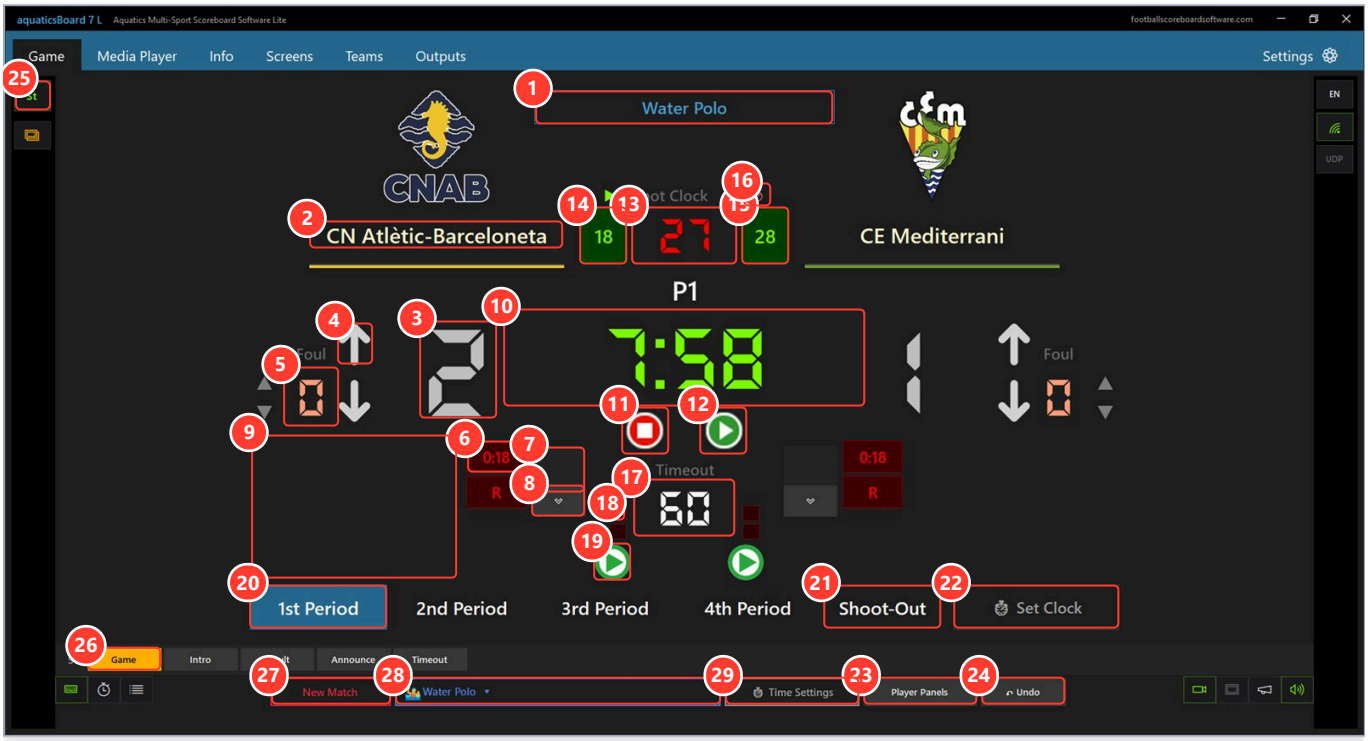


Figure 128. The water polo panel

#	Control	What it does
1	**Discipline**	The discipline. Click it to open the sport picker.
2	**Team name (home / guest)**	Type the team name here; Enter or leaving the box saves it. Logo and colour stripe come from the Teams page.
3	**Score**	The goals of the team (the guest's on the right).

#	Control	What it does
4	↑ / ↓ (score)	↑ adds a goal (credited to the player in the number box), ↓ takes one back. A goal stops the game clock and resets the shot clock.
5	Foul	Team fouls. Click the number or ▲ to add a foul (credited to the player in the number box; a player's third personal foul marks him out), ▼ to take one back.
6	0:18 / R (penalty buttons)	**0:18** (tool tip *Exclusion 18 s*) starts an 18-second exclusion for the player in the number box. **R** records a red card (tally, no time); **right-click R** takes a red card back.
7	Player number box	Type the cap / shirt number before a goal, foul or penalty, or pick it from the list below. The next action of the team is credited to that player and the box clears. Empty = the team only.
8	Player list ▾	Opens the team list (see *Players and the Number Box* below).
9	Running penalties	Up to 6 penalties of the team: player, remaining time and a red ✕ that removes exactly the penalty of that row. Penalty time only runs while the game clock runs.
10	Game clock	Counts down the period (tenths below one minute); green while running. **Double-click** it to set the time (m:ss or m:ss.t).
11	Stop	Stops the game clock (and with it the shot clock and the penalties).
12	Start	Starts the game clock; a running timeout ends. Refused at 0:00 — choose the next period first.
13	Shot clock	The shot clock (tenths from 5 s). It runs with the game clock. Click the digits to let it run again after it was stopped; **double-click** them to type a value from 0 to 28 (e.g. 7 or 4.5) – the double-click does not start it.
14	18 (reset)	Resets the shot clock to 18 seconds (e.g. after an exclusion or a corner throw).
15	28 (full)	Resets the shot clock to 28 seconds (new possession). A goal does this by itself.
16	⊘ Shot Clock to 0	Sets the shot clock to 0 and stops it, without the shot-clock buzzer; the boards show 0 until you reset it.
17	Timeout	The timeout length; during a timeout the countdown (amber). Click it to end a timeout early. A timeout also ends at zero or when the game clock starts.
18	Timeout lamps	One lamp per timeout of the match; red = used.
19	▶ Timeout (home / guest)	Takes a timeout for the team: the clock stops and the countdown starts. Hidden when the team has none left.
20	1st Period … 4th Period	Starts that period: the clock is set to 8:00 and stopped, the shot clock reset, a running timeout ends. The current period is lit.
21	Shoot-Out	Starts the penalty shoot-out (tool tip *Penalty Shoot-Out*; the clock cannot run during it, the boards show PEN). A row with ● **Shoot-Out Goal**, ○ **Shoot-Out Miss** and the marks per team appears above the panel; when one team can no longer be caught the match is won. Click Shoot-Out again to end the shoot-out.
22	Set Clock	Opens *Set Clock* (see below), the same as double-clicking the clock.
23	Player Panels	Switches the St game screen between the board with and without the player lists of both teams (lit = with).
24	Undo	Takes back the last action.

#	Control	What it does
25	**St**	Opens or closes the St board (lit green = open). See *The Main Window* and *Outputs*.
26	**St on-air row**	The screen the board shows now (lit amber = on air): Game, Intro, Result, Announce, Timeout. See *On-Air Rows and Bottom Bar*.
27	**New Match**	Resets score, clock, penalties, fouls and timeouts after a confirmation; teams and team lists stay.
28	**Sport · discipline** ▾	Shows the sport and discipline. Click it to open *Choose Sport and Discipline* (see *Choosing the Sport and Discipline*).
29	**Time Settings**	Opens the period, timeout, shot clock and penalty times of this discipline (see *Time Settings* below). A ***** after the name means the times differ from the defaults.

Players and the Number Box

Goals, fouls and penalties can be credited to a player. Without a team list just type the number into the number box under the penalty buttons; with a team list (Teams page) click the chevron under the box and pick the player.

1. Type the number, e.g. `7` (up to three characters), or pick it from the list.
2. Click the action of that team: ↑ for a goal, the foul number or ▲ for a foul, or a penalty button.
3. The goal or penalty is stored with the player, shown in the player panels and the penalty row, and the box clears for the next action.

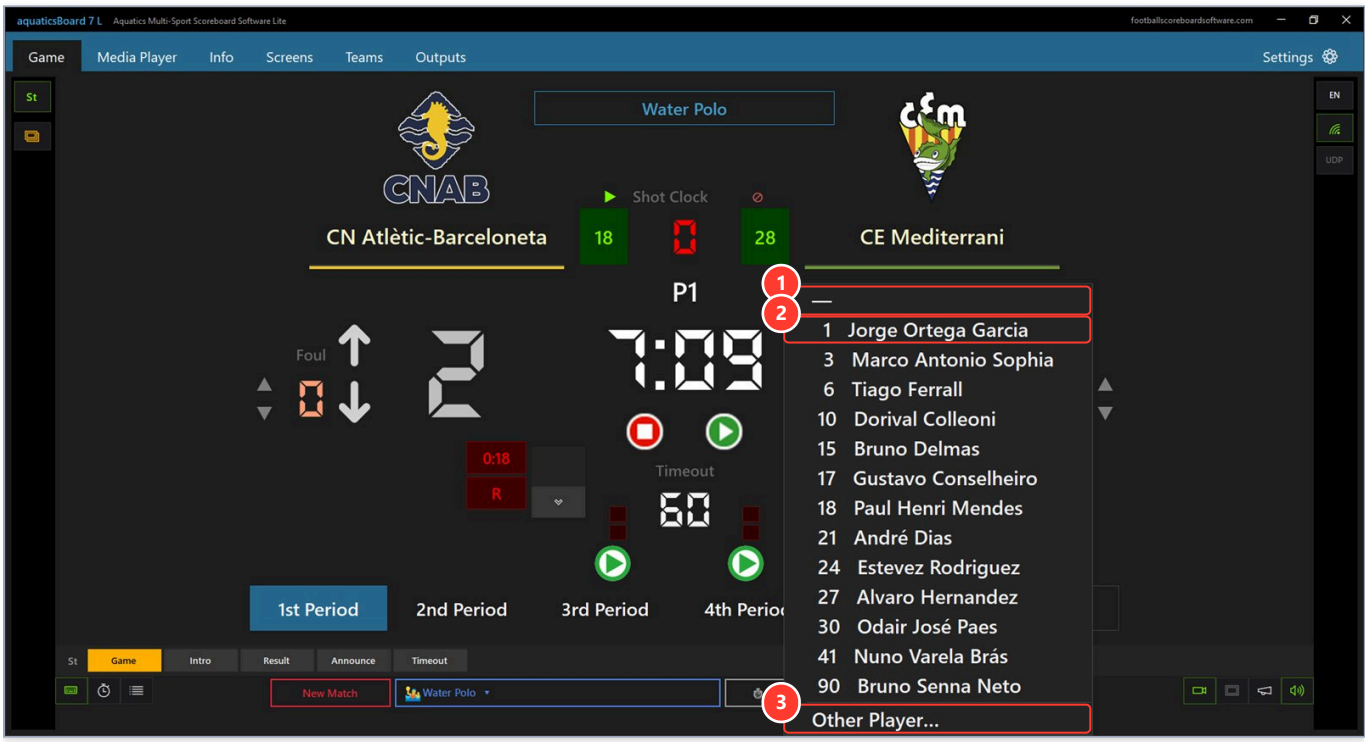


Figure 129. The player list of the home team (chevron under the number box)

#	Control	What it does
1	**—**	Clears the number box: the next action counts for the team only.
2	**Players (number · name)**	The players of the team list marked **Show** on the Teams page, by number. A click puts the number into the box.
3	**Other Player...**	Opens *Other Player...* for a player who is not in the list.

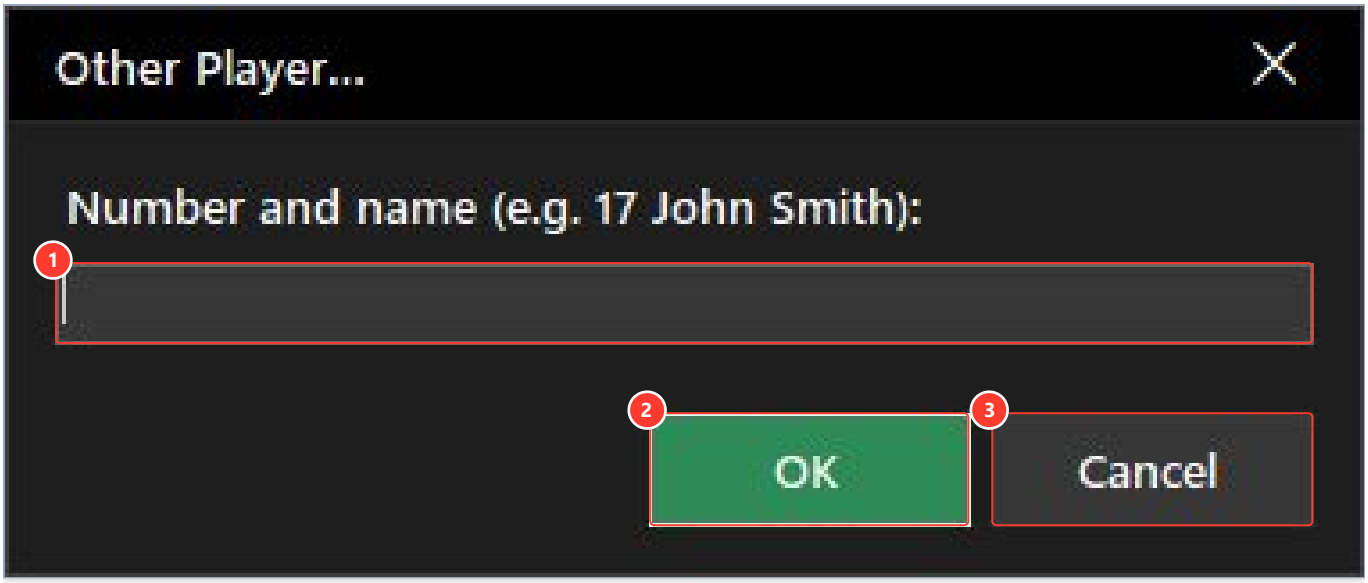


Figure 130. Other Player...

#	Control	What it does
1	**Number and name**	Type the number and the name, e.g. `17 John Smith`. A number alone only fills the box; with a name the player is also added to the team list.
2	**OK**	Puts the number into the number box.
3	**Cancel**	Closes without a change.

Set Clock



Figure 131. Set Clock (Set Clock button, or a double click on the game clock)

#	Control	What it does
1	**Time on the clock (m:ss or m:ss.t)**	Type the time the clock must show, e.g. `4:12` or `0:47.5`. The clock keeps its running state.
2	**OK**	Sets the clock; the boards and the remote follow at once.
3	**Cancel**	Leaves the clock as it is.

Time Settings

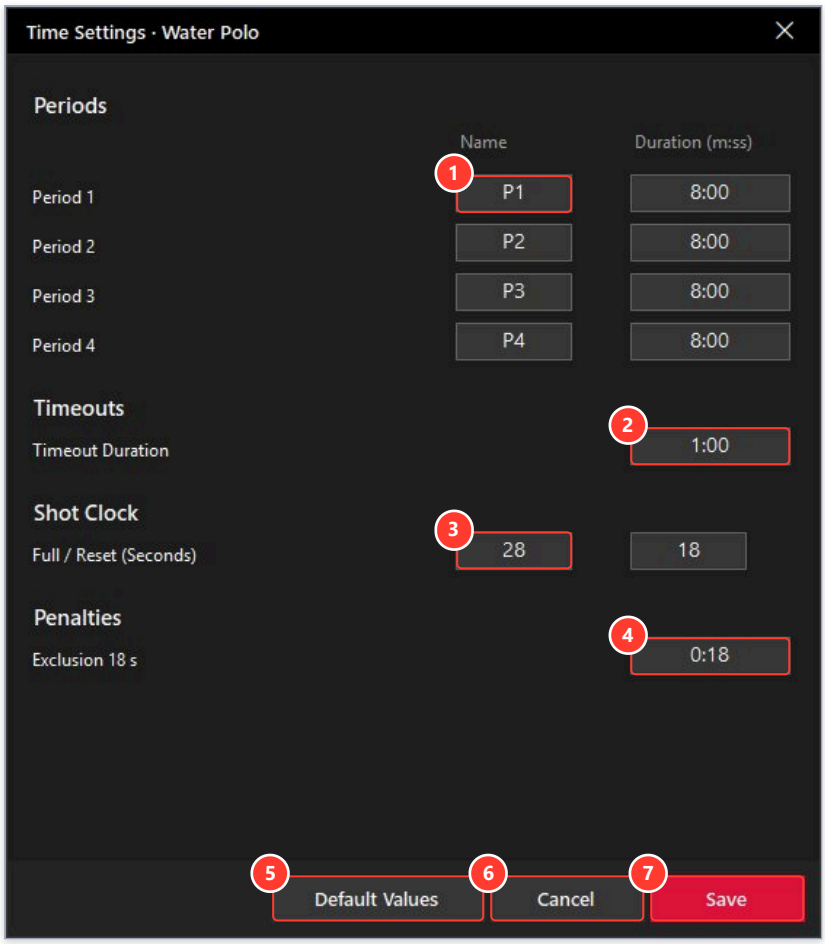


Figure 132. Time Settings of water polo

#	Control	What it does
1	**Periods: Name · Duration**	Name (P1 … P4) and length (m:ss) of each period.
2	**Timeout Duration**	Length of a team timeout.
3	**Shot Clock: Full / Reset**	The two shot clock buttons, in seconds (28 / 18).
4	**Penalties: Exclusion 18 s**	Length of an exclusion.
5	**Default Values**	Puts the factory values of the discipline back into the window (after a confirmation).
6	**Cancel**	Closes without saving.
7	**Save**	Saves the times for this discipline; they apply to the next match (see *When the New Times Apply*). **Time Settings *** on the Game page then shows that the times differ from the defaults.

The Info Page of Water Polo

The Info page shows only the rows the water polo designs can show (picture: *The Info Page of Each Sport*; the player list ▾ and the penalty and card lists: *The Player List (▾)* and *Score Type, Card and Sanction Lists*). The rows that belong to water polo:

Row	What it puts on air
Goal	Team, scorer and game time → Goal screen (St).

Row	What it puts on air
Exclusion 18 s	Team, player and the penalty choice (Exclusion 18 s) → Card screen.
Cards	Team, player and the card (Red Card) → Card screen.
Red Card (tally)	The red cards of each team: click a ○ to set the number of cards shown under the team name on the board (0–4).
Player Intro · Substitution · Multiple Substitution	Present a player, one substitution or up to five pairs.
Team Lists · Officials	Team list (Slide = player by player), Show Pictures, the officials.
Info Screens	Intro, Result, Announce and **Timeout**.

> **Tip** The time penalty row offers one choice: Exclusion 18 s.

Keyboard Shortcuts

The keyboard shortcut list follows the sport: it lists every command of the water polo panel (the picture of this list is in *Keyboard Shortcuts → The Actions of Each Sport*; how to assign keys, Global Shortcuts On and Default Keys are explained there). The factory keys:

Command	Default key
Start / Stop	F1
Next Period	F2
+1 Goal home / guest	Num 7 / Num 9
−1 Goal home / guest	Num 0 / Num ,
Foul +1 home / guest	F7 / F9
Foul −1 home / guest	F8 / F10
Timeout home / guest	F5 / F6
End Timeout	Num 5
Shot Clock 28 / 18	F3 / F4
Undo	F12
Horn	Num 2
Shoot-out and penalty commands	none – assign the keys you need (Set Clock is not in the list: it needs a typed time)

The Water Polo Boards

The St board shows logos, the game clock, the shot clock in red, the score, the period, the exclusions of each team, the timeouts left as dots, time of day and date. With **Player Panels** on, the cap numbers and names of both teams are listed with their goals.

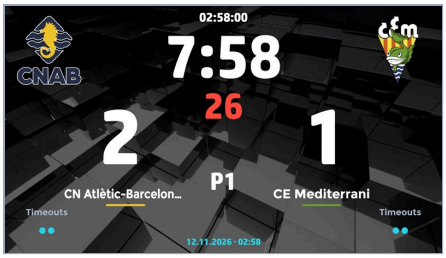


Figure 133. St – the game screen



Figure 134. St – with player panels (Player Panels on)

Every other screen of water polo — one sentence each on what it shows and how you put it on air:

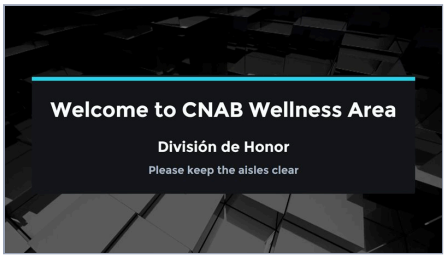


Figure 135. St Announce – a title and up to three lines (welcome, next match, safety notes); a long title wraps to a second line – Show in the Announce row of the Info page, or Announce in the St row.

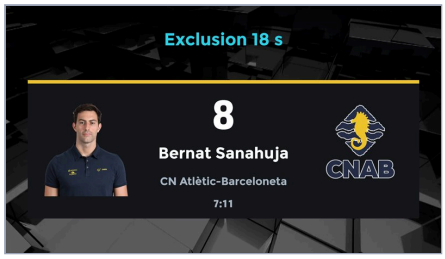


Figure 136. St Card – the player with number, photo and team under the name of the sport's own penalty or card (e.g. Exclusion 18 s, 2 Minutes, Red Card) and the game time – the Cards row (or the time penalty row) of the Info page, Show.



Figure 137. St Goal – the scorer with number, photo, team and the new score – choose team and player in the Goal row of the Info page and click Show or Show With Picture.



Figure 138. St Intro – the event, both teams with logos, venue, date and time – before the start; Intro in the St on-air row, on the Screens page or under Info Screens on the Info page.

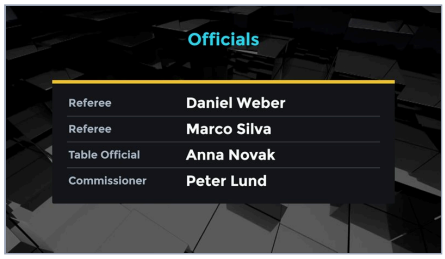


Figure 139. St Officials – referees and table officials – type them in the Officials row of the Info page and click Show.



Figure 140. St Player Intro – one player with photo, number and team – the Player Intro row of the Info page, or Slide in the Team Lists row to present the whole team one by one.



Figure 141. St Result – the score per period and the total – at the breaks and after the final whistle; Result in the St row or under Info Screens.

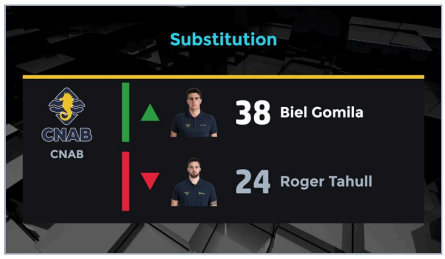


Figure 142. St Substitution – the player coming in (▲) and going out (▼) – the Substitution row of the Info page.

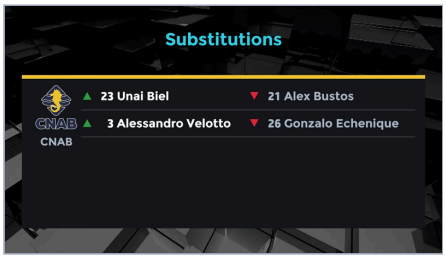


Figure 143. St Multiple Substitution – up to five pairs of one team at once – the Multiple Substitution row of the Info page.



Figure 144. St Team List – the team list with the coach (the rows are sized to the number of players) – the team button in the Team Lists row of the Info page.



Figure 145. St Timeout – the logo and name of the team that called the timeout, the countdown and the score – click Timeout in the St row when a team takes a timeout (it is not put on air by itself).

Remote Control (Water Polo)

Sign in on a phone or tablet as described in *Remote Control*. The title bar shows aquaticsBoard 7 L and the sport; the buttons carry the names of the desktop in its language. The remote builds its buttons from the commands of the Water Polo panel: one column per team (two buttons per row; a long name wraps to two lines), the shared Match buttons and Match Control — on a tablet the two team columns stand side by side next to Match. Every tap is sent to aquaticsBoard 7 L at once; the score card follows the desk within a fraction of a second.

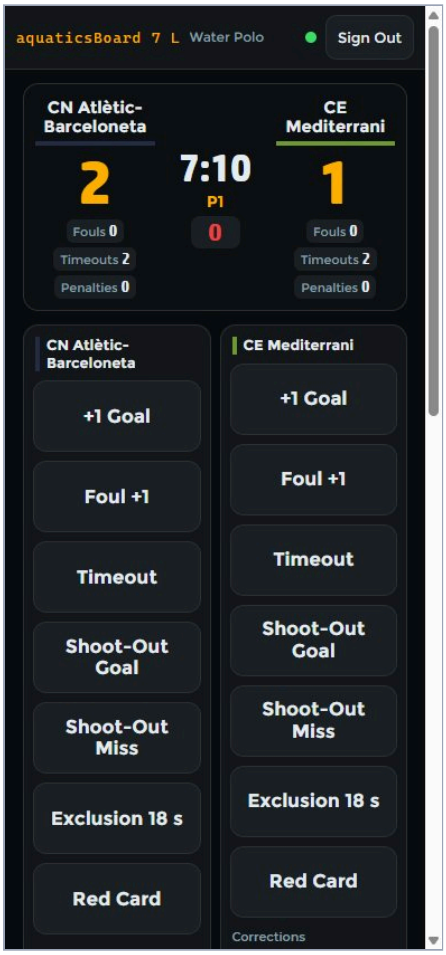


Figure 146. Phone – score card and the home team buttons

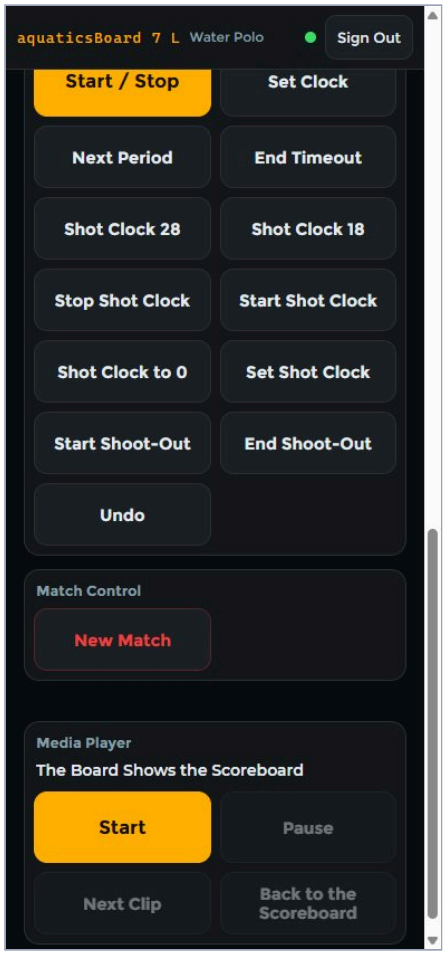


Figure 147. Phone – corrections, Match and Match Control further down

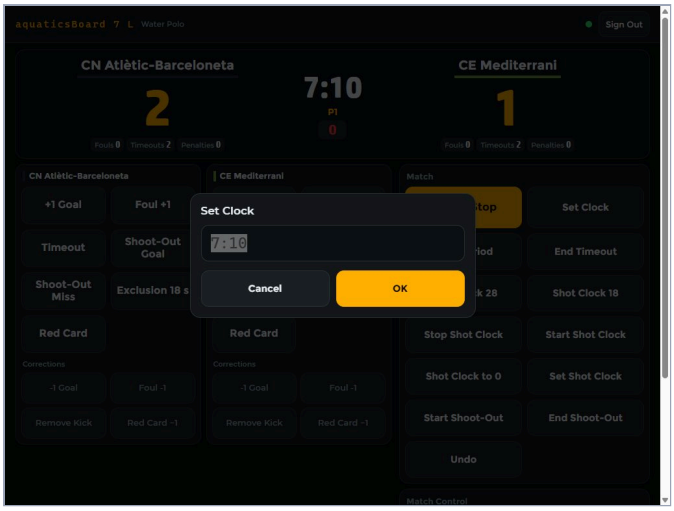


Figure 148. Tablet – Set Clock sheet over the panel

Button	Where	What it does
+1 Goal	team column	A goal for that team (the same as ↑ on the panel, without a player number).
Foul +1	team column	A team foul.
Timeout	team column	Takes a timeout for the team: the clock stops and the countdown runs.
Shoot-Out Goal / Shoot-Out Miss	team column	Records a penalty of the shoot-out for the team (after Start Shoot-Out).
Exclusion 18 s	team column	Starts an exclusion for the team.
Red Card	team column	Adds a red card to the team's tally.
Corrections: −1 Goal, Foul −1, Remove Kick, Red Card −1	team column, small buttons	Take back a goal, a foul, the last shoot-out kick or a red card of that team.
Start / Stop	Match	Starts or stops the game clock (amber, the biggest button).
Set Clock	Match	Opens a sheet with the clock time (mm:ss) filled in; type the new time and tap OK.
Next Period	Match	Goes on to the next period (the same as the next period button of the panel).
End Timeout	Match	Ends the running timeout early.
Shot Clock 28	Match	Resets the shot clock to that value.
Shot Clock 18	Match	Resets the shot clock to that value.
Stop Shot Clock	Match	Holds the shot clock while the game clock runs on.
Shot Clock to 0	Match	Sets the shot clock to 0 and stops it, without the buzzer (the ∅ button of the panel).
Set Shot Clock	Match	Opens a sheet with the shot clock filled in; type the seconds (e.g. 7 or 4.5) and tap OK.
Start Shoot-Out / End Shoot-Out	Match	Starts and ends the penalty shoot-out (the Shoot-Out button of the panel).

Button	Where	What it does
Undo	Match	Takes back the last action.
New Match	Match Control	Starts a new match. The remote asks *New Match? This cannot be undone from the remote.* – Yes / No.
Score card	top	Team names with colour, score, game clock (green while running), period, shot clock in red and the chips Fouls, Timeouts (left), Penalties (the number of running timed penalties).
● / Sign Out	title bar	The dot is green while the remote is connected; Sign Out ends the session after a Yes.

> **Note** A penalty sent from the remote is booked for the team without a player number. When a command is refused (e.g. Start at 0:00) the reason appears for a few seconds at the bottom of the remote.

Water Polo Scenarios

1. Type `5` into the home number box (or pick 5 from the list) and click **0:18**. The penalty row shows 5 with its time; the board shows the exclusion.
2. Click **18** for the shot clock as the referee awards it, then **Start**.
3. The guest team scores: click the guest ↑. The clock stops, the shot clock goes back to 28 and every running exclusion ends at once.
4. If an excluded player returns early for another reason, click the red ✕ on his row.
5. To show the scorer: on the Info page choose the guest team and the scorer in the Goal row and click **Show With Picture**.
6. Restart with **Start**.

1. Click the guest ▶ under the timeout lamps. The clock stops, the 60-second countdown runs and one guest lamp turns red.
2. Click **Timeout** in the St on-air row to show the Timeout screen.
3. When play resumes, click **Start**; the timeout ends. Click **Game** in the St row.
4. At 0:00 the clock stops by itself. Click **3rd Period** to load 8:00 for the next period and show **Result** during the break.

1. Click **Shoot-Out**. The shoot-out row appears above the panel.
2. Record each penalty with ● **Shoot-Out Goal** or ○ **Shoot-Out Miss** for the shooting team (or from the remote).
3. When one team can no longer be caught the shoot-out is decided; click **Shoot-Out** again to end it and show **Result**.

20 Canoe Polo

Canoe polo follows the ICF rules as set in the preset **Canoe Polo**:

Rule	As implemented
Periods	2 × 10:00 (H1, H2), countdown
Overtime	ET1, ET2 … of 5:00, golden goal (a goal in extra time stops the clock and wins)
Goal	stops the clock, resets the shot clock to 60, ends the oldest running suspension of the conceding team when it plays short
Shot clock	60 s (one button), runs with the game clock
Suspensions	2 minutes; green card 2:00, yellow card 2:00, red card 2:00 (not ended by a goal); up to two run at the same time per team
Ejection Red Card	a tally (no time), the **ER** button
Timeouts	none
Draw	penalty shoot-out (Shoot-Out button, PEN on the boards) of 5

The Canoe Polo Panel



Figure 149. The canoe polo panel

#	Control	What it does
1	**Discipline**	The discipline. Click it to open the sport picker.
2	**Team name (home / guest)**	Type the team name here; Enter or leaving the box saves it. Logo and colour stripe come from the Teams page.

#	Control	What it does
3	**Score**	The goals of the team (the guest's on the right).
4	**↑ / ↓ (score)**	↑ adds a goal (credited to the player in the number box), ↓ takes one back. A goal stops the game clock and resets the shot clock.
5	**2 / G2 / Y2 / R2 / ER (penalty buttons)**	**2** a 2-minute suspension, **G2** green card, **Y2** yellow card, **R2** red card — each runs 2:00 for the player in the number box. A goal of the other team ends the oldest running one (except the red card). **ER** records an ejection red card (tally, no time); **right-click ER** takes one back.
6	**Player number box**	Type the cap / shirt number before a goal, foul or penalty, or pick it from the list below. The next action of the team is credited to that player and the box clears. Empty = the team only.
7	**Player list ▾**	Opens the team list (see *Players and the Number Box* below).
8	**Running penalties**	Up to 2 penalties of the team: player, remaining time and a red ✕ that removes exactly the penalty of that row. Penalty time only runs while the game clock runs.
9	**Game clock**	Counts down the period (tenths below one minute); green while running. **Double-click** it to set the time (m:ss or m:ss.t).
10	**Stop**	Stops the game clock (and with it the shot clock and the penalties).
11	**Start**	Starts the game clock; a running timeout ends. Refused at 0:00 — choose the next period first.
12	**Shot clock**	The shot clock (tenths from 5 s). It runs with the game clock. Click the digits to let it run again after it was stopped; **double-click** them to type a value from 0 to 60 (e.g. 7 or 4.5) – the double-click does not start it.
13	**60 (full)**	Resets the shot clock to 60 seconds (new possession). A goal does this by itself.
14	**⊘ Shot Clock to 0**	Sets the shot clock to 0 and stops it, without the shot-clock buzzer; the boards show 0 until you reset it.
15	**First Half / Second Half**	Starts that half: 10:00, clock stopped, shot clock reset.
16	**Extra Time - 1**	Starts the first period of extra time (5:00, golden goal; the boards show ET1). In extra time the button reads *Extra Time - 2*, *Extra Time - 3* …: a click goes on to that period.
17	**Shoot-Out**	Starts the penalty shoot-out (tool tip *Penalty Shoot-Out*; the clock cannot run during it, the boards show PEN). A row with ● **Shoot-Out Goal**, ○ **Shoot-Out Miss** and the marks per team appears above the panel; when one team can no longer be caught the match is won. Click Shoot-Out again to end the shoot-out.
18	**Set Clock**	Opens *Set Clock* (see below), the same as double-clicking the clock.
19	**Player Panels**	Switches the St game screen between the board with and without the player lists of both teams (lit = with).
20	**Undo**	Takes back the last action.
21	**St**	Opens or closes the St board (lit green = open). See *The Main Window* and *Outputs*.
22	**St on-air row**	The screen the board shows now (lit amber = on air): Game, Intro, Result, Announce. See *On-Air Rows and Bottom Bar*.
23	**New Match**	Resets score, clock, penalties, fouls and timeouts after a confirmation; teams and team lists stay.

#	Control	What it does
24	**Sport · discipline** ▾	Shows the sport and discipline. Click it to open *Choose Sport and Discipline* (see *Choosing the Sport and Discipline*).
25	**Time Settings**	Opens the period, timeout, shot clock and penalty times of this discipline (see *Time Settings* below). A ***** after the name means the times differ from the defaults.

Players and the Number Box

Goals and penalties can be credited to a player. Without a team list just type the number into the number box under the penalty buttons; with a team list (Teams page) click the chevron under the box and pick the player.

1. Type the number, e.g. `7` (up to three characters), or pick it from the list.
2. Click the action of that team: ↑ for a goal, or a penalty button.
3. The goal or penalty is stored with the player, shown in the player panels and the penalty row, and the box clears for the next action.

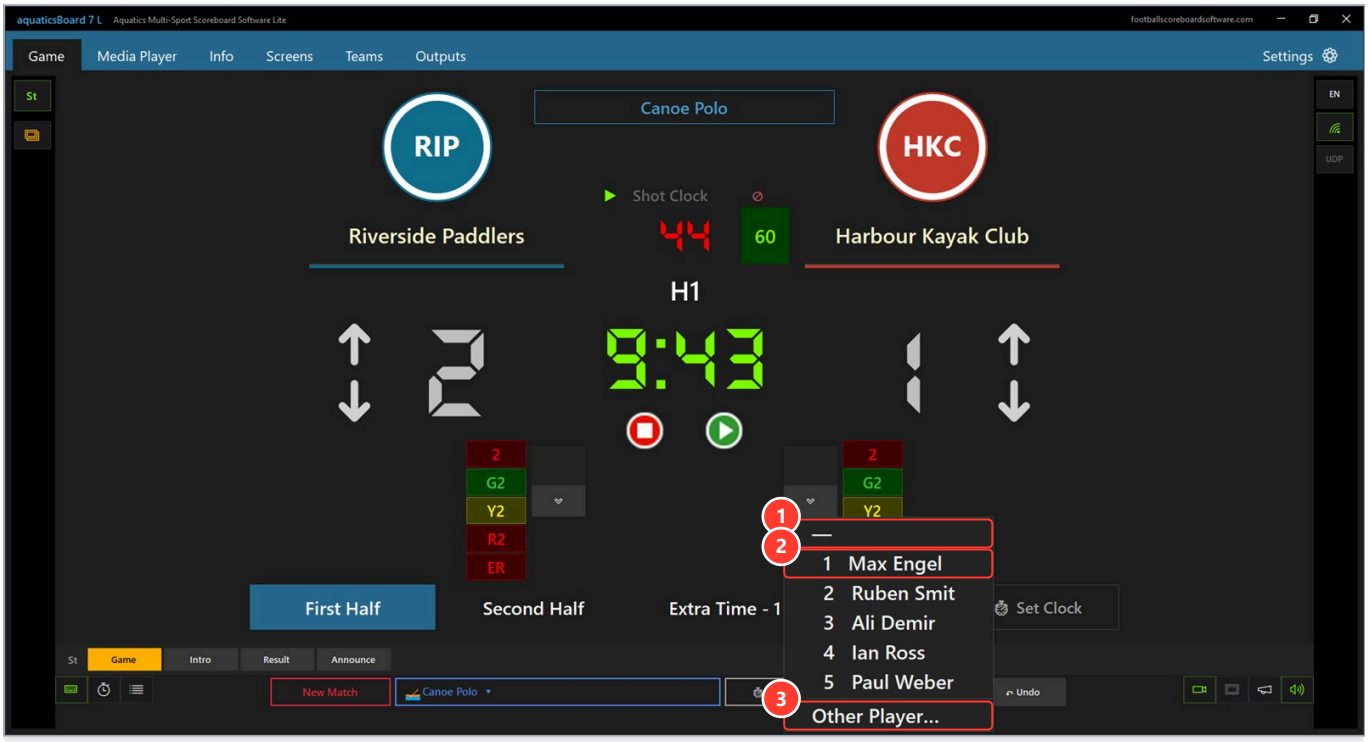


Figure 150. The player list of the home team (chevron under the number box)

#	Control	What it does
1	—	Clears the number box: the next action counts for the team only.
2	**Players (number · name)**	The players of the team list marked **Show** on the Teams page, by number. A click puts the number into the box.
3	**Other Player...**	Opens *Other Player...* for a player who is not in the list.

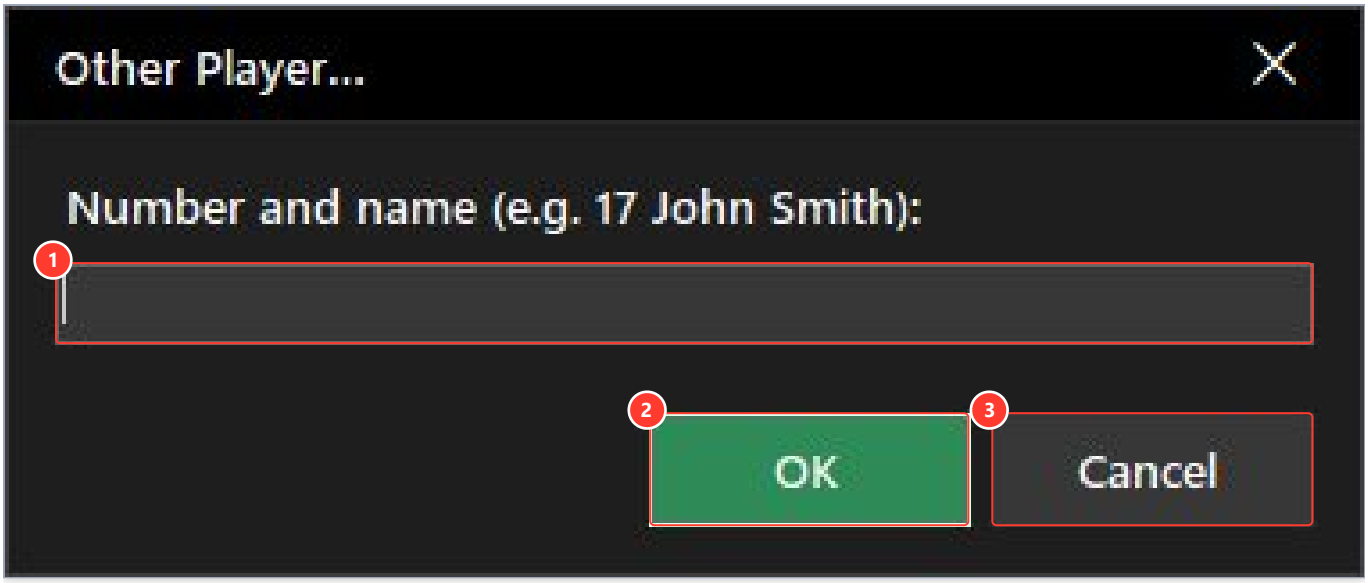


Figure 151. Other Player...

#	Control	What it does
1	**Number and name**	Type the number and the name, e.g. `17 John Smith`. A number alone only fills the box; with a name the player is also added to the team list.
2	**OK**	Puts the number into the number box.
3	**Cancel**	Closes without a change.

Set Clock



Figure 152. Set Clock (Set Clock button, or a double click on the game clock)

#	Control	What it does
1	**Time on the clock (m:ss or m:ss.t)**	Type the time the clock must show, e.g. `4:12` or `0:47.5`. The clock keeps its running state.
2	**OK**	Sets the clock; the boards and the remote follow at once.
3	**Cancel**	Leaves the clock as it is.

Time Settings

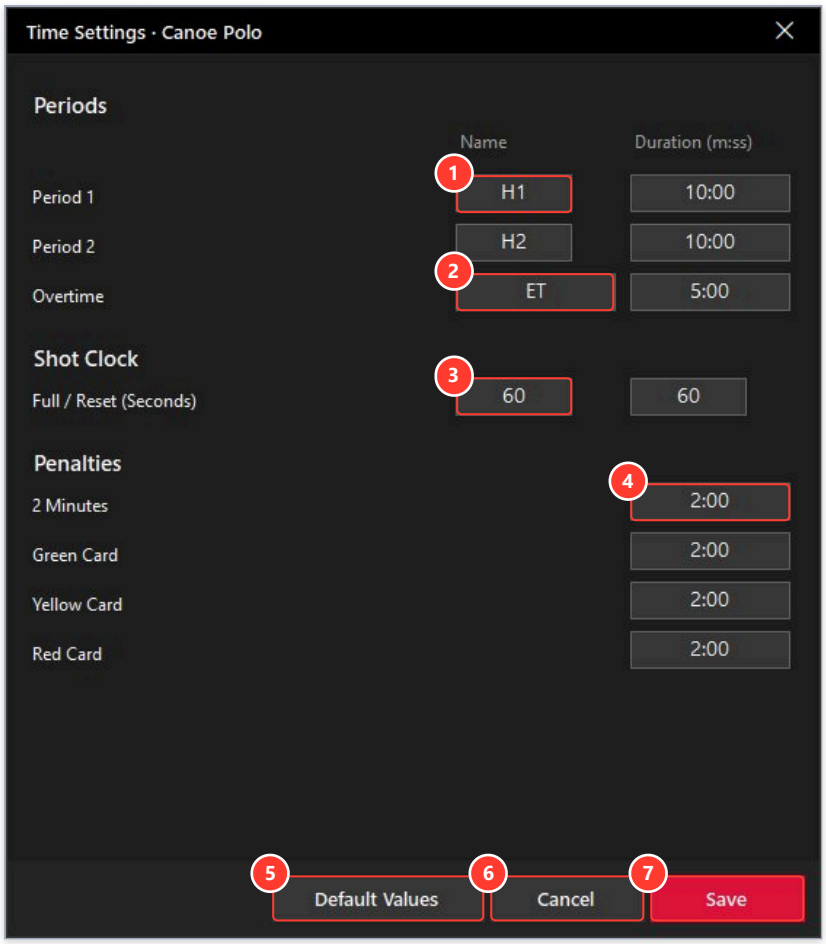


Figure 153. Time Settings of canoe polo

#	Control	What it does
1	**Periods: Name · Duration**	Name and length of both halves.
2	**Overtime**	Name of the extra periods (ET; the number is added: ET1, ET2 …) and their length.
3	**Shot Clock: Full / Reset**	Shot clock length in seconds (both 60: the panel, the remote and the shortcut list show only one Shot Clock 60).
4	**Penalties**	Lengths of the 2-minute suspension and the green, yellow and red cards.
5	**Default Values**	Puts the factory values of the discipline back into the window (after a confirmation).
6	**Cancel**	Closes without saving.
7	**Save**	Saves the times for this discipline; they apply to the next match (see *When the New Times Apply*). **Time Settings *** on the Game page then shows that the times differ from the defaults.

The Info Page of Canoe Polo

The Info page shows only the rows the canoe polo designs can show (picture: *The Info Page of Each Sport*; the player list ▾ and the penalty and card lists: *The Player List (▾)* and *Score Type, Card and Sanction Lists*). The rows that belong to canoe polo:

Row	What it puts on air
Goal	Team, scorer and game time → Goal screen (St).
2 Minutes	Team, player and the suspension → Card screen.
Cards	Team, player and the card (Green, Yellow, Red, Ejection Red Card) → Card screen.
Player Intro · Substitution · Multiple Substitution	Present a player, one substitution or up to five pairs.
Team Lists · Officials	Team list (Slide = player by player), the officials.
Info Screens	Intro, Result and Announce (canoe polo has no timeouts, so no Timeout screen).

> **Tip** The time penalty row offers 2 Minutes; the green, yellow, red and ejection red cards are chosen in the Cards row.

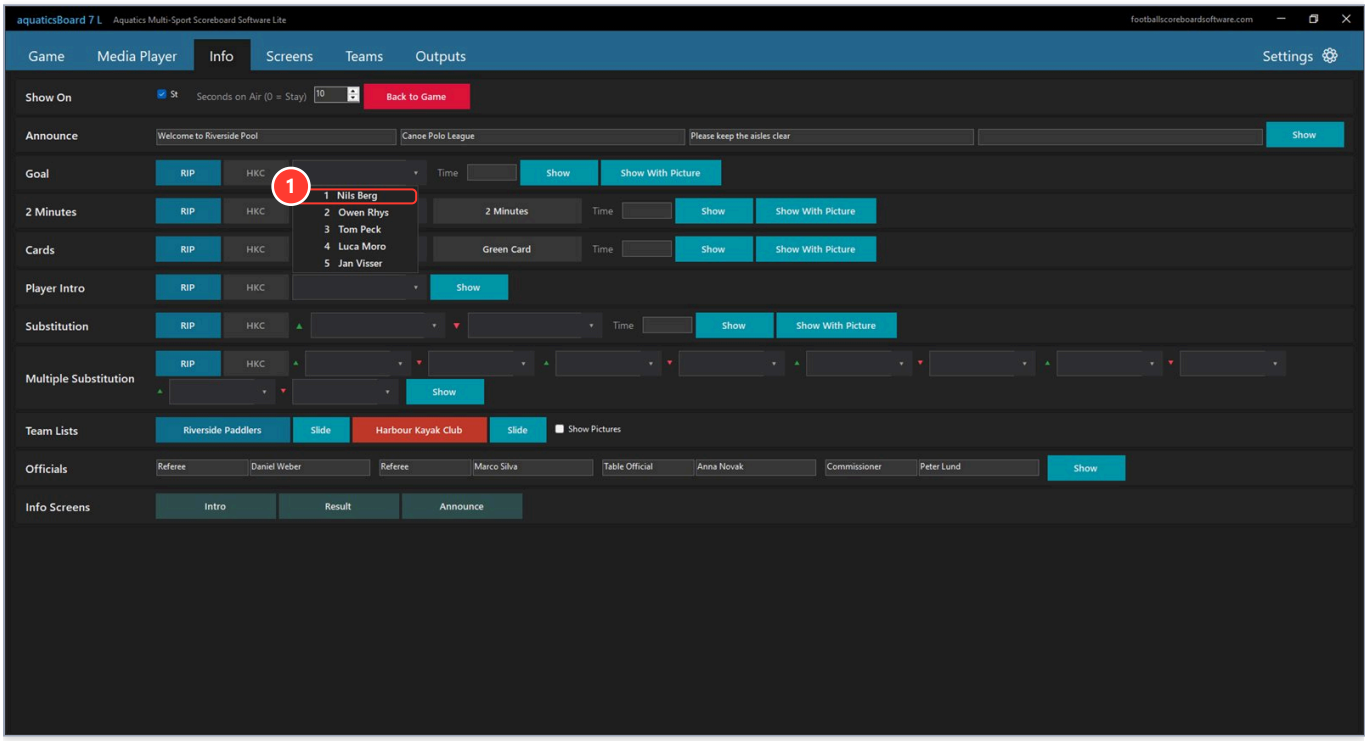


Figure 154. The player list of the Goal row (home team)

#	Control	What it does
1	**Players (number · name)**	The players of the chosen team by number. The choice fills the row; **Show** or **Show With Picture** puts the graphic on air for the Seconds on Air.

Keyboard Shortcuts

The keyboard shortcut list follows the sport: it lists every command of the canoe polo panel (the picture of this list is in *Keyboard Shortcuts → The Actions of Each Sport*; how to assign keys, Global Shortcuts On and Default Keys are explained there). The factory keys:

Command	Default key
Start / Stop	F1
Next Period	F2
+1 Goal home / guest	Num 7 / Num 9
−1 Goal home / guest	Num 0 / Num ,
Shot Clock 60	F3
Undo	F12
Horn	Num 2
Shoot-out and penalty commands	none – assign the keys you need (Set Clock is not in the list: it needs a typed time)

The Canoe Polo Boards

The St board shows logos, the game clock, the shot clock in red, the score, the half and the running suspensions; with Player Panels on both team lists are added.



Figure 155. St – the game screen with shot clock

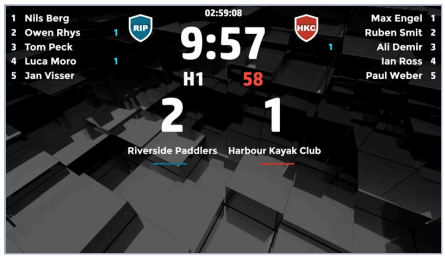


Figure 156. St – with player panels

Every other screen of canoe polo — one sentence each on what it shows and how you put it on air:

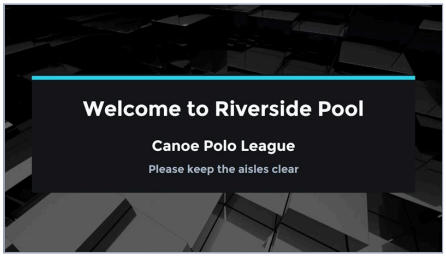


Figure 157. St Announce – a title and up to three lines (welcome, next match, safety notes); a long title wraps to a second line – Show in the Announce row of the Info page, or Announce in the St row.

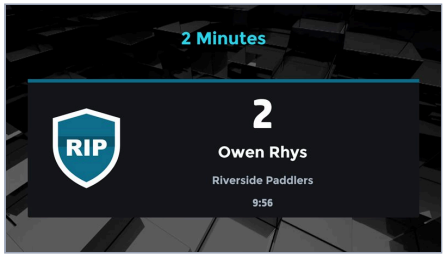


Figure 158. St Card – the player with number, photo and team under the name of the sport's own penalty or card (e.g. Exclusion 18 s, 2 Minutes, Red Card) and the game time – the Cards row (or the time penalty row) of the Info page, Show.

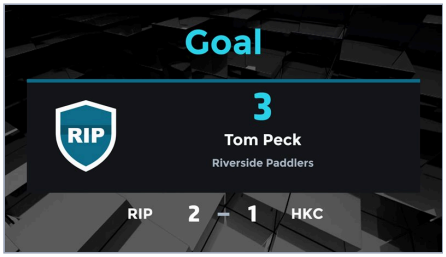


Figure 159. St Goal – the scorer with number, photo, team and the new score – choose team and player in the Goal row of the Info page and click Show or Show With Picture.



Figure 160. St Intro – the event, both teams with logos, venue, date and time – before the start; Intro in the St on-air row, on the Screens page or under Info Screens on the Info page.

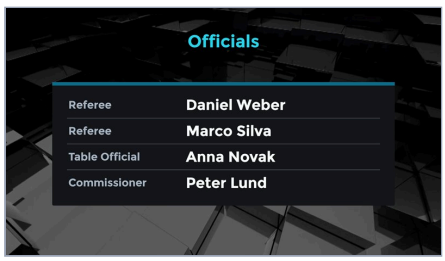


Figure 161. St Officials – referees and table officials – type them in the Officials row of the Info page and click Show.



Figure 162. St Player Intro – one player with photo, number and team – the Player Intro row of the Info page, or Slide in the Team Lists row to present the whole team one by one.

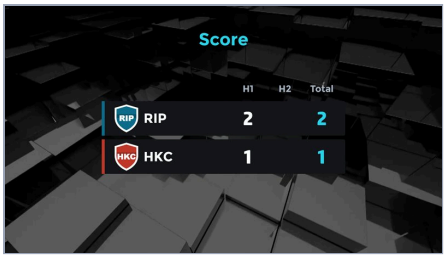


Figure 163. St Result – the score per period and the total – at the breaks and after the final whistle; Result in the St row or under Info Screens.

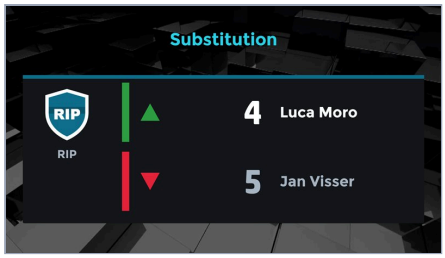


Figure 164. St Substitution – the player coming in (▲) and going out (▼) – the Substitution row of the Info page.

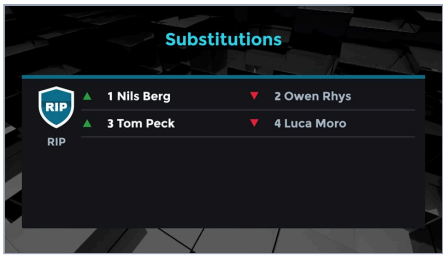


Figure 165. St Multiple Substitution – up to five pairs of one team at once – the Multiple Substitution row of the Info page.

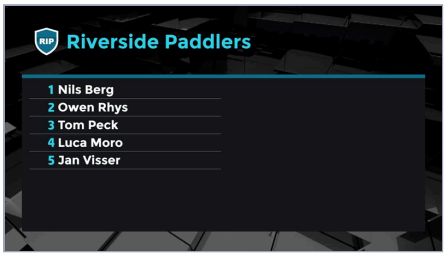


Figure 166. St Team List – the team list with the coach (the rows are sized to the number of players) – the team button in the Team Lists row of the Info page.

Remote Control (Canoe Polo)

Sign in on a phone or tablet as described in *Remote Control*. The title bar shows aquaticsBoard 7 L and the sport; the buttons carry the names of the desktop in its language. The remote builds its buttons from the commands of the Canoe Polo panel: one column per team (two buttons per row; a long name wraps to two lines), the shared Match buttons and Match Control — on a tablet the two team columns stand side by side next to Match. Every tap is sent to aquaticsBoard 7 L at once; the score card follows the desk within a fraction of a second.

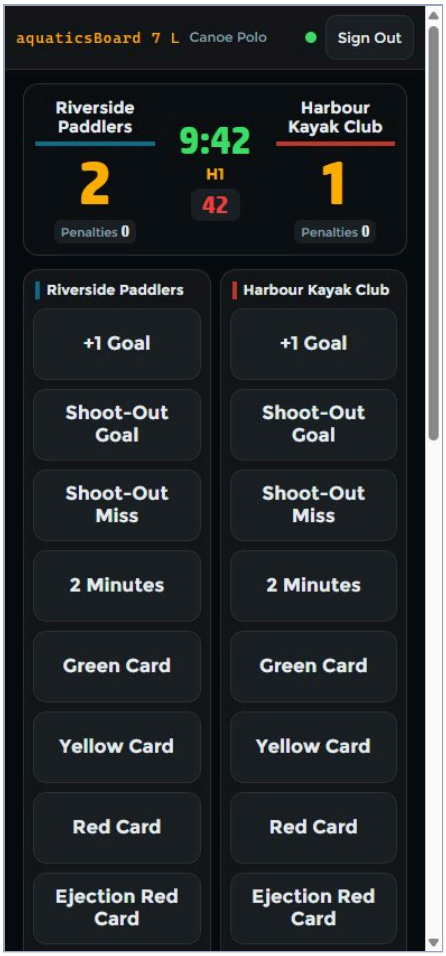


Figure 167. Phone – score card and the home team buttons

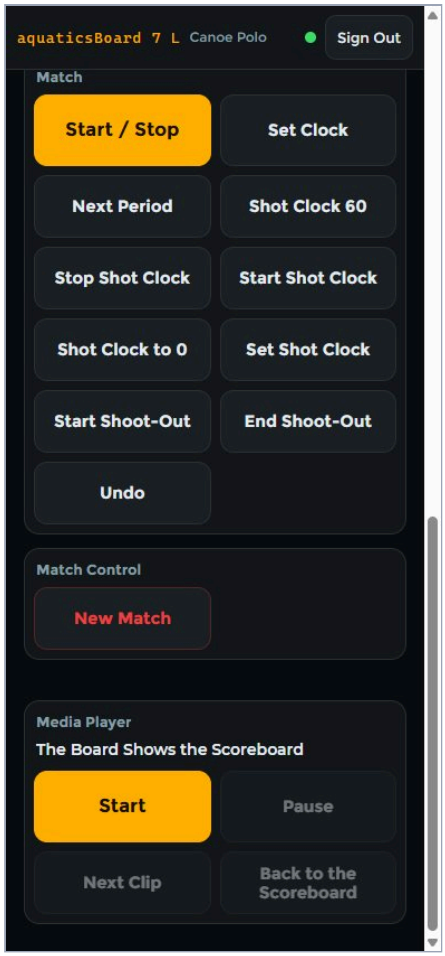


Figure 168. Phone – corrections, Match and Match Control further down

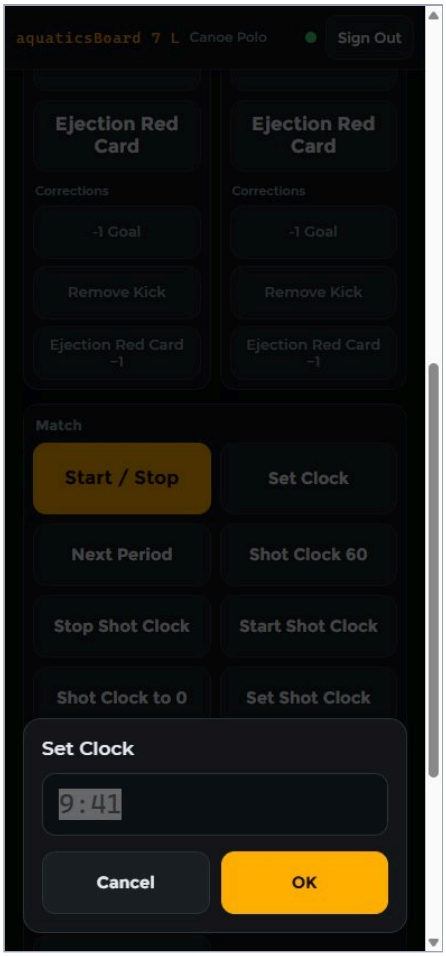


Figure 169. Phone – the Set Clock sheet

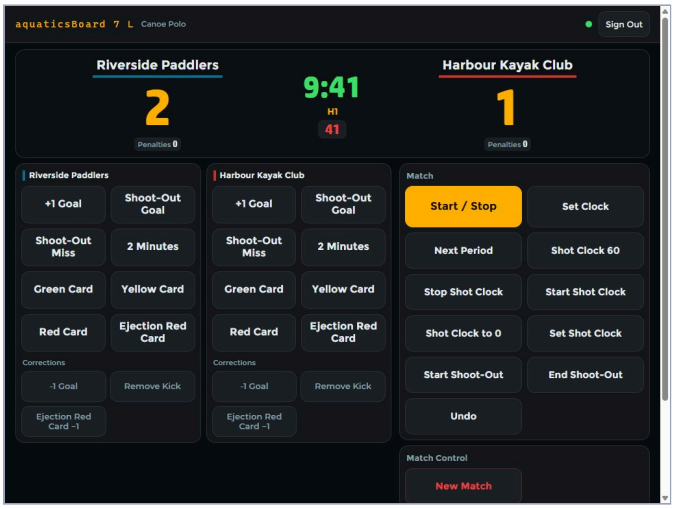


Figure 170. Tablet – both teams and the Match buttons side by side

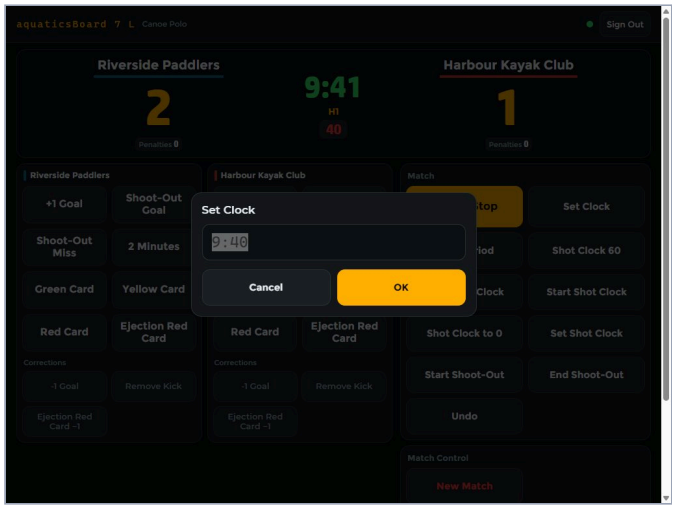


Figure 171. Tablet – Set Clock sheet over the panel

Button	Where	What it does
+1 Goal	team column	A goal for that team (the same as ↑ on the panel, without a player number).
Shoot-Out Goal / Shoot-Out Miss	team column	Records a penalty of the shoot-out for the team (after Start Shoot-Out).
2 Minutes · Green Card · Yellow Card · Red Card	team column	Starts that 2-minute suspension for the team.

Button	Where	What it does
Ejection Red Card	team column	Adds an ejection to the team's tally.
Corrections: −1 Goal, Remove Kick, Ejection Red Card −1	team column, small buttons	Take back a goal, the last shoot-out kick or a ejection red card of that team.
Start / Stop	Match	Starts or stops the game clock (amber, the biggest button).
Set Clock	Match	Opens a sheet with the clock time (mm:ss) filled in; type the new time and tap OK.
Next Period	Match	Goes on to the next period (the same as the next period button of the panel).
Shot Clock 60 (one button: full and reset are both 60)	Match	Resets the shot clock to that value.
Stop Shot Clock	Match	Holds the shot clock while the game clock runs on.
Shot Clock to 0	Match	Sets the shot clock to 0 and stops it, without the buzzer (the ∅ button of the panel).
Set Shot Clock	Match	Opens a sheet with the shot clock filled in; type the seconds (e.g. 7 or 4.5) and tap OK.
Start Shoot-Out / End Shoot-Out	Match	Starts and ends the penalty shoot-out (the Shoot-Out button of the panel).
Undo	Match	Takes back the last action.
New Match	Match Control	Starts a new match. The remote asks *New Match? This cannot be undone from the remote.* – Yes / No.
Score card	top	Team names with colour, score, game clock (green while running), period, shot clock in red and the chips Penalties (the number of running timed penalties).
● / Sign Out	title bar	The dot is green while the remote is connected; Sign Out ends the session after a Yes.

> **Note** A penalty sent from the remote is booked for the team without a player number. When a command is refused (e.g. Start at 0:00) the reason appears for a few seconds at the bottom of the remote.

Canoe Polo Scenarios

1. Type the guest number into the guest number box and click **Y2**. A 2:00 row starts for that player.
2. The home team scores while the guest team is short: click the home ↑. The clock stops, the shot clock is 60 again and the guest yellow card ends.
3. The half ends level: click **Extra Time - 1**. The clock shows 5:00.
4. Click **Start**. The first goal in extra time stops the clock and decides the match.
5. Still level? Click **Shoot-Out** and record each shot with ● **Shoot-Out Goal** / ○ **Shoot-Out Miss**.

1. Enter all teams once on the Teams page; before each match pick the two teams and click **New Match**.
2. The timekeeper runs the clock with **Start / Stop** and the shot clock with **Shot Clock 60** on the phone; the desk operator books goals with numbers and the cards.

3. At half-time click **Second Half**; after the match show **Result**.

21 Underwater Rugby

Underwater rugby follows the CMAS rules as set in the preset **Underwater Rugby**:

Rule	As implemented
Periods	2 × 15:00 (H1, H2), countdown
Overtime	one sudden-death period OT of up to 15:00
Goal	stops the clock; ends the oldest running penalty of the conceding team when it plays short
Shot clock	none
Penalties	2 minutes (up to three running per team); Expulsion as a tally
Timeouts	1 per team per half, 60 s
Draw	penalty shoot-out (Shoot-Out button, PEN on the boards), 3 throws

The Underwater Rugby Panel



Figure 172. The underwater rugby panel

#	Control	What it does
1	**Discipline**	The discipline. Click it to open the sport picker.
2	**Team name (home / guest)**	Type the team name here; Enter or leaving the box saves it. Logo and colour stripe come from the Teams page.
3	**Score**	The goals of the team (the guest's on the right).
4	**↑ / ↓ (score)**	↑ adds a goal (credited to the player in the number box), ↓ takes one back. A goal stops the game clock.

#	Control	What it does
5	**2 / Expulsion (penalty buttons)**	**2** starts a 2-minute penalty for the player in the number box. **Expulsion** records an expulsion (tally); **right-click Expulsion** takes it back.
6	**Player number box**	Type the cap / shirt number before a goal, foul or penalty, or pick it from the list below. The next action of the team is credited to that player and the box clears. Empty = the team only.
7	**Player list** ▾	Opens the team list (see *Players and the Number Box* below).
8	**Running penalties**	Up to 3 penalties of the team: player, remaining time and a red ✕ that removes exactly the penalty of that row. Penalty time only runs while the game clock runs.
9	**Game clock**	Counts down the period (tenths below one minute); green while running. **Double-click** it to set the time (m:ss or m:ss.t).
10	**Stop**	Stops the game clock (and with it the shot clock and the penalties).
11	**Start**	Starts the game clock; a running timeout ends. Refused at 0:00 — choose the next period first.
12	**Timeout**	The timeout length; during a timeout the countdown (amber). Click it to end a timeout early. A timeout also ends at zero or when the game clock starts.
13	**Timeout lamps**	One lamp per timeout of this half; red = used. The timeout is available again in the second half.
14	**▶ Timeout (home / guest)**	Takes a timeout for the team: the clock stops and the countdown starts. Hidden when the team has none left.
15	**First Half / Second Half**	Starts that half (15:00, clock stopped); the timeouts of the half are given back.
16	**Overtime**	Starts the sudden-death overtime (OT on the boards); the first goal stops the clock and wins.
17	**Shoot-Out**	Starts the penalty shoot-out (tool tip *Penalty Shoot-Out*; the clock cannot run during it, the boards show PEN). A row with ● **Shoot-Out Goal**, ○ **Shoot-Out Miss** and the marks per team appears above the panel; when one team can no longer be caught the match is won. Click Shoot-Out again to end the shoot-out.
18	**Set Clock**	Opens *Set Clock* (see below), the same as double-clicking the clock.
19	**Player Panels**	Switches the St game screen between the board with and without the player lists of both teams (lit = with).
20	**Undo**	Takes back the last action.
21	**St**	Opens or closes the St board (lit green = open). See *The Main Window* and *Outputs*.
22	**St on-air row**	The screen the board shows now (lit amber = on air): Game, Intro, Result, Announce, Timeout. See *On-Air Rows and Bottom Bar*.
23	**New Match**	Resets score, clock, penalties, fouls and timeouts after a confirmation; teams and team lists stay.
24	**Sport · discipline** ▾	Shows the sport and discipline. Click it to open *Choose Sport and Discipline* (see *Choosing the Sport and Discipline*).
25	**Time Settings**	Opens the period, timeout, shot clock and penalty times of this discipline (see *Time Settings* below). A ***** after the name means the times differ from the defaults.

Players and the Number Box

Goals and penalties can be credited to a player. Without a team list just type the number into the number box under the penalty buttons; with a team list (Teams page) click the chevron under the box and pick the player.

1. Type the number, e.g. `7` (up to three characters), or pick it from the list.
2. Click the action of that team: ↑ for a goal, or a penalty button.
3. The goal or penalty is stored with the player, shown in the player panels and the penalty row, and the box clears for the next action.

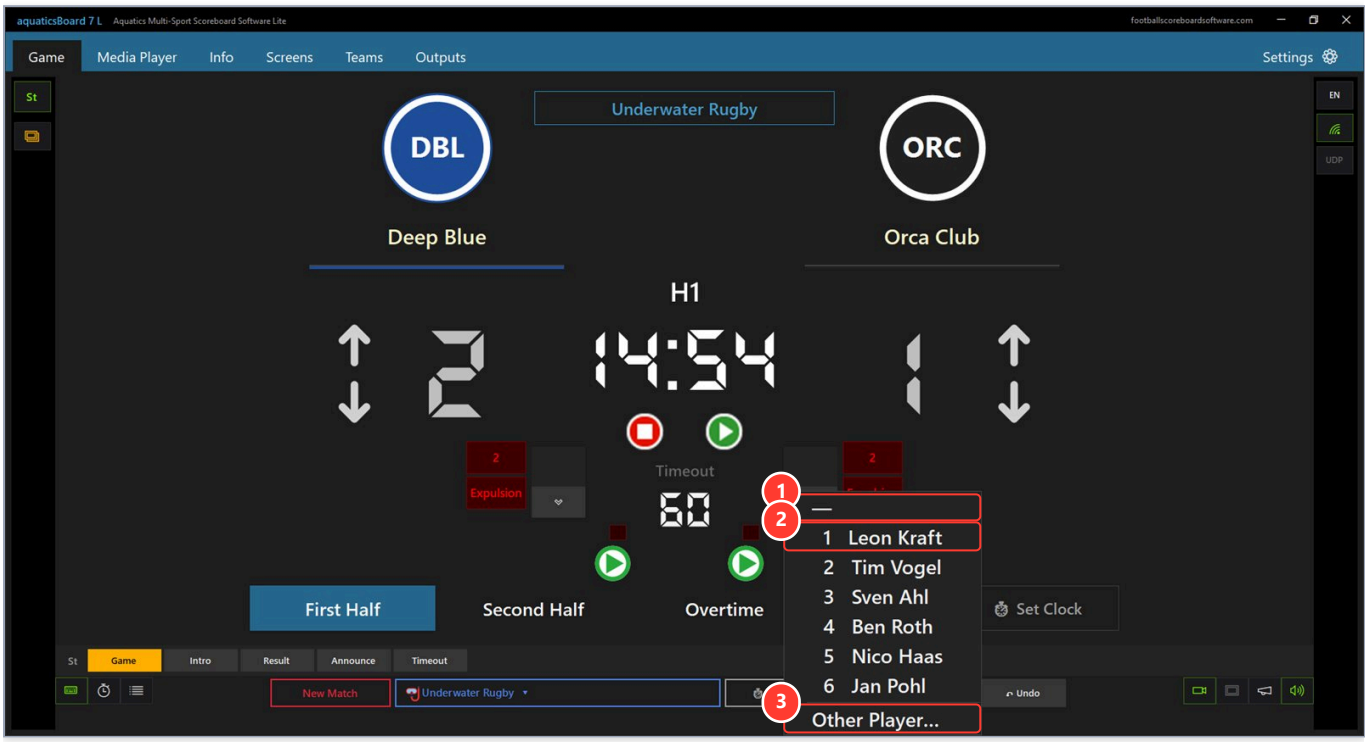


Figure 173. The player list of the home team (chevron under the number box)

#	Control	What it does
1	—	Clears the number box: the next action counts for the team only.
2	**Players (number · name)**	The players of the team list marked **Show** on the Teams page, by number. A click puts the number into the box.
3	**Other Player…**	Opens *Other Player…* for a player who is not in the list.

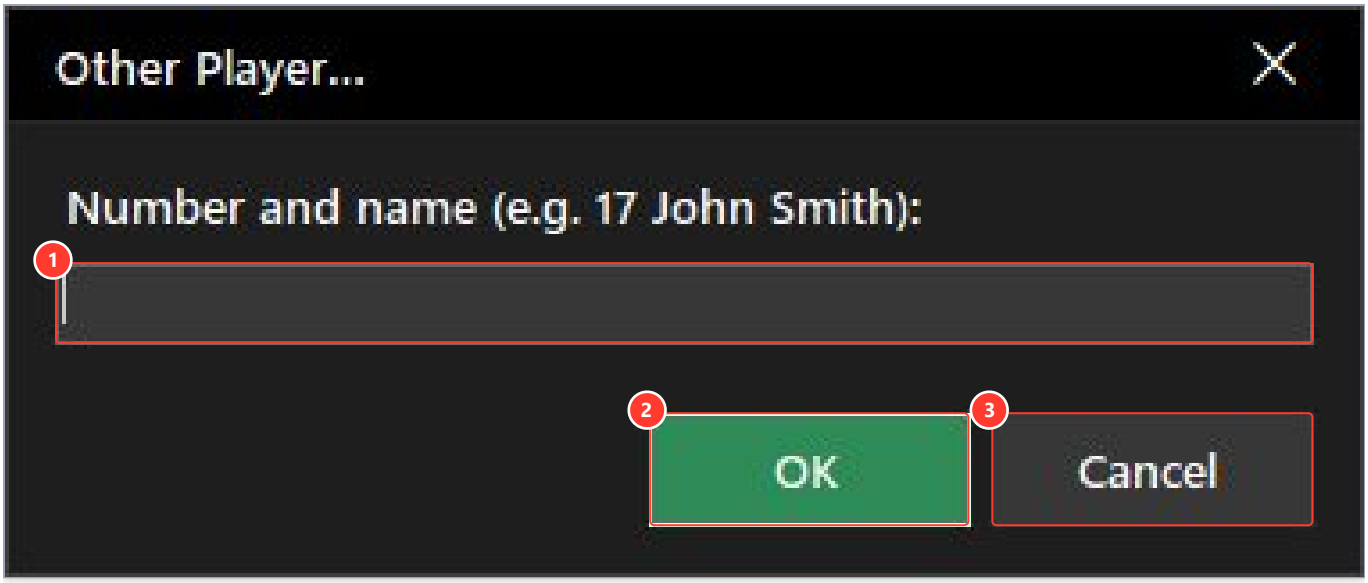


Figure 174. Other Player...

#	Control	What it does
1	**Number and name**	Type the number and the name, e.g. `17 John Smith`. A number alone only fills the box; with a name the player is also added to the team list.
2	**OK**	Puts the number into the number box.
3	**Cancel**	Closes without a change.

Set Clock



Figure 175. Set Clock (Set Clock button, or a double click on the game clock)

#	Control	What it does
1	**Time on the clock (m:ss or m:ss.t)**	Type the time the clock must show, e.g. `4:12` or `0:47.5`. The clock keeps its running state.
2	**OK**	Sets the clock; the boards and the remote follow at once.
3	**Cancel**	Leaves the clock as it is.

Time Settings

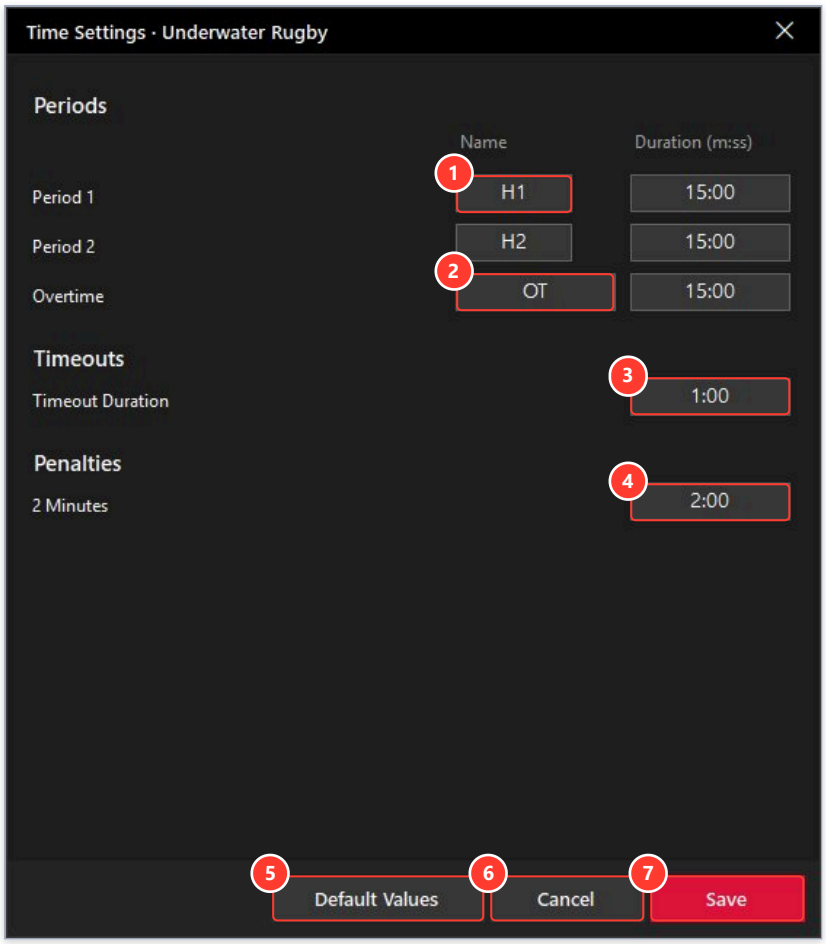


Figure 176. Time Settings of underwater rugby

#	Control	What it does
1	**Periods: Name · Duration**	Name and length of both halves.
2	**Overtime**	Name (OT) and length of the sudden-death overtime.
3	**Timeout Duration**	Length of a team timeout.
4	**Penalties: 2 Minutes**	Length of the timed penalty.
5	**Default Values**	Puts the factory values of the discipline back into the window (after a confirmation).
6	**Cancel**	Closes without saving.
7	**Save**	Saves the times for this discipline; they apply to the next match (see *When the New Times Apply*). **Time Settings *** on the Game page then shows that the times differ from the defaults.

The Info Page of Underwater Rugby

The Info page shows only the rows the underwater rugby designs can show (picture: *The Info Page of Each Sport*; the player list ▾ and the penalty and card lists: *The Player List (▾)* and *Score Type, Card and Sanction Lists*). The rows that belong to underwater rugby:

Row	What it puts on air
Goal	Team, scorer and game time → Goal screen (St).

Row	What it puts on air
2 Minutes	Team, player and the 2-minute penalty → Card screen.
Cards	Team, player and Expulsion → Card screen.
Player Intro · Substitution · Multiple Substitution	Present a player, one substitution or up to five pairs.
Team Lists · Officials	Team list (Slide = player by player), the officials.
Info Screens	Intro, Result, Announce and **Timeout**.

> **Tip** The time penalty row offers 2 Minutes; Expulsion is chosen in the Cards row.

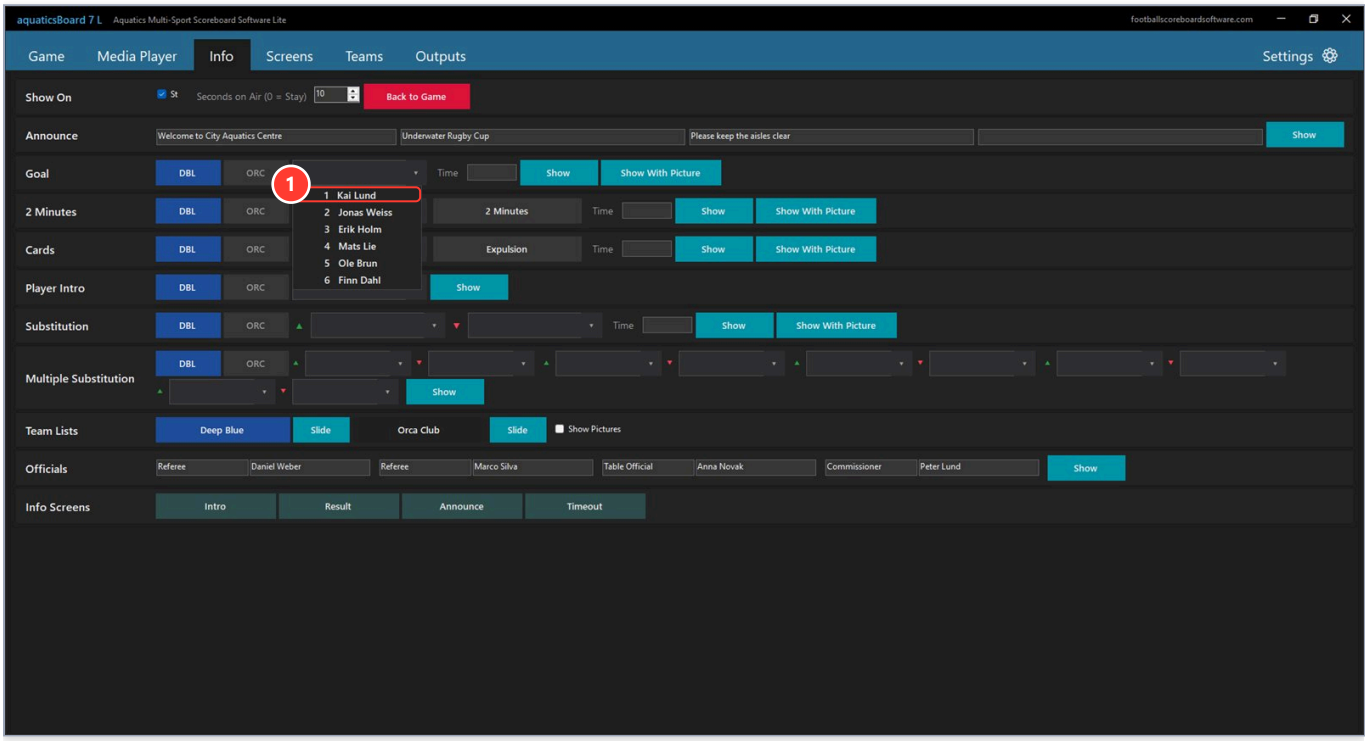


Figure 177. The player list of the Goal row (home team)

#	Control	What it does
1	**Players (number · name)**	The players of the chosen team by number. The choice fills the row; **Show** or **Show With Picture** puts the graphic on air for the Seconds on Air.

Keyboard Shortcuts

The keyboard shortcut list follows the sport: it lists every command of the underwater rugby panel (the picture of this list is in *Keyboard Shortcuts → The Actions of Each Sport*; how to assign keys, Global Shortcuts On and Default Keys are explained there). The factory keys:

Command	Default key
Start / Stop	F1
Next Period	F2
+1 Goal home / guest	Num 7 / Num 9
−1 Goal home / guest	Num 0 / Num ,

Command	Default key
Timeout home / guest	F5 / F6
End Timeout	Num 5
Undo	F12
Horn	Num 2
Shoot-out and penalty commands	none – assign the keys you need (Set Clock is not in the list: it needs a typed time)

The Underwater Rugby Boards

The St board shows logos, the game clock, the score, the half, the running penalties and the timeouts left as dots; with Player Panels on both team lists are added.



Figure 178. St – the game screen with timeouts

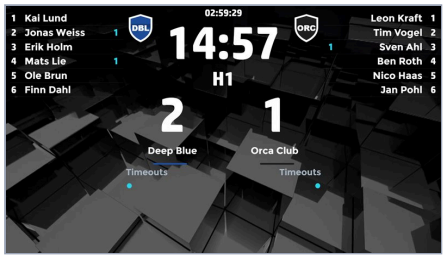


Figure 179. St – with player panels

Every other screen of underwater rugby — one sentence each on what it shows and how you put it on air:

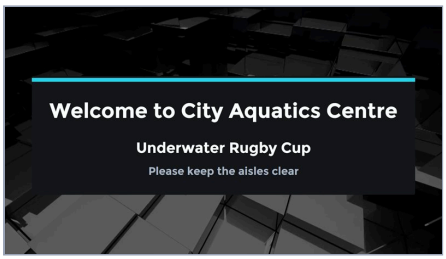


Figure 180. St Announce – a title and up to three lines (welcome, next match, safety notes); a long title wraps to a second line – Show in the Announce row of the Info page, or Announce in the St row.

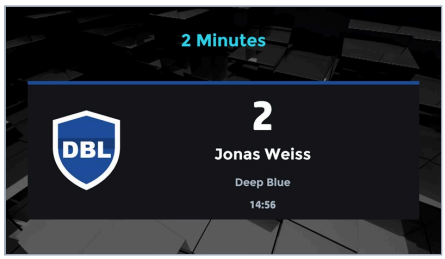


Figure 181. St Card – the player with number, photo and team under the name of the sport's own penalty or card (e.g. Exclusion 18 s, 2 Minutes, Red Card) and the game time – the Cards row (or the time penalty row) of the Info page, Show.



Figure 182. St Goal – the scorer with number, photo, team and the new score – choose team and player in the Goal row of the Info page and click Show or Show With Picture.



Figure 183. St Intro – the event, both teams with logos, venue, date and time – before the start; Intro in the St on-air row, on the Screens page or under Info Screens on the Info page.

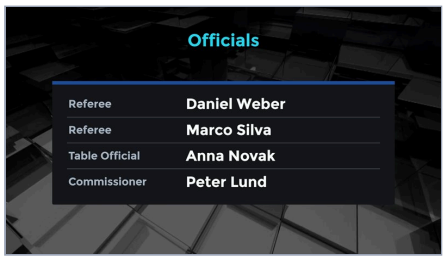


Figure 184. St Officials – referees and table officials – type them in the Officials row of the Info page and click Show.



Figure 185. St Player Intro – one player with photo, number and team – the Player Intro row of the Info page, or Slide in the Team Lists row to present the whole team one by one.

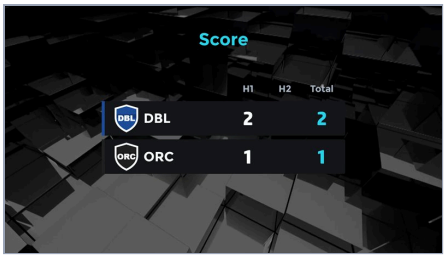


Figure 186. St Result – the score per period and the total – at the breaks and after the final whistle; Result in the St row or under Info Screens.

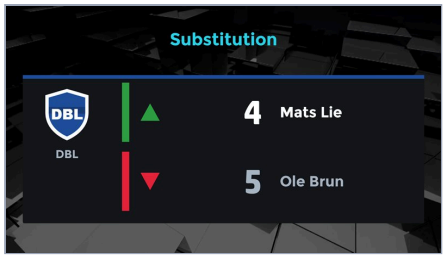


Figure 187. St Substitution – the player coming in (▲) and going out (▼) – the Substitution row of the Info page.

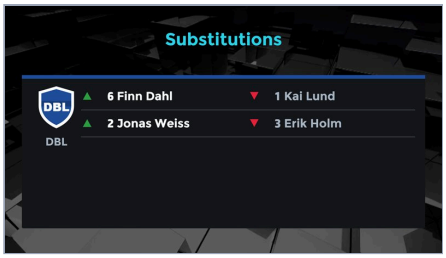


Figure 188. St Multiple Substitution – up to five pairs of one team at once – the Multiple Substitution row of the Info page.



Figure 189. St Team List – the team list with the coach (the rows are sized to the number of players) – the team button in the Team Lists row of the Info page.

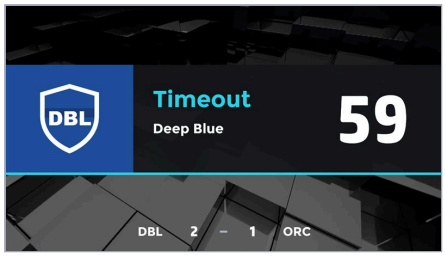


Figure 190. St Timeout – the logo and name of the team that called the timeout, the countdown and the score – click Timeout in the St row when a team takes a timeout (it is not put on air by itself).

Remote Control (Underwater Rugby)

Sign in on a phone or tablet as described in *Remote Control*. The title bar shows aquaticsBoard 7 L and the sport; the buttons carry the names of the desktop in its language. The remote builds its buttons from the commands of the Underwater Rugby panel: one column per team (two buttons per row; a long name wraps to two lines), the shared Match buttons and Match Control — on a tablet the two team columns stand side by side next to Match. Every tap is sent to aquaticsBoard 7 L at once; the score card follows the desk within a fraction of a second.

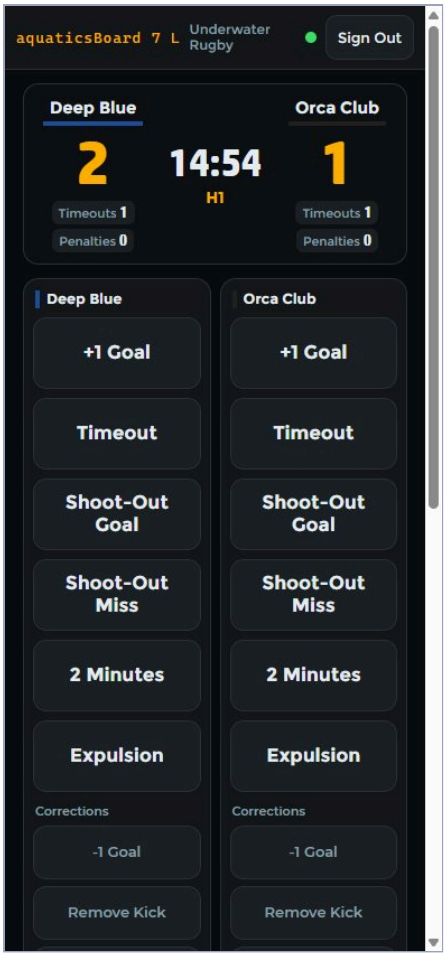


Figure 191. Phone – score card and the home team buttons

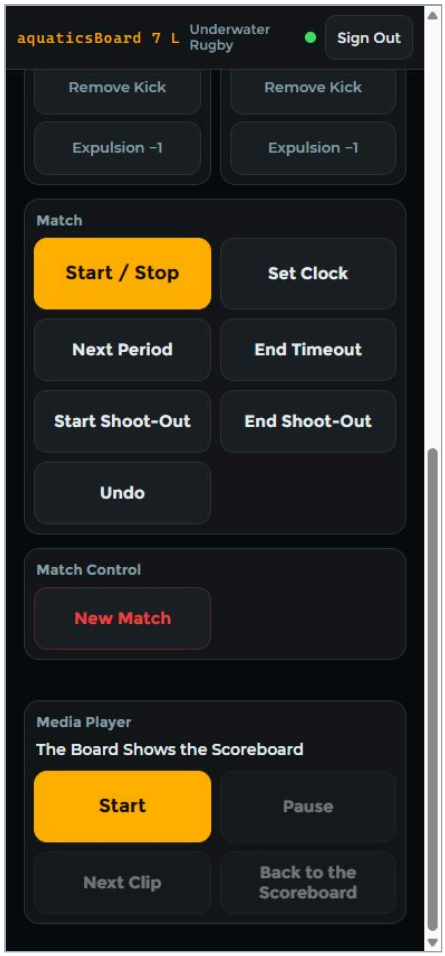


Figure 192. Phone – corrections, Match and Match Control further down

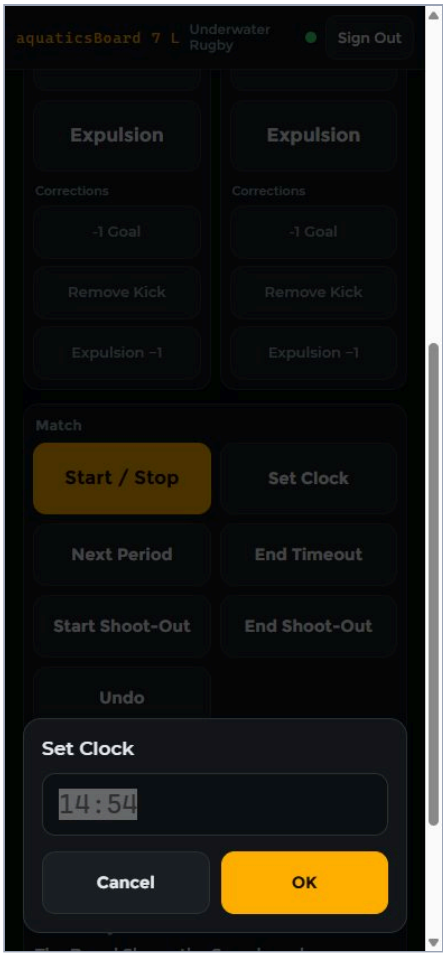


Figure 193. Phone – the Set Clock sheet

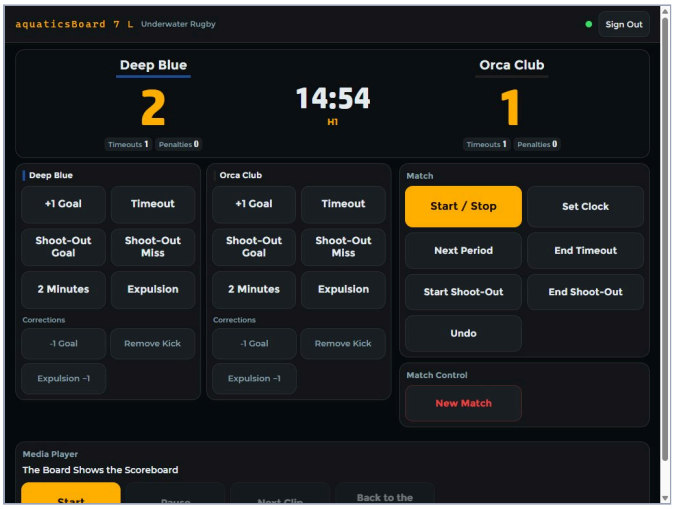


Figure 194. Tablet – both teams and the Match buttons side by side

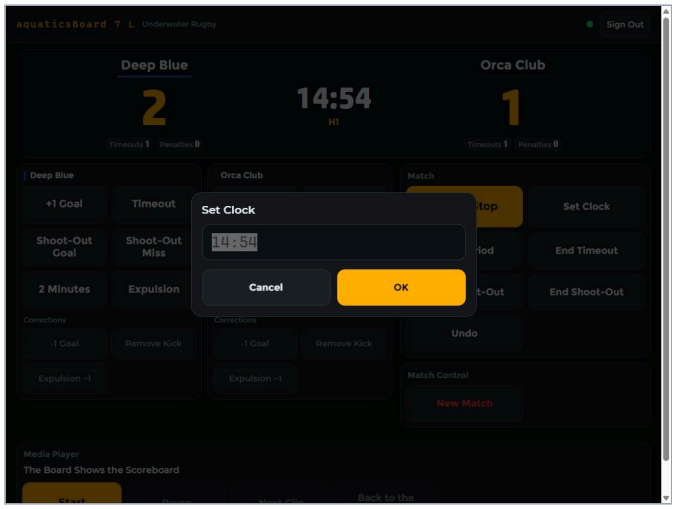


Figure 195. Tablet – Set Clock sheet over the panel

Button	Where	What it does
+1 Goal	team column	A goal for that team (the same as ↑ on the panel, without a player number).
Timeout	team column	Takes a timeout for the team: the clock stops and the countdown runs.
Shoot-Out Goal / Shoot-Out Miss	team column	Records a penalty of the shoot-out for the team (after Start Shoot-Out).

Button	Where	What it does
2 Minutes	team column	Starts a 2-minute penalty for the team.
Expulsion	team column	Adds an expulsion to the team's tally.
Corrections: −1 Goal, Remove Kick, Expulsion −1	team column, small buttons	Take back a goal, the last shoot-out kick or a expulsion of that team.
Start / Stop	Match	Starts or stops the game clock (amber, the biggest button).
Set Clock	Match	Opens a sheet with the clock time (mm:ss) filled in; type the new time and tap OK.
Next Period	Match	Goes on to the next period (the same as the next period button of the panel).
End Timeout	Match	Ends the running timeout early.
Start Shoot-Out / End Shoot-Out	Match	Starts and ends the penalty shoot-out (the Shoot-Out button of the panel).
Undo	Match	Takes back the last action.
New Match	Match Control	Starts a new match. The remote asks *New Match? This cannot be undone from the remote.* – Yes / No.
Score card	top	Team names with colour, score, game clock (green while running), period and the chips Timeouts (left), Penalties (the number of running timed penalties).
● / Sign Out	title bar	The dot is green while the remote is connected; Sign Out ends the session after a Yes.

> **Note** A penalty sent from the remote is booked for the team without a player number. When a command is refused (e.g. Start at 0:00) the reason appears for a few seconds at the bottom of the remote.

Underwater Rugby Scenarios

1. Type the first number into the guest number box and click **2**; repeat for the second player. Two rows count down while the clock runs.
2. The home team scores: click the home ↑. The clock stops and the older guest penalty ends; the second keeps running.
3. A penalty was entered by mistake: click the red ✕ on its row.
4. Restart with **Start**.

1. The home team calls its timeout: click the home ▶; its lamp turns red and the countdown runs. Show **Timeout** in the St row.
2. Click **Second Half** at the break: both teams get their timeout back.
3. Level at the end: click **Overtime**. The first goal ends the match; if still level, click **Shoot-Out** for the throws.

22 Underwater Hockey

Underwater hockey follows the CMAS rules as set in the preset **Underwater Hockey**:

Rule	As implemented
Periods	2 × 15:00 (H1, H2), countdown
Clock	running clock: a goal does **not** stop it (stop it by hand when the rules require)
Overtime	OT1, OT2, then SD, 5:00 each
Penalties	1, 2 and 5 minutes (up to three running per team), never ended by a goal; Total Dismissal as a tally
Shot clock	none
Timeouts	1 per team per half, 60 s
Shoot-out	available with the Shoot-Out button (5; PEN on the boards)

The Underwater Hockey Panel



Figure 196. The underwater hockey panel

#	Control	What it does
1	**Discipline**	The discipline. Click it to open the sport picker.
2	**Team name (home / guest)**	Type the team name here; Enter or leaving the box saves it. Logo and colour stripe come from the Teams page.
3	**Score**	The goals of the team (the guest's on the right).
4	**↑ / ↓ (score)**	↑ adds a goal (credited to the player in the number box), ↓ takes one back. The clock keeps running after a goal.

#	Control	What it does
5	**1 / 2 / 5 / TD (penalty buttons)**	**1**, **2**, **5** start a 1-, 2- or 5-minute penalty for the player in the number box; a goal does not end them. **TD** (tool tip *Total Dismissal*) records a total dismissal (tally); **right-click TD** takes it back.
6	**Player number box**	Type the cap / shirt number before a goal, foul or penalty, or pick it from the list below. The next action of the team is credited to that player and the box clears. Empty = the team only.
7	**Player list** ▾	Opens the team list (see *Players and the Number Box* below).
8	**Running penalties**	Up to 3 penalties of the team: player, remaining time and a red ✕ that removes exactly the penalty of that row. Penalty time only runs while the game clock runs.
9	**Game clock**	Counts down the period (tenths below one minute); green while running. **Double-click** it to set the time (m:ss or m:ss.t).
10	**Stop**	Stops the game clock (and with it the shot clock and the penalties).
11	**Start**	Starts the game clock; a running timeout ends. Refused at 0:00 — choose the next period first.
12	**Timeout**	The timeout length; during a timeout the countdown (amber). Click it to end a timeout early. A timeout also ends at zero or when the game clock starts.
13	**Timeout lamps**	One lamp per timeout of this half; red = used.
14	**▶ Timeout (home / guest)**	Takes a timeout for the team: the clock stops and the countdown starts. Hidden when the team has none left.
15	**First Half / Second Half**	Starts that half (15:00, clock stopped); the timeouts of the half are given back.
16	**Overtime 1**	Starts the first overtime (OT1 on the boards). In overtime the button reads *Overtime 2*, then *Sudden Death*: a click goes on to that period (OT2, SD).
17	**Shoot-Out**	Starts the penalty shoot-out (tool tip *Penalty Shoot-Out*; the clock cannot run during it, the boards show PEN). A row with ● **Shoot-Out Goal**, ○ **Shoot-Out Miss** and the marks per team appears above the panel; when one team can no longer be caught the match is won. Click Shoot-Out again to end the shoot-out.
18	**Set Clock**	Opens *Set Clock* (see below), the same as double-clicking the clock.
19	**Player Panels**	Switches the St game screen between the board with and without the player lists of both teams (lit = with).
20	**Undo**	Takes back the last action.
21	**St**	Opens or closes the St board (lit green = open). See *The Main Window* and *Outputs*.
22	**St on-air row**	The screen the board shows now (lit amber = on air): Game, Intro, Result, Announce, Timeout. See *On-Air Rows and Bottom Bar*.
23	**New Match**	Resets score, clock, penalties, fouls and timeouts after a confirmation; teams and team lists stay.
24	**Sport · discipline** ▾	Shows the sport and discipline. Click it to open *Choose Sport and Discipline* (see *Choosing the Sport and Discipline*).
25	**Time Settings**	Opens the period, timeout, shot clock and penalty times of this discipline (see *Time Settings* below). A ***** after the name means the times differ from the defaults.

Players and the Number Box

Goals and penalties can be credited to a player. Without a team list just type the number into the number box under the penalty buttons; with a team list (Teams page) click the chevron under the box and pick the player.

1. Type the number, e.g. `7` (up to three characters), or pick it from the list.
2. Click the action of that team: ↑ for a goal, or a penalty button.
3. The goal or penalty is stored with the player, shown in the player panels and the penalty row, and the box clears for the next action.

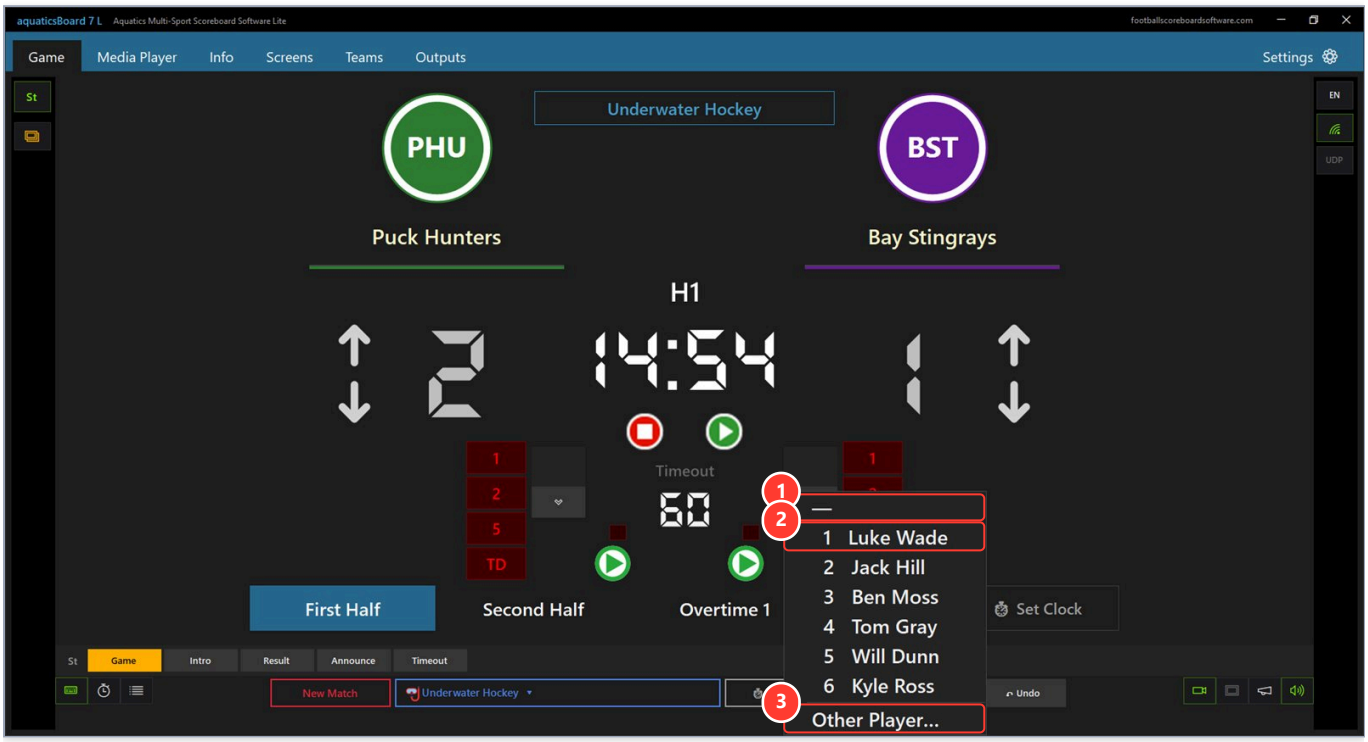


Figure 197. The player list of the home team (chevron under the number box)

#	Control	What it does
1	—	Clears the number box: the next action counts for the team only.
2	**Players (number · name)**	The players of the team list marked **Show** on the Teams page, by number. A click puts the number into the box.
3	**Other Player…**	Opens *Other Player…* for a player who is not in the list.

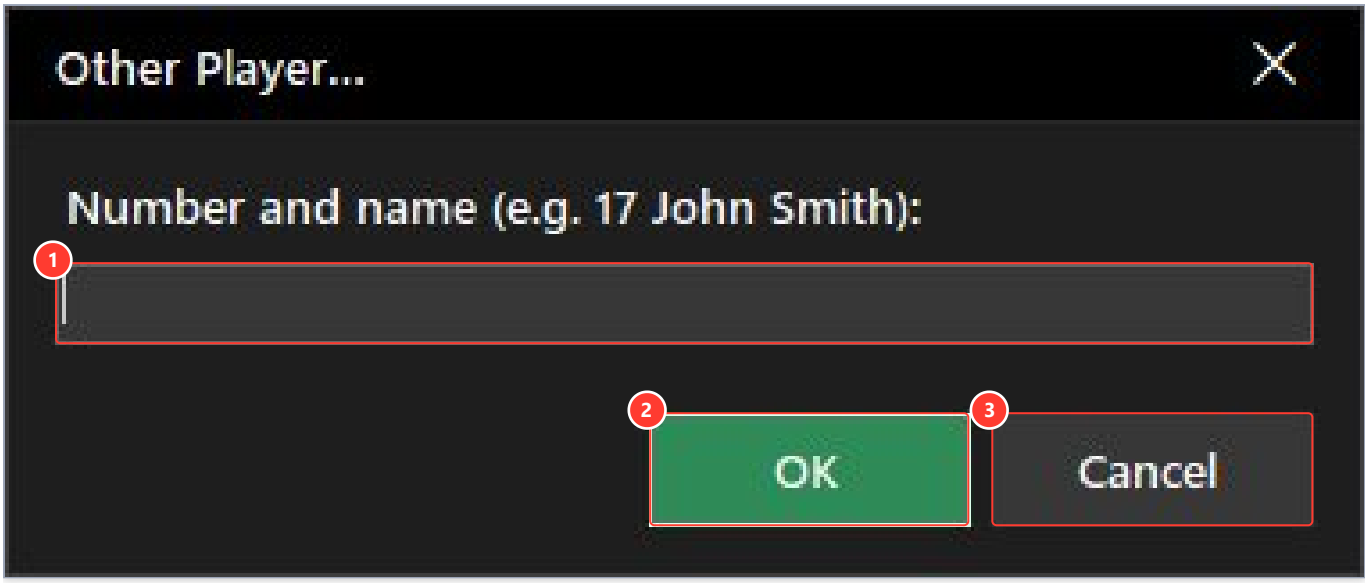


Figure 198. Other Player...

#	Control	What it does
1	**Number and name**	Type the number and the name, e.g. `17 John Smith`. A number alone only fills the box; with a name the player is also added to the team list.
2	**OK**	Puts the number into the number box.
3	**Cancel**	Closes without a change.

Set Clock



Figure 199. Set Clock (Set Clock button, or a double click on the game clock)

#	Control	What it does
1	**Time on the clock (m:ss or m:ss.t)**	Type the time the clock must show, e.g. `4:12` or `0:47.5`. The clock keeps its running state.
2	**OK**	Sets the clock; the boards and the remote follow at once.
3	**Cancel**	Leaves the clock as it is.

Time Settings

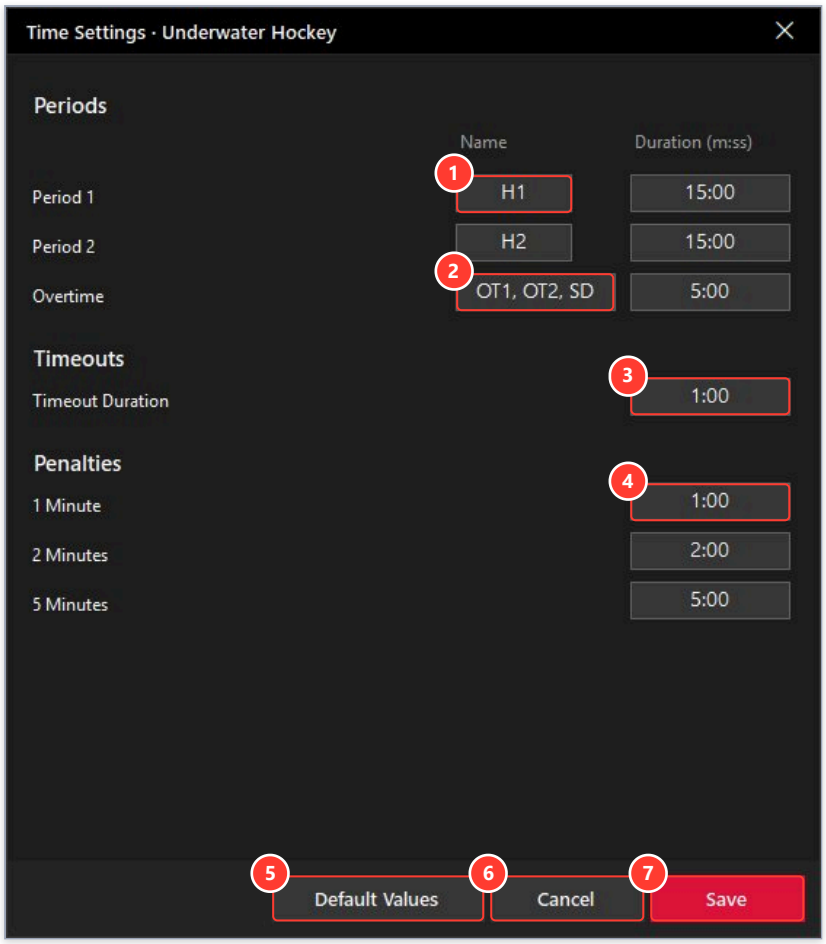


Figure 200. Time Settings of underwater hockey

#	Control	What it does
1	**Periods: Name · Duration**	Name and length of both halves.
2	**Overtime**	The names of the overtime periods (OT1, OT2, SD), separated by commas, and their length.
3	**Timeout Duration**	Length of a team timeout.
4	**Penalties: 1 / 2 / 5 Minutes**	Lengths of the three timed penalties.
5	**Default Values**	Puts the factory values of the discipline back into the window (after a confirmation).
6	**Cancel**	Closes without saving.
7	**Save**	Saves the times for this discipline; they apply to the next match (see *When the New Times Apply*). **Time Settings *** on the Game page then shows that the times differ from the defaults.

The Info Page of Underwater Hockey

The Info page shows only the rows the underwater hockey designs can show (picture: *The Info Page of Each Sport*; the player list ▾ and the penalty and card lists: *The Player List (▾)* and *Score Type, Card and Sanction Lists*). The rows that belong to underwater hockey:

Row	What it puts on air
Goal	Team, scorer and game time → Goal screen (St).
Time Penalties	Team, player and the penalty (1, 2 or 5 minutes) → Card screen.
Cards	Team, player and Total Dismissal → Card screen.
Player Intro · Substitution · Multiple Substitution	Present a player, one substitution or up to five pairs.
Team Lists · Officials	Team list (Slide = player by player), the officials.
Info Screens	Intro, Result, Announce and **Timeout**.

> **Tip** The time penalty row offers 1 Minute, 2 Minutes and 5 Minutes; Total Dismissal is chosen in the Cards row.

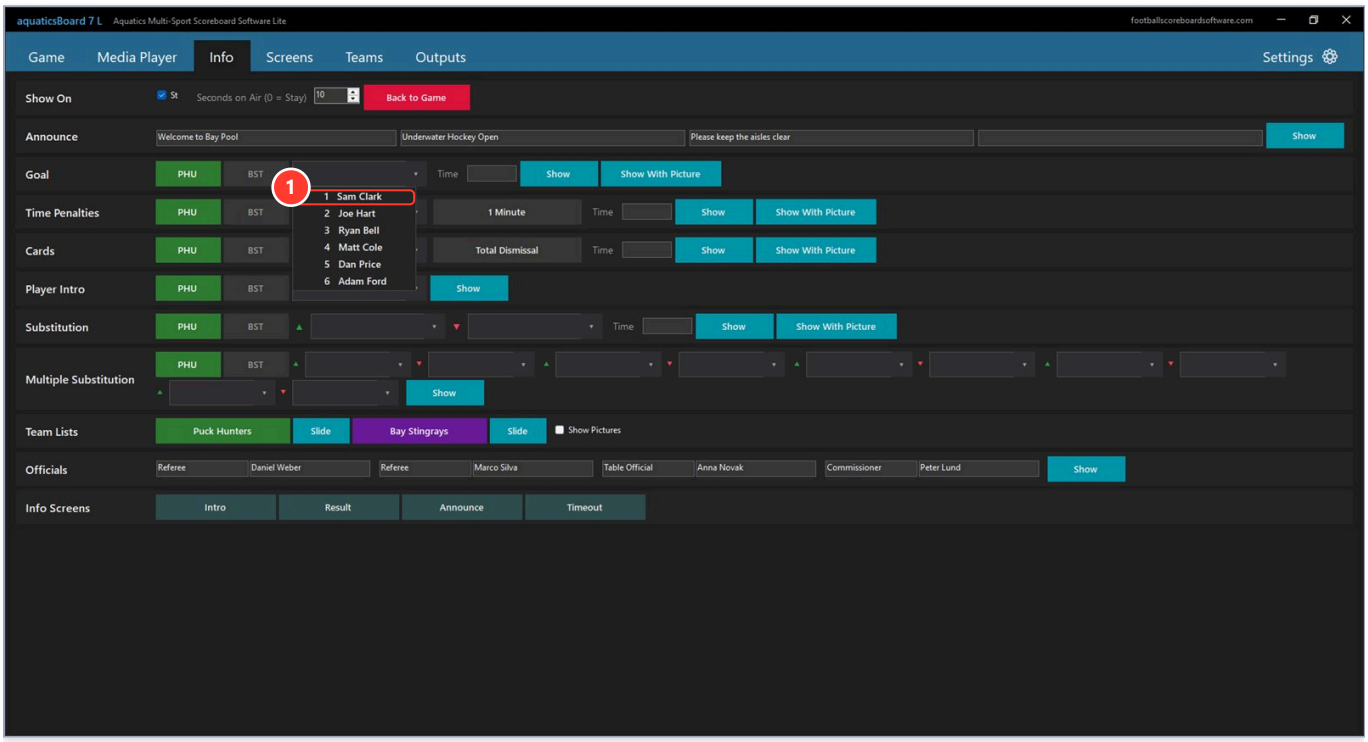


Figure 201. The player list of the Goal row (home team)

#	Control	What it does
1	**Players (number · name)**	The players of the chosen team by number. The choice fills the row; **Show** or **Show With Picture** puts the graphic on air for the Seconds on Air.

Keyboard Shortcuts

The keyboard shortcut list follows the sport: it lists every command of the underwater hockey panel (the picture of this list is in *Keyboard Shortcuts → The Actions of Each Sport*; how to assign keys, Global Shortcuts On and Default Keys are explained there). The factory keys:

Command	Default key
Start / Stop	F1
Next Period	F2
+1 Goal home / guest	Num 7 / Num 9

Command	Default key
–1 Goal home / guest	Num 0 / Num ,
Timeout home / guest	F5 / F6
End Timeout	Num 5
Undo	F12
Horn	Num 2
Shoot-out and penalty commands	none – assign the keys you need (Set Clock is not in the list: it needs a typed time)

The Underwater Hockey Boards

The St board shows logos, the game clock, the score, the half, the running penalties and the timeouts left as dots; with Player Panels on both team lists are added with the goals.

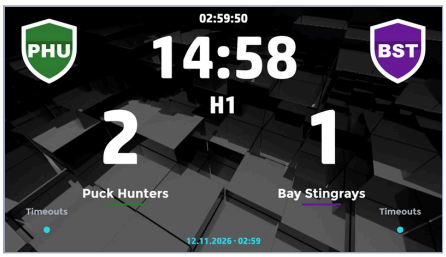


Figure 202. St – the game screen

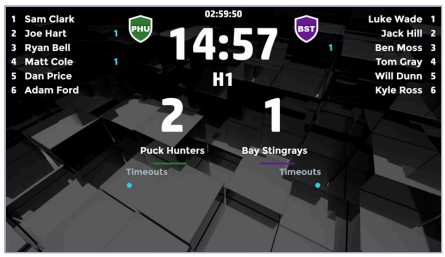


Figure 203. St – with player panels

Every other screen of underwater hockey — one sentence each on what it shows and how you put it on air:

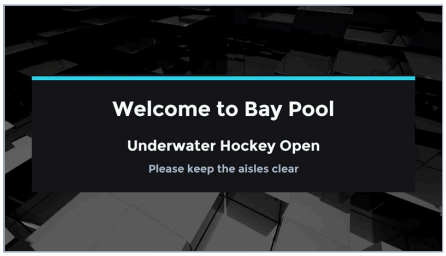


Figure 204. St Announce – a title and up to three lines (welcome, next match, safety notes); a long title wraps to a second line – Show in the Announce row of the Info page, or Announce in the St row.

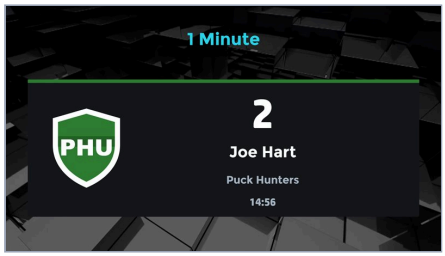


Figure 205. St Card – the player with number, photo and team under the name of the sport's own penalty or card (e.g. Exclusion 18 s, 2 Minutes, Red Card) and the game time – the Cards row (or the time penalty row) of the Info page, Show.

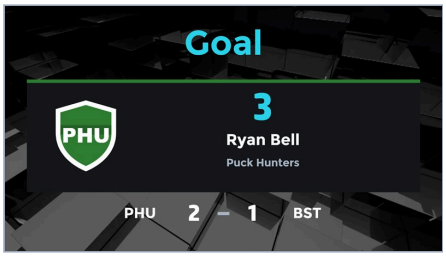


Figure 206. St Goal – the scorer with number, photo, team and the new score – choose team and player in the Goal row of the Info page and click Show or Show With Picture.

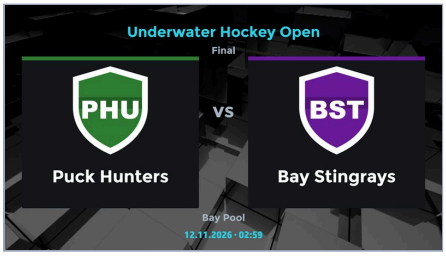


Figure 207. St Intro – the event, both teams with logos, venue, date and time – before the start; Intro in the St on-air row, on the Screens page or under Info Screens on the Info page.

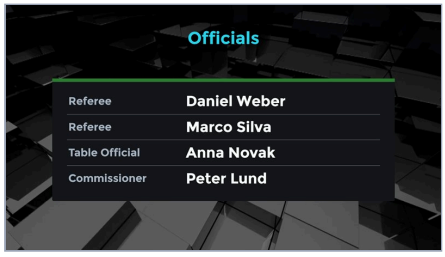


Figure 208. St Officials – referees and table officials – type them in the Officials row of the Info page and click Show.



Figure 209. St Player Intro – one player with photo, number and team – the Player Intro row of the Info page, or Slide in the Team Lists row to present the whole team one by one.

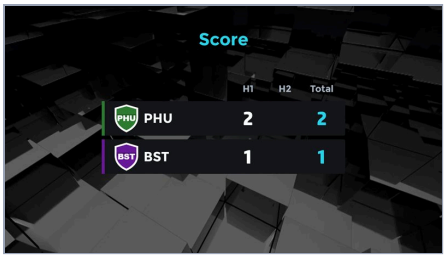


Figure 210. St Result – the score per period and the total – at the breaks and after the final whistle; Result in the St row or under Info Screens.

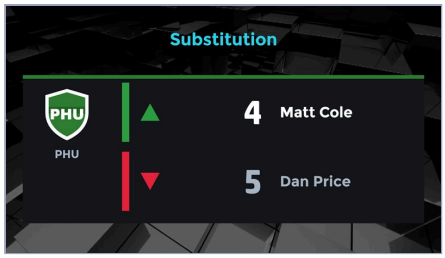


Figure 211. St Substitution – the player coming in (▲) and going out (▼) – the Substitution row of the Info page.

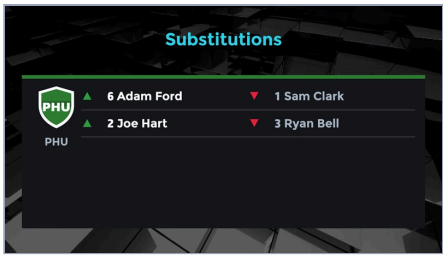


Figure 212. St Multiple Substitution – up to five pairs of one team at once – the Multiple Substitution row of the Info page.



Figure 213. St Team List – the team list with the coach (the rows are sized to the number of players) – the team button in the Team Lists row of the Info page.

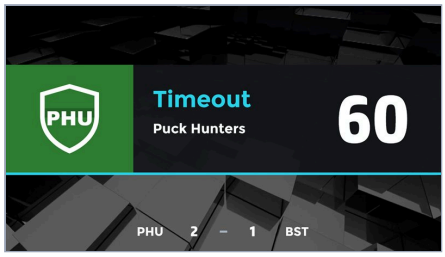


Figure 214. St Timeout – the logo and name of the team that called the timeout, the countdown and the score – click Timeout in the St row when a team takes a timeout (it is not put on air by itself).

Remote Control (Underwater Hockey)

Sign in on a phone or tablet as described in *Remote Control*. The title bar shows aquaticsBoard 7 L and the sport; the buttons carry the names of the desktop in its language. The remote builds its buttons from the commands of the Underwater Hockey panel: one column per team (two buttons per row; a long name wraps to two lines), the shared Match buttons and Match Control — on a tablet the two team columns stand side by side next to Match. Every tap is sent to aquaticsBoard 7 L at once; the score card follows the desk within a fraction of a second.

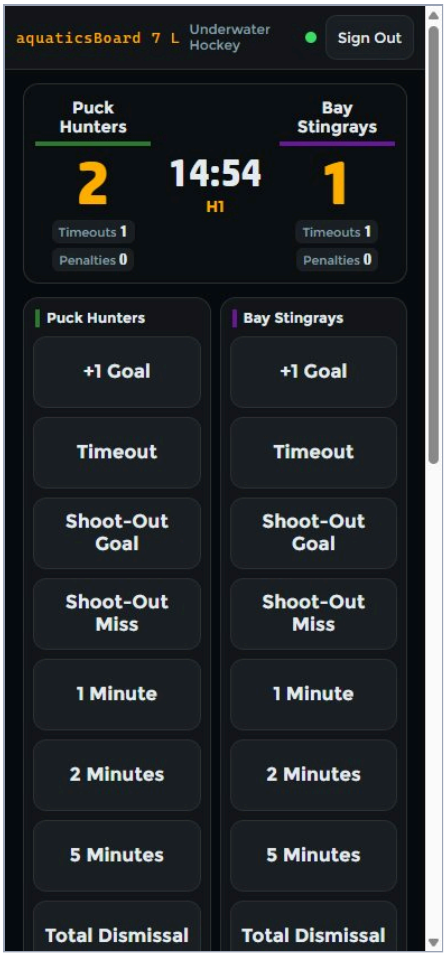


Figure 215. Phone – score card and the home team buttons

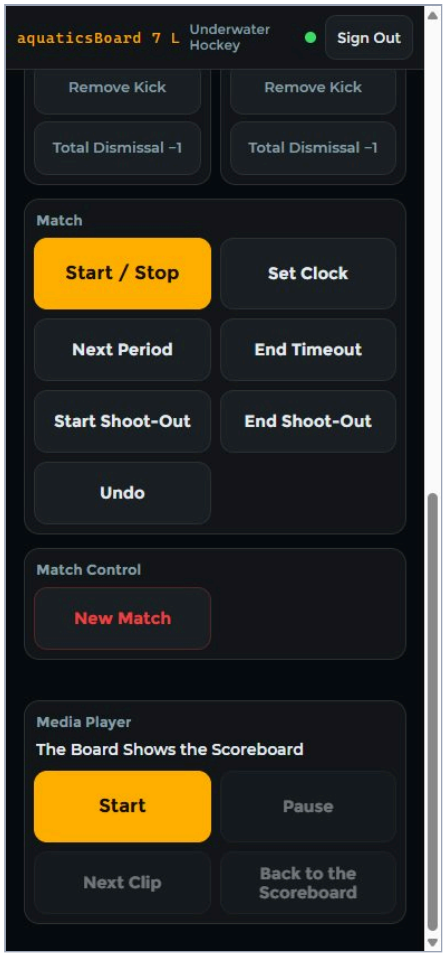


Figure 216. Phone – corrections, Match and Match Control further down

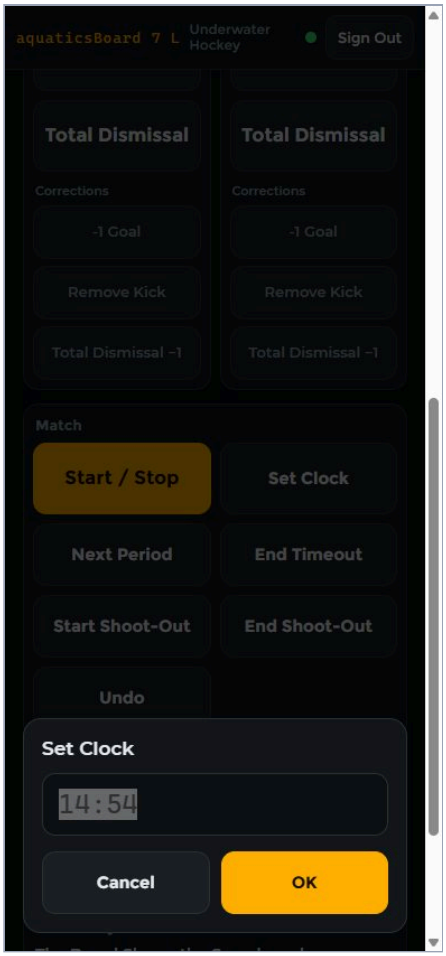


Figure 217. Phone – the Set Clock sheet

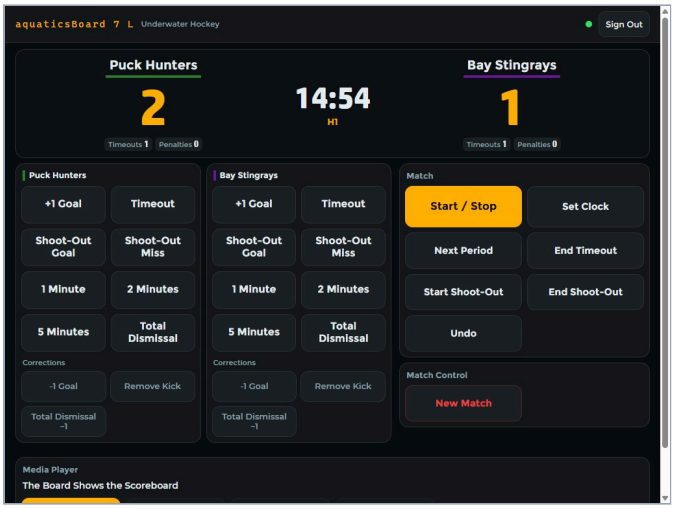


Figure 218. Tablet – both teams and the Match buttons side by side

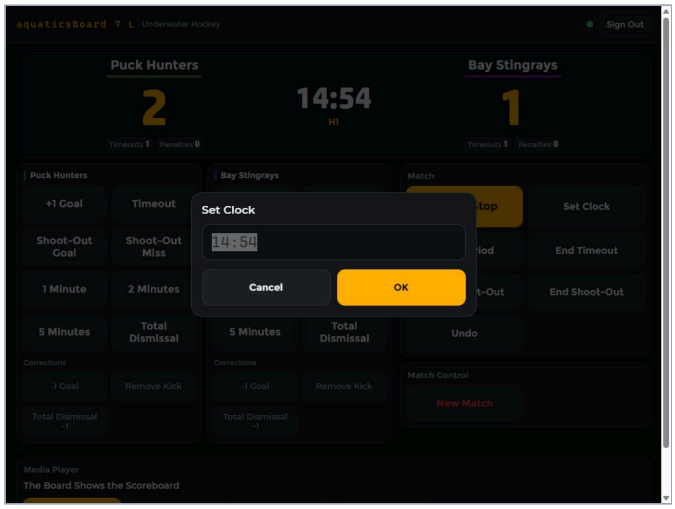


Figure 219. Tablet – Set Clock sheet over the panel

Button	Where	What it does
+1 Goal	team column	A goal for that team (the same as ↑ on the panel, without a player number).
Timeout	team column	Takes a timeout for the team: the clock stops and the countdown runs.
Shoot-Out Goal / Shoot-Out Miss	team column	Records a penalty of the shoot-out for the team (after Start Shoot-Out).

Button	Where	What it does
1 Minute · 2 Minutes · 5 Minutes	team column	Starts that timed penalty for the team.
Total Dismissal	team column	Adds a dismissal to the team's tally.
Corrections: −1 Goal, Remove Kick, Total Dismissal −1	team column, small buttons	Take back a goal, the last shoot-out kick or a total dismissal of that team.
Start / Stop	Match	Starts or stops the game clock (amber, the biggest button).
Set Clock	Match	Opens a sheet with the clock time (mm:ss) filled in; type the new time and tap OK.
Next Period	Match	Goes on to the next period (the same as the next period button of the panel).
End Timeout	Match	Ends the running timeout early.
Start Shoot-Out / End Shoot-Out	Match	Starts and ends the penalty shoot-out (the Shoot-Out button of the panel).
Undo	Match	Takes back the last action.
New Match	Match Control	Starts a new match. The remote asks *New Match? This cannot be undone from the remote.* – Yes / No.
Score card	top	Team names with colour, score, game clock (green while running), period and the chips Timeouts (left), Penalties (the number of running timed penalties).
● / Sign Out	title bar	The dot is green while the remote is connected; Sign Out ends the session after a Yes.

> **Note** A penalty sent from the remote is booked for the team without a player number. When a command is refused (e.g. Start at 0:00) the reason appears for a few seconds at the bottom of the remote.

Underwater Hockey Scenarios

1. A goal at 5:12: click ↑ for the team — the clock keeps running.
2. A 5-minute penalty: type the number and click **5**; it keeps running after goals.
3. In the last two minutes click **Stop** at each stoppage the referee signals and **Start** on the restart.
4. If the clock must be corrected, double-click it (or **Set Clock**) and type the time, e.g. `1:47.5`.

1. Click **Overtime 1**; the clock shows 5:00. Run it with **Start** / **Stop**.
2. Still level: click the overtime button again (now **Overtime 2**) for OT2, then once more (**Sudden Death**) for SD.
3. If a shoot-out is needed, click **Shoot-Out** and record the shots.

23 Usage Scenarios

1. Choose **Swimming · 50 m Pool (LCM), 8 Lanes**. Check meet name and venue on the Teams page and click **Save Competition**.
2. Open **St** on the LED wall and show **Intro** under Board while swimmers arrive.
3. Click **Next Heat ▶** for heat 1, **Live Board**, then **Start** at the signal. Click **Split** and **Finish** per lane as the timekeepers call them.
4. When all have touched, check the amber warnings, correct with the lane menu → **Official Time…** or **DQ**, and click **Approve** when the referee signs.
5. Repeat with **Next Heat ▶** for every heat. After the last heat show **Result** for the event result with the qualifiers (Q).
6. In the evening select the event in the program and click **Build the Next Round**: the final lanes are filled from the heat results. Call the final and race it the same way.

1. Call the heat with **Call the Selected Heat**.
2. Either click **Start** at the whistle and **Finish** per lane at each touch, or leave the desk out of the race.
3. Select each lane row and click **Enter Results by Hand**, type the coach's time, e.g. `1:05.32`. On a heat that was never started the desk asks once to close the heat for hand timing; answer **Yes**.
4. Mark absent swimmers with the lane menu → **DNS**.
5. Click **Approve** and show **Result** on the board.

1. Choose **Diving · Women's 3m Springboard** in the sport picker.
2. Show **Intro**, then **Live Board** under Info Screens when the first diver walks to the board.
3. Type the seven awards with the keypad (each whole award moves on to the next judge), apply a referee penalty if needed and click **Publish**.
4. Click **Next Diver ▶**; the standings on the right update after each dive.
5. A wrong award after publishing: **Correct**, fix the judge, **Publish**.
6. After each round show **Result** (standings after the round); after the last round leave it on air.

1. Choose **Water Polo**. Enter both teams with their cap lists on the Teams page (or type numbers by hand during the game).
2. Open St; check the shot clock and the exclusion length under **Time Settings**.
3. Play the match: **Start** / **Stop**, ↑ for goals with the cap number, **0:18** for exclusions, ▶ for timeouts, **28** / **18** for the shot clock.
4. Use **1st Period** … **4th Period** at each break; show **Result** at the end, and **Shoot-Out** for a shoot-out if a winner is required.
5. For the next match change the teams on the Teams page and click **New Match**.

1. Run the swimming part on the race desk as above; the results are saved with the competition.
2. Click the sport button in the bottom row and choose **Canoe Polo**. The panel changes to the canoe polo panel; the boards switch to the canoe polo design.
3. After the match choose **Underwater Rugby**; team lists and time settings are kept per sport, so each sport opens as you left it.
4. Back to swimming the next day: the meet is still there with every approved heat.

1. Turn the remote on in the tool strip and sign in on the tablet (see *Remote Control*).

2. The pool-side operator types the awards on the tablet keypad and taps **Publish**; the desk shows the same dive at once.
3. The desk operator runs the screens (Intro, Live Board, Result) and the Info page announcements.
4. Corrections can be made on either side: **Correct** on the tablet or the desk.

24 Aquatics Quick Reference

Task	Sport	How
Call a heat	Swimming	select it in Program → Call the Selected Heat; or Next Heat ▶ / ◀ Previous Heat (remote: tap the heat → OK)
Start / recall / end a race	Swimming	Start · Recall the Start · End Race
Split / touch	Swimming	Split / Finish in the lane row (desk or remote)
Time, DQ, DNS, DNF	Swimming	right-click the lane row (remote: tap the lane)
Paper times	Swimming	Enter Results by Hand → Yes to close a heat that never started
Official result	Swimming	Approve (Unlock to correct); ⚠ Check Lanes names lanes to check first
Seed / next round / swim-off	Swimming	Seed Heats · Build the Next Round · Create the Swim-Off (remote)
Award	Diving	keypad 0–10 (moves on to the next judge); ½ and ⌫ act on the award just typed; a judge box selects that judge
Penalty	Diving	Failed Dive · Re-Start −2 · Max 2 · Max 4½ · No Penalty
Publish / correct	Diving	Publish (Publish Anyway? with an award missing) · Correct
Other dive	Diving	Change Dive… (before awards)
Next diver	Diving	Next Diver ▶ (after publishing)
Clock	team sports	Start / Stop (F1); double-click the clock or Set Clock
Goal	team sports	↑ (↓ takes back); number box first for the scorer; Num 7 / Num 9
Exclusion / penalty	team sports	number box → penalty button; ✕ removes a running one
Card tally	team sports	R (canoe polo: ER, underwater rugby: Expulsion, underwater hockey: TD); right-click takes one back
Shot clock	water polo, canoe polo	28 / 18 (60); click the digits to run, double-click to type a value; ∅ sets it to 0
Timeout	water polo, underwater rugby / hockey	▶ under the lamps; click the countdown to end; Timeout screen from the St row
Period / overtime	team sports	period buttons; Extra Time / Overtime buttons; Shoot-Out for the shoot-out
Event graphics	team sports	Info page rows → Show / Show With Picture
Refused action	all	read the red message under the bottom row

Status word	Meaning
Scheduled · On the Blocks · Racing · Unofficial · Official	the five states of a swimming heat
Waiting · Scoring · Published	the three states of a dive

25 Troubleshooting

Problem	What to do
A board does not appear on the second monitor.	Check that Windows uses *Extend* (not Duplicate), then choose the monitor on the Outputs page and tick **Show**. More in *Sending the Board to the LED Screen → Troubleshooting the LED Output*.
The board is too small or cut off on an LED wall.	Untick **Full Screen** and enter the exact Left / Top / Width / Height of the LED controller's area on that monitor (see *LED Sender Card*).
I have to place the board again at every start.	No: the Outputs page saves everything at once and the board opens at its place by itself. If it does not, check that the LED device is switched on before or soon after the program starts, and that Windows still uses *Extend*.
A clip of the Media Player does not play.	The St output must be open. A red file name means the file was moved or deleted: add it again. Some video formats need the matching Windows codec; MP4 (H.264) always works.
A keyboard shortcut does nothing.	Check **Global Shortcuts On** in the keyboard shortcut editor (the keyboard icon at the bottom left is green when on), switch `NumLock` on, and make sure the key is assigned for the **current sport**. Numpad keys do not score while you type in a text box of the program.
The phone cannot open the remote page.	Same network as the PC (not mobile data, not a guest Wi-Fi)? Settings shows **Running**? Allow TCP 1907 in the Windows firewall. If the status says *Not running*, the port is used by another program: choose another port and click Apply.
The PIN is refused or the pad is locked.	After five wrong PINs the device is locked for 30 s, then longer (up to 15 minutes). Wait for the countdown; check the PIN on the Settings page.
The remote shows a red dot or "No Connection to the Scoreboard".	The phone lost the Wi-Fi or the PC's server stopped. It reconnects by itself; check the Wi-Fi and the remote button on the right strip (green = running).
The new times are not used.	Times apply to a new match. After saving, answer **Yes** to start a new match, or start one with **New Match**.
Team names or the team list changes do not appear.	Click **Apply** on the Teams page – nothing is saved before.
The language did not change.	The language is used after a restart of the program.
The program closed unexpectedly.	Start it again and answer **Yes** to *Restore the last match?*. The match continues with the clock stopped; check the clock and start it again.

Every start, error and network event is written to the log file of the day in *data\logs*; send it with a problem report.

26 Files and Folders

All your data lives in the *data* folder inside the program folder. To move aquaticsBoard 7 L to another PC, or to keep a backup, copy the whole *data* folder.

Folder / file	Content
data\config\settings.json	Language, remote control (port, PIN), console and UDP settings, sound on / off, last sport and discipline.
data\config\outputs.json	The board output: shown, monitor (number and Windows name), full screen, window position, player panels; its design per sport; player panel columns; background video / picture on or off.
data\media\playlists	The Media Player: playlist01.json (the clips are referenced where they are), urls.json (the URL list) and player.json (display mode, sound, return, image play duration).
data\config\hotkeys.json	Keyboard shortcuts per sport and the Global Shortcuts On switch.
data\config\<sport>\setup.json	Event, venue, teams, colours, logos, team lists, officials of a sport (the competition for swimming and diving).
data\config\<sport>\rules\<discipline>.json	Your own Time Settings of a discipline (only the values that differ from the factory values).
data\config\running.json	Points to the journal of the running match; used to offer the restore after an unexpected end.
data\designs	Your own board designs, per sport. The factory masters are in the program folder and are never changed.
data\logos	Team logos chosen on the Teams page.
data\media\background	Background video and picture of the board.
data\media\players	Player photos chosen in the Photo column of the Teams page (copies of your files).
data\sounds	Your own sounds (01.wav … 05.wav) replace the shipped ones.
data\matches	One journal file per match (every command with its time); used to restore a match after an unexpected end.
data\logs	One log file per day.
data\webview2	Working files of the board windows (browser cache). Safe to delete while the program is closed.

> **Note** Edit the files only while the program is closed. If a settings file cannot be read, the program starts with default values and keeps the damaged file as *.bad*.