



Spatial Awareness

User Manual

macOS · Apple Silicon · Native

Visual sound design for theatre and live performance. Load your venue plan, place speakers, drag sources — and watch real-time panning fire directly to and from QLab 5 via OSC.

INTRODUCTION

Overview

Spatial Awareness is a macOS application for visual sound design in theatre and live performance. Load a PDF or image of any venue plan, place speakers at their real-world positions, and add sound sources for performers or playback origins. Spatial Awareness calculates panning gains and delays in real time for every source-to-speaker relationship, sending values directly to QLab 5 by Figure 53 via OSC — so movement on your canvas becomes movement in the room, instantly.

Import venue geometry and speaker positions directly from D&B ArrayCalc or EASE XLD, creating a pre-calibrated canvas that bridges the gap between system design and content design. Record and edit source trajectories that play back in sync with QLab cue timing, or export them as QLab fade cues for fully self-contained show files.

LICENSING

Licence

Spatial Awareness is free to use with full spatial audio functionality. **Project saving and all export functions require a licence.** All other features — speaker placement, source panning, QLab integration, trajectory playback — work without one.

Activating a Licence

Go to **Licence → Activate Licence...** in the menu bar, or click **Enter Licence Key** in the prompt that appears when you try to save or export. Enter your licence key and click **Activate**. An internet connection is required for activation.

Buy a Licence

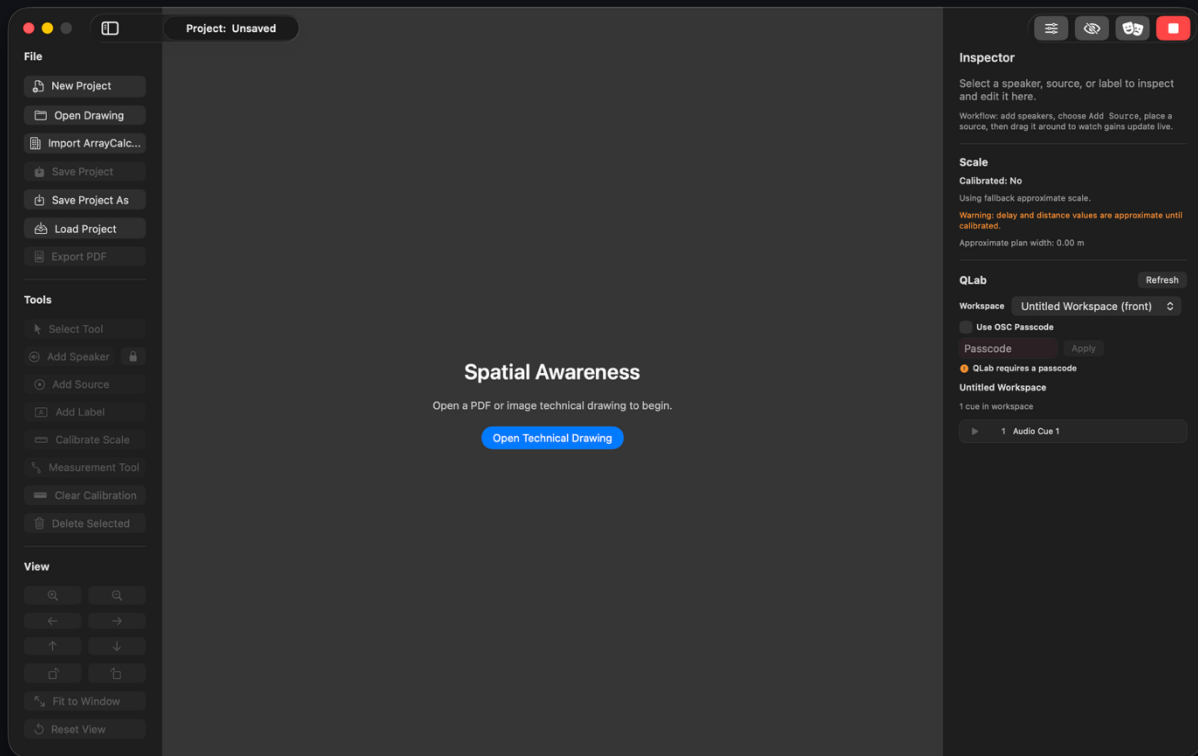
Go to **Licence → Buy Licence...** to open the purchase page in your browser.

Deactivating a Licence

Go to **Licence → Deactivate Licence...** to remove the licence from this machine. This lets you activate it on a different machine. You will need to re-enter the key to reactivate.

INTERFACE

Interface Layout



The application window has three columns:

Column	Width	Purpose
Sidebar	190 pt	File operations, tools, view controls
Canvas	Flexible	Drawing with overlaid markers
Inspector	320 pt	Selection details, QLab status, measurements

The **toolbar** at the top contains:

- **Sidebar toggle** — show or hide the sidebar with an animated transition
- **Output Mixer** — open the per-speaker trim mixer
- **Hide/Show Drawing** — toggle the venue drawing background on or off
- **Show Mode** — switch between Edit Mode and Show Mode
- **Panic All** — immediately stop all running cues in the connected QLab workspace
- **Project title** — shows the current project filename ("Project: Unsaved" until saved)

SETUP

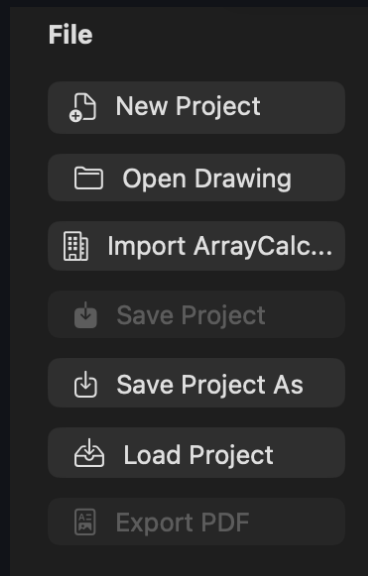
Getting Started

1. Click **Open Drawing** in the sidebar (or the **Open Technical Drawing** button on the empty canvas).
2. Select a PDF, PNG, JPG, or JPEG file. PDF files are recommended — they render crisply at any zoom level and enable all editing tools.
3. Once the drawing loads, place speakers and sources using the tools described below.

Note: Editing tools (Add Speaker, Add Source, Add Label, Calibrate Scale, Measurement Tool) are only available when a PDF drawing is loaded. Image files can be viewed and zoomed but cannot have markers placed on them.

FILE OPERATIONS

Project Management



New Project

Clears the current canvas. You will be prompted to save if there are unsaved changes.

Open Drawing

Opens a PDF or image file as the canvas background. Existing overlay objects are cleared.

Import

The **Import...** button reveals two import options:

Import Venue Plan...

Imports a D&B ArrayCalc venue file (.dbacv). The app generates a scaled PDF drawing from the venue geometry, pre-calibrates the scale, and automatically places all loudspeakers from the file at their real-world coordinates. The world origin is stored so that EASE XLD speaker coordinates can be aligned to the same drawing.

Import Speaker Positions...

Imports an EASE XLD speaker file (.xld). Speakers are placed on the drawing at their real-world coordinates. If a calibrated drawing is already loaded, speakers are placed precisely on it. If not, a blank grid drawing is generated automatically to fit the speaker positions.

Save Project

REQUIRES
LICENCE

Saves the project to its current location (or opens a Save As dialog on first save). Saves the drawing path, all markers, scale calibration, QLab workspace and passcode settings, trajectory data, speaker focal point settings, and world origin.

 Save Project As**REQUIRES
LICENCE**

Always opens a Save As dialog.

Save as Bundle... (File menu only)**REQUIRES
LICENCE**

Saves the project as a self-contained **bundle** (.sasb) that includes all files needed to open the project on another machine — the project data, the technical drawing, and any imported ArrayCalc or XLD source files.

A bundle appears as a single file in Finder. Inside it contains:

- project.sas — the project data with bundle-relative paths
- Drawing/ — the technical drawing (PDF or image)
- Sources/ — any ArrayCalc venue plan or XLD speaker position files (only present if those were imported)

To transfer a project to another machine, copy only the .sasb bundle — everything it needs is inside it. QLab workspace connection details are saved but are machine-specific and will need to be re-established on the receiving machine.

Tip: Use Save as Bundle... when handing a project to a colleague or moving between computers. Use Save Project for normal day-to-day saving on the same machine.

 Load Project

Opens a previously saved .sas project file. The app reloads the referenced drawing from its original path and restores all markers, calibration, QLab links, and settings.

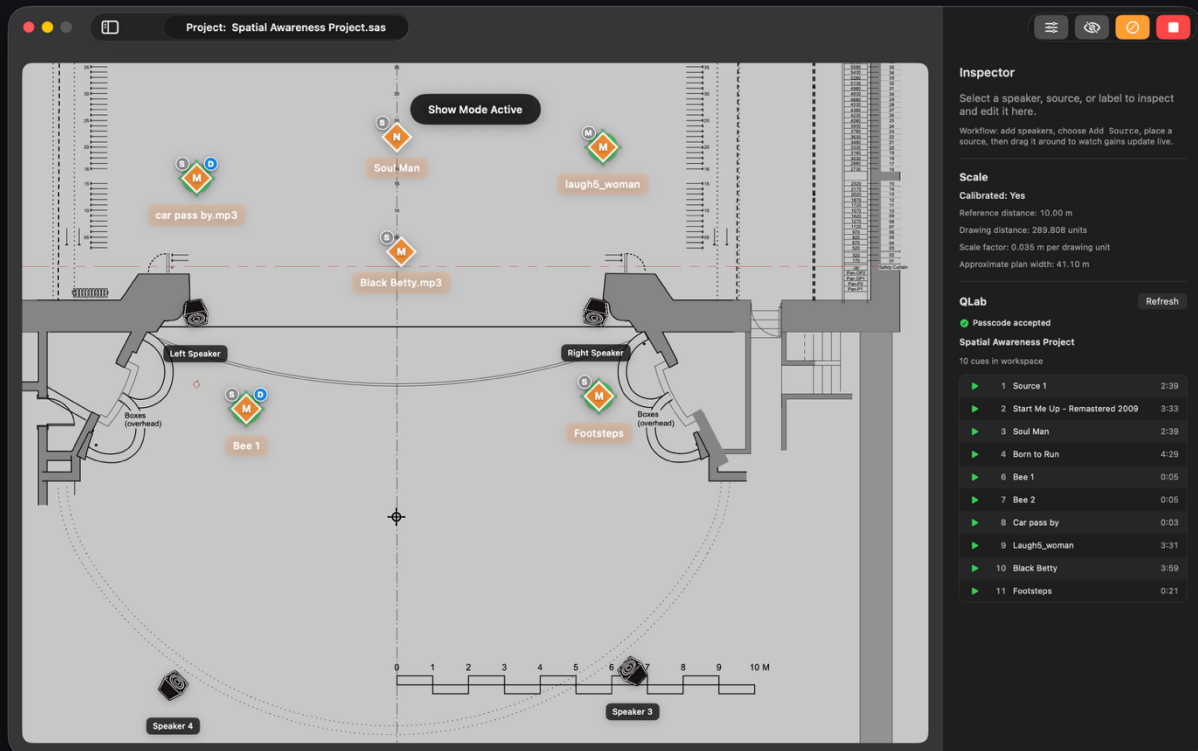
 Export PDF**REQUIRES
LICENCE**

Exports the current canvas as a PDF file: the flattened drawing with all markers on page 1, followed by a detailed project report on subsequent pages.

LIVE PERFORMANCE



Show Mode



Show Mode locks all editing to prevent accidental changes during a live performance. Click the **masks icon** in the toolbar to toggle.

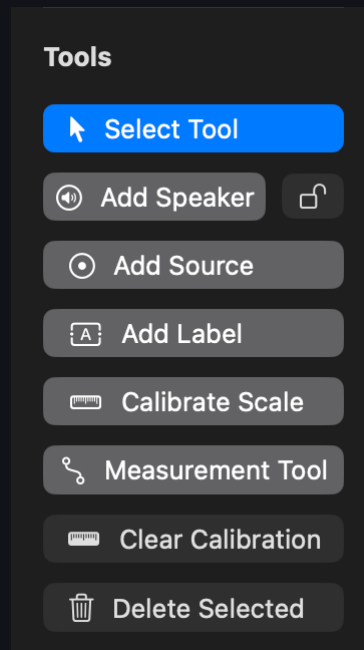
In Show Mode:

- The sidebar collapses automatically
- All editing tools are hidden
- Speakers cannot be moved
- Sources can still be dragged on the canvas and QLab OSC updates still fire
- The inspector is read-only
- Trajectory playback continues normally

A toast notification confirms each mode change.

TOOLS

Sidebar Tools



Select Tool

The default tool. Click any marker on the canvas to select it. Selected objects are highlighted with a cyan outline. Drag a selected object to move it (speakers must be unlocked to move). Double-click any object to open its properties panel.

Add Speaker

Places a speaker marker on the canvas where you click. Speakers are represented by a filled circle with a directional arrow showing their facing direction.

The **lock icon** next to Add Speaker controls whether speakers can be moved. When locked (the default), speakers cannot be accidentally repositioned. Click the lock to toggle. When locked, the Add Speaker tool is greyed out.

Right-click Add Speaker to load speakers automatically from a QLab audio output patch. The app queries the connected QLab workspace for its audio output patches and lists them. Select a patch to see its device name, output count, and channel routing. Click **Auto Add Speakers** to create one speaker for each output channel in the patch, pre-named and with output numbers assigned.

Add Source

Places a sound source marker at the **centre of the current view**. Sources represent individual sound origins — performers, stage positions, or playback points. When selected, lines are drawn to each speaker with line weight proportional to the calculated gain.

Right-click Add Source to link a source directly to a specific QLab cue. The app lists all audio and mic cues from the connected workspace. Select a cue to place a source already linked to it. Cues already used in the project are shown as disabled. A **Create New QLab Audio Cue** option is also available from this menu.

Tip: When a new source is created by clicking the canvas with the Add Source tool selected, it is placed at the clicked position rather than the view centre.

Add Label

Places a text label on the canvas. Labels are informational and do not participate in gain calculations.

Calibrate Scale

Activates scale calibration mode. Click a known start point on the drawing, then click a second known point. Enter the real distance in the Inspector (choose metres or feet) and press Return. Once calibrated, all distance, delay, and panning calculations use the real-world scale.

Warning: Without calibration: The app uses an approximate fallback scale based on drawing dimensions. An orange warning appears in the Scale section of the Inspector. All distance and delay values will be approximate.

Measurement Tool

Click and drag to draw a measurement line on the canvas. The Inspector shows the measured distance in metres, feet, and sound travel time in milliseconds. If the scale is not calibrated, an approximate warning is shown.

Clear Calibration

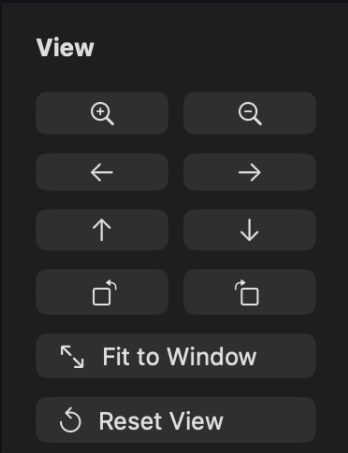
Removes the current scale calibration, returning the app to the approximate fallback scale.

Delete Selected

Deletes the currently selected marker. You will be prompted to confirm deletion of speakers with assigned outputs.

NAVIGATION

View Controls



Button	Action
Zoom In / Zoom Out	Zoom the canvas
← → ↑ ↓ arrow buttons	Pan the canvas
Rotate Left / Rotate Right	Rotate the canvas 90° left or right
Fit Canvas to Window	Zooms and centres the drawing to fill the canvas area
Reset View	Returns to the default zoom and position

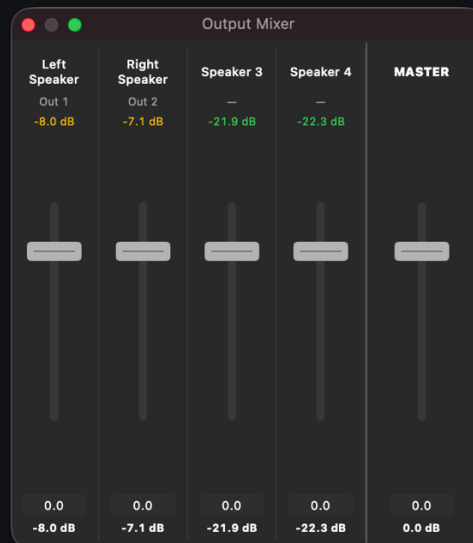
Canvas Rotation

The canvas (drawing and all markers) can be rotated in 90° increments:

- Shift+← — rotate 90° left
- Shift+→ — rotate 90° right
- The Rotate Left / Rotate Right buttons in the View section of the sidebar

All marker positions, calibration points, measurement lines, and trajectory keyframes rotate with the canvas. Scale calibration is preserved. Rotation is saved in the project.

MIXING

 Output Mixer


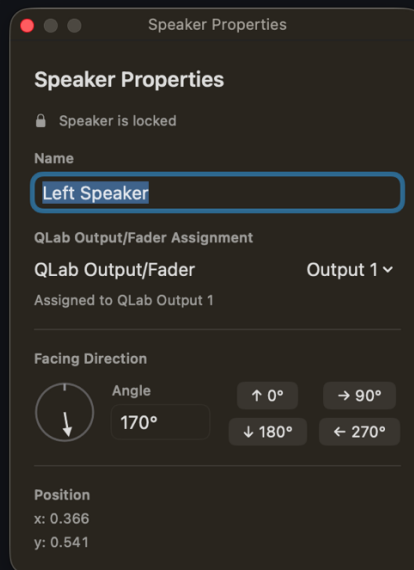
Click the **sliders icon** in the toolbar to open the Output Mixer panel. This is a floating window that remains open alongside the main canvas. The mixer shows a channel strip for every speaker in the project:

- **Speaker name** — up to two lines, centred
- **Output number** — e.g. "Out 3", or "—" if unassigned
- **Spatial level** — the level this speaker is currently receiving from the selected source. If nothing is selected, shows the highest level from any source.
- **Trim fader** — a vertical fader for per-speaker level trim, ranging from -60 dB to +12 dB. Double-click to reset to 0 dB.
- **Trim value field** — type a dB value and press Return to set precisely
- **Final level** — the combined spatial + trim + master level sent to QLab, colour-coded: Red (≥ -6 dB), Orange (≥ -18 dB), Green (below -18 dB)

A **Master Trim** fader on the right applies an offset to all speakers simultaneously. All trim values are saved with the project. The mixer panel retains its position on screen between sessions.

CONFIGURATION

Speaker Properties



Double-click any speaker to open the **Speaker Properties** floating panel.

Name

The label displayed on the canvas beneath the speaker icon.

QLab Output Assignment

Assigns this speaker to a QLab output number (1–128). This determines which QLab output fader receives the calculated gain values via OSC. A warning appears if two speakers share the same output number.

Facing Direction

Controls the direction the speaker faces — used for the directional arrow on the canvas and for speaker focal point calculations.

- **Dial:** Drag the circular dial to set the angle interactively.
- **Text field:** Type a value in degrees (0–359).
- **Preset buttons:** Quick-set to the four cardinal directions: ↑ 0°, → 90°, ↓ 180°, ← 270°.

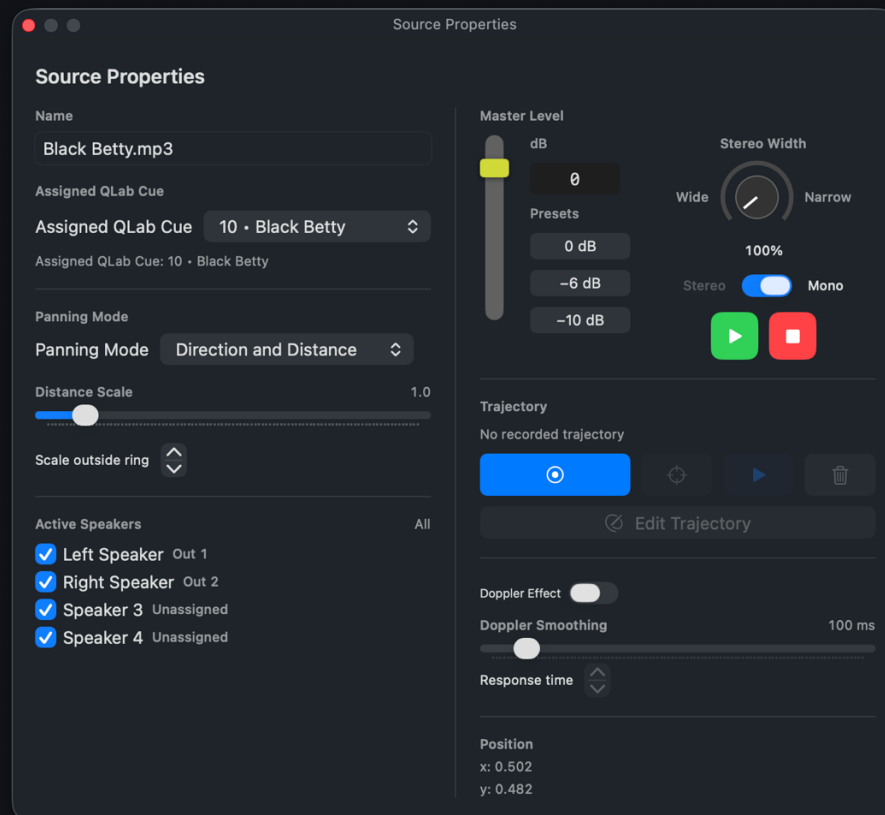
Convention is **clockwise from North**: 0° = up (north), 90° = right (east), 180° = down (south), 270° = left (west).

Imported Values

If a speaker was placed via ArrayCalc or EASE XLD import, its height (in metres) and delay offset (in milliseconds) from the source file may be displayed as read-only fields.

CONFIGURATION

Source Properties



Double-click any source to open the **Source Properties** floating panel. The panel is divided into a left column (routing and configuration) and a right column (level, trajectory, Doppler, and position).

Name

A text field showing the source's display name. Edit this to rename the source on the canvas.

Assigned QLab Cue

A dropdown menu listing all audio cues found in the connected QLab workspace. Selecting a cue links it to this source so that OSC messages (level, panning sends, stereo width, mono routing, playback) are directed to that cue. Opening the menu live-refreshes the cue list from QLab. A summary of the currently assigned cue is shown below the picker. If no cues are available, a status message explains why.

Panning Mode

A dropdown that controls how spatial gains are calculated for this source:

- **Direction Only (Directional Mode)** — pans by angle only, ignoring distance.
- **Direction and Distance** — pans by both angle and distance from the listener focal point.

Active Speakers

A checklist of every speaker placed on the canvas, each labelled with its name and its assigned QLab output number (or "Unassigned" if not yet routed). Unchecking a speaker removes it from this source's routing — gains for that output are zeroed in QLab. The **All** button re-enables every speaker at once.

Master Level

A click-and-drag vertical fader controlling the master output level of the assigned QLab cue, from -60 dB (off) to $+10$ dB. The fader polls QLab every second so it reflects any level change made directly in QLab. Click the dB display to enter a precise value by typing, then press Return or Escape to commit.

Three one-click preset buttons (**0 dB**, **-6 dB**, **-10 dB**) instantly set the QLab cue's master level. Disabled if no cue is assigned.

The **Play button** (green) sends an OSC /start command to the assigned QLab cue, starting playback immediately. The **Panic button** (red) sends an OSC /panic command, ramping the cue to silence and stopping playback.

Stereo Width

(Stereo cues only) A rotary knob that controls the stereo image width of the assigned QLab cue. Drag down to widen (towards full stereo), drag up to narrow. At full narrow (0%) the cue enters Mono routing mode. Scroll wheel also works. The percentage is shown below the knob.

Stereo / Mono Switch

(Stereo cues only) A labelled toggle switch. Flip to **Mono** to instantly set the pot to full narrow and route both QLab inputs to every active output at -3 dB summed. Flip to **Stereo** to set the pot to full wide and restore independent left/right sends. Moving the pot away from full narrow automatically returns the switch to Stereo.

Trajectory

The status line displays a summary of the recorded trajectory (number of keyframes and total duration), or "No recorded trajectory" if none exists. During recording it shows elapsed time in red; during standby-armed state it shows an orange prompt.

Control	Function
Record / Standby button (blue)	Arms trajectory recording standby. Once armed, dragging the source on the canvas starts the linked QLab cue and begins recording. While recording, turns red and stops when clicked. Clicking while armed but not recording cancels standby. Disabled in Show Mode, if no cue is assigned, if the cue is already playing, or if a trajectory already exists.
Enable/Disable button (scope icon)	Toggles whether the stored trajectory is active during playback. Green = enabled (source follows its recorded path when the cue plays). Grey = disabled (source stays at its current canvas position). Disabled during recording, playback, or if no trajectory is stored.
Play/Stop button	Plays the linked QLab cue if a trajectory is stored and armed, or stops it if already playing.
Delete button (trash icon)	Permanently clears the stored trajectory. Disabled during recording or playback.
Edit Trajectory	Opens the full trajectory editor where individual keyframes can be inspected and adjusted. Disabled in Show Mode or if no trajectory is stored.

Doppler Effect

Enables real-time Doppler pitch shifting. When on, as the source moves across the canvas its speed relative to the listener focal point is calculated and sent to QLab as a playback rate change, simulating the Doppler effect. Toggle with Shift+D.

The **Doppler Smoothing slider** (10 ms–1000 ms) controls the response time of the smoothing filter. Lower values make pitch changes react faster and more aggressively; higher values smooth out rapid movements. The current value is shown in milliseconds. A Response time stepper gives fine ± 10 ms control. Both controls are disabled when Doppler is off.

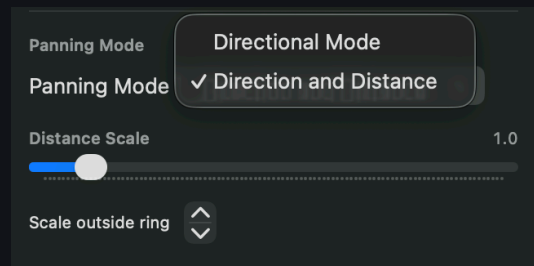
Value	Character
10 ms	Very fast, nervous
50 ms	Responsive
100 ms	Natural (default)
200 ms	Smoother, less reactive
500 ms	Slow, gentle
1000 ms	Very slow pitch glide

Position

Displays the source's current normalised position on the canvas as an x / y readout (0–1 range in both axes). Read-only — updated live as the source is dragged.

AUDIO ENGINE

Panning Modes



Each source has an independently selectable panning mode, set in the Inspector or Source Properties panel.

Level Only

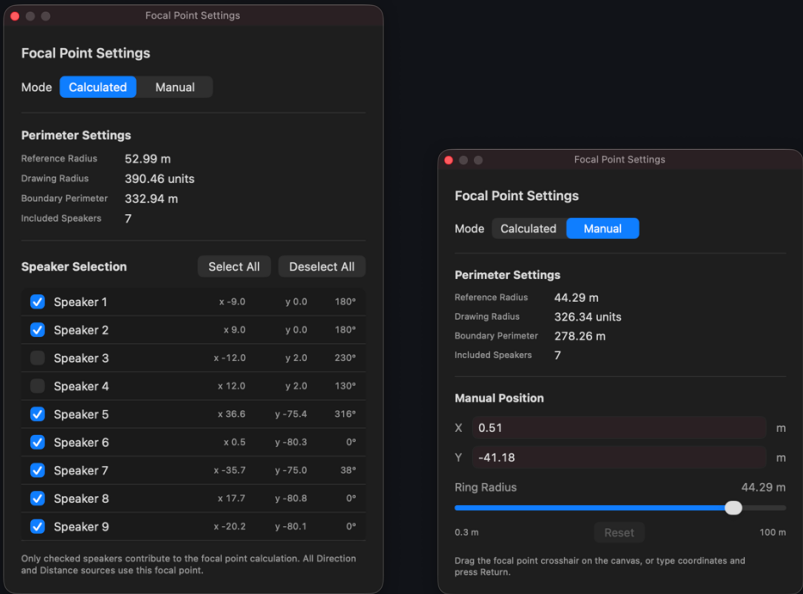
Calculates gain using inverse-square distance weighting. The nearest speakers receive the highest gain. No delays are applied. The safest mode for most productions.

Level & Distance

Calculates gain relative to the speaker focal point and its reference radius. Sources are positioned relative to this reference frame, and the level sent to each speaker is weighted by both physical distance and the source's position relative to the focal point perimeter. The Distance Scale Multiplier can exaggerate or compress the distance effect.

CONFIGURATION

Speaker Focal Point



The speaker focal point is the geometric centre of your speaker system. It serves as the reference point for the Level & Distance panning mode and for the Doppler calculation.

Enabling the Focal Point Overlay

Press Shift+F to toggle the focal point display on and off. A crosshair and reference ring appear on the canvas.

Focal Point Settings

Open via **Tools → Focal Point Settings...** in the menu bar.

Mode	Behaviour
Calculated	The focal point is automatically computed as the weighted centre of all included speakers
Manual	You set the focal point position by typing X/Y coordinates (metres) or by dragging the crosshair on the canvas

- Speaker Selection** (Calculated mode) — a scrollable list of all speakers with checkboxes. Only checked speakers contribute to the focal point position. Use this to exclude delay fills or non-main speakers.
- Manual Position** (Manual mode) — enter X/Y coordinates in metres, or unlock the padlock icon and drag the crosshair. The **Ring Radius** slider adjusts the reference distance ring (0.3 m–100 m).

INTERFACE

Inspector Panel

The Inspector (right column) updates in real time as you work.

Selection Section

Shows the selected object's type, name, and normalised canvas coordinates. For speakers, shows the QLab output assignment. For sources, shows the panning mode picker and QLab cue summary. When nothing is selected, the Inspector shows a brief workflow hint.

Source Sends

Visible when a source is selected. Shows per-speaker send data: speaker name and output, gain (linear multiplier), level (dB), distance (metres), and delay (ms, Arrival Time mode only). A speaker can be individually enabled or disabled for a given source from this section.

Trajectory Section

Visible when a source is selected. Shows the recording LED, record/stop button, trajectory enable toggle, play button, and trash button.

Export Fade Cues Button

Visible when a source has both a trajectory and an active QLab OSC connection. Click to open the Fade Cue Export dialog. Requires a licence. A progress indicator replaces the button during export.

Scale Section

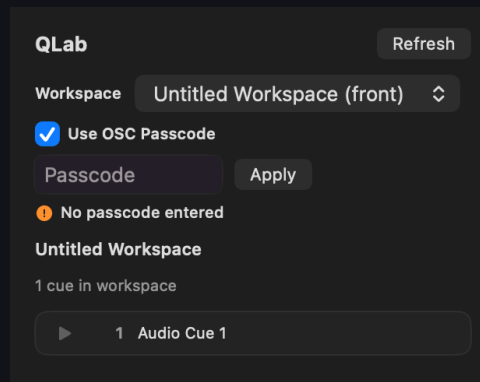
Shows calibration status, the reference distance and scale factor (metres per drawing unit), approximate plan width, and the import source. An orange warning appears when the scale is not calibrated.

QLab Section

Shows the current QLab workspace connection status, workspace picker, passcode controls, and a list of cues with per-cue play buttons.

QLAB

QLab Integration



Spatial Awareness communicates with QLab 5 (and QLab 4) via OSC on localhost (port 53000). The integration is live — no export step is required. Only **audio cues** and **mic cues** from QLab are shown throughout the app.

Startup

On first launch, if QLab is not already running, a startup sheet offers to open a new QLab workspace, open an existing one, or skip and work without QLab.

Workspace Connection

The Inspector's QLab section shows the active workspace name. If multiple QLab workspaces are open, use the workspace picker to select the correct one. Click **Refresh** to re-scan.

Indicator	Meaning
Green checkmark	Connected and ready / OSC open
Red ✕	Incorrect passcode or connection failed
Orange !	Passcode required but not entered, or workspace unavailable
Question mark	No reply from QLab

OSC Passcode

If your QLab workspace has an OSC passcode enabled:

1. Enable **Use OSC Passcode** in the Inspector.
2. Enter the passcode in the secure field.
3. Click **Apply** (or press Return).

Starting and Stopping Cues

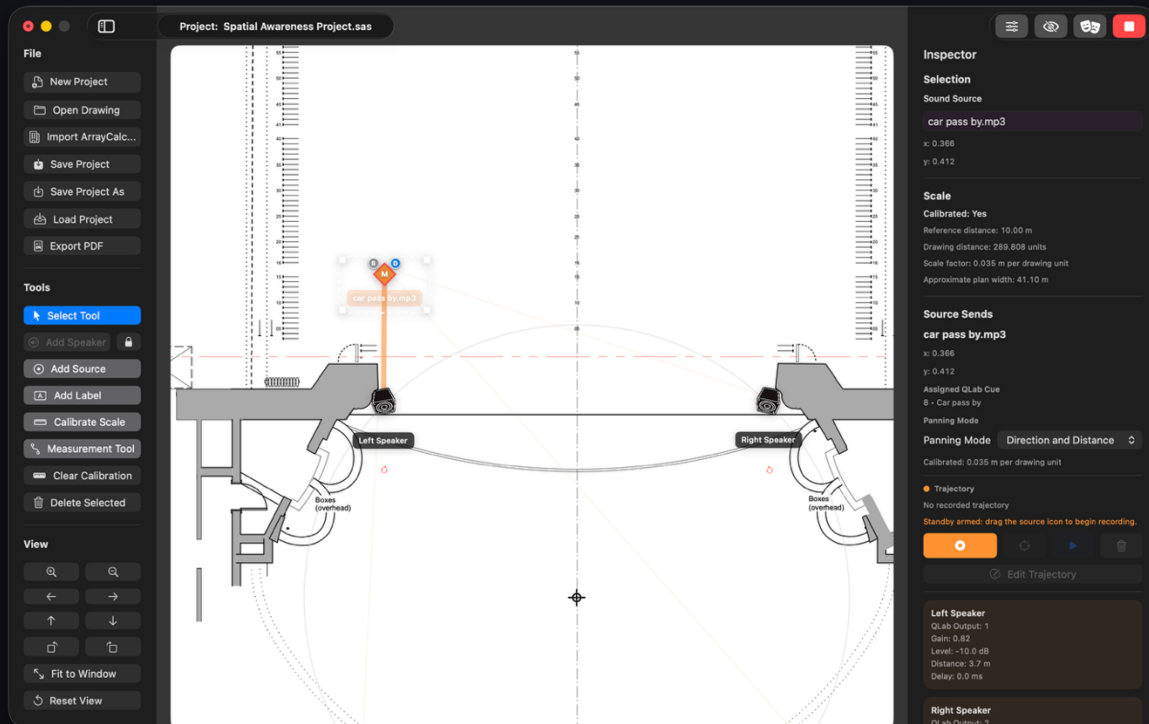
Click the **Play** button in the Inspector's QLab section (per-cue), or select the source and press Space. Duration is displayed in MM:SS format next to each cue.

Panic All

Click the **red stop button** in the toolbar, or press Escape, to immediately stop all running cues in the connected workspace.

TRAJECTORIES

Trajectory Recording



Trajectories let a source follow a pre-recorded movement path during QLab cue playback.

LED Indicator

Colour	State
Dim grey	No trajectory recorded
Orange	Standby armed — waiting for you to start dragging
Red (pulsing)	Recording in progress
Green	Trajectory stored and playback enabled
Mid grey	Trajectory stored but playback disabled

Recording a Trajectory

1. Select a source with a QLab cue assigned.
2. Click the **record button** in the Inspector (or press Shift+R). The source enters standby — the LED turns orange.
3. **Begin dragging the source icon** on the canvas. The linked QLab cue starts automatically and recording begins.
4. Move the source through the desired path at performance speed.
5. Release the drag or click **Stop** (Shift+R again) to finish.

Note: Any previously stored trajectory is deleted when you arm recording. To keep the current trajectory, cancel without dragging.

Enabling / Disabling Playback

The **target icon** button (or Shift+E) toggles whether the stored trajectory plays back when the cue runs. Green = enabled; grey = disabled.

Playing a Trajectory

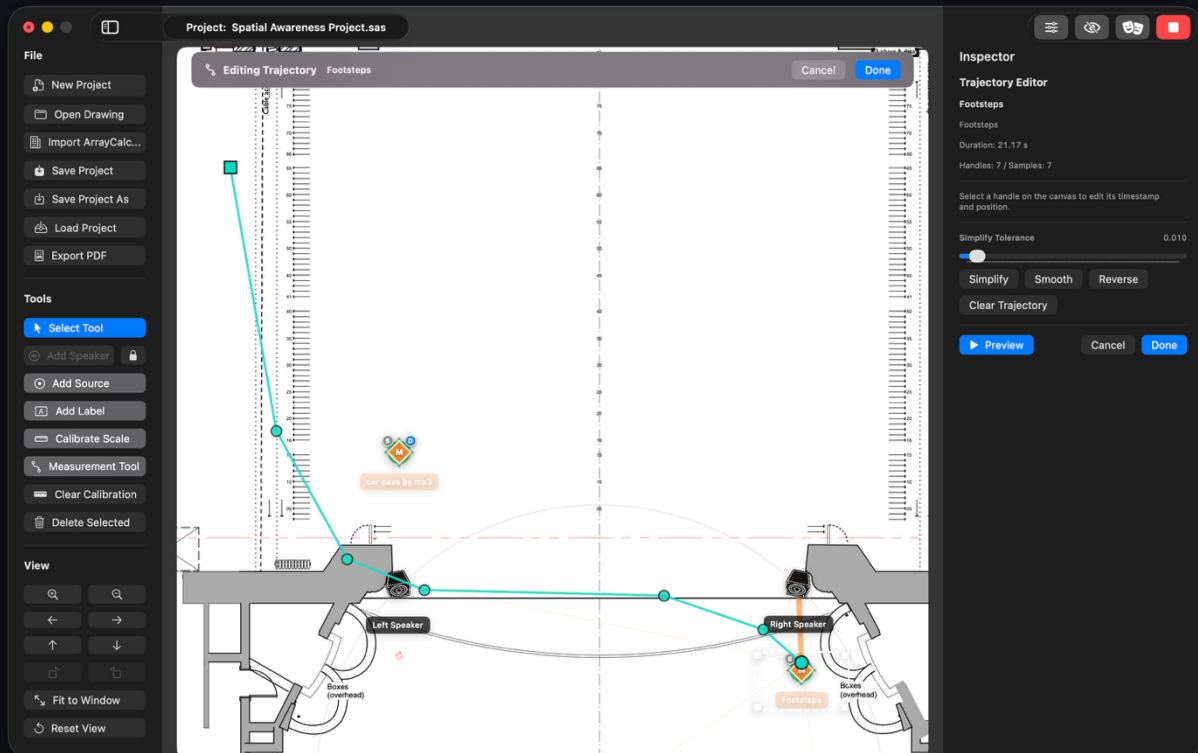
With a trajectory stored and enabled, click **Play** in the Inspector (or start the cue from QLab). The source animates along the recorded path in sync with the cue duration.

Clearing a Trajectory

Click the **trash button** to delete the trajectory. The LED returns to dim grey.

TRAJECTORIES

Trajectory Editing



After recording, you can fine-tune the path directly on the canvas.

Entering the Trajectory Editor

Click the **Edit Trajectory** button in the Inspector. A banner appears at the top of the canvas and keyframe handles are shown along the path.

Editing Handles

- Click a handle on the canvas to select it.
- Drag it to a new position.
- The Inspector shows the selected keyframe's time (seconds, 3 decimal places) and normalised x/y coordinates — all editable via text fields.
- **Delete Keyframe** removes the selected handle (minimum 2 keyframes required).
- Click anywhere along the trajectory line to **insert a new keyframe** at that time position.

Handle Stride

Use the **Handle stride** stepper to show every Nth keyframe as a handle. At higher values, fewer handles are visible, making dense paths easier to manage. All keyframes are preserved.

Path Operations

Button	Effect
Simplify	Removes redundant keyframes using the Douglas–Peucker algorithm. Adjust the Simplify Tolerance slider (0.001–0.2) before applying — higher values reduce the keyframe count more aggressively.
Smooth	Averages each interior keyframe's position with its neighbours, softening sharp corners in the path.
Reverse	Reverses the time order of the trajectory so it plays backwards.
Clear Trajectory	Removes all keyframes (requires confirmation).

Previewing Edits

Click **Preview** in the Inspector to play the edited trajectory through QLab in real time. The button changes to **Stop This Cue** while playing.

Finishing Editing

- **Done** — commits all changes.
- **Cancel** — discards all edits and restores the original trajectory.

QLAB EXPORT

Fade Cue Export

REQUIRES
LICENCE

Trajectory data can be exported directly into QLab as a sequence of fade cues, allowing fully self-contained show files that play back without Spatial Awareness running.

Opening the Export Dialog

With a source selected that has both a stored trajectory and an active QLab OSC connection, click **Export Fade Cues** in the Inspector's Trajectory section.

Export Dialog

The dialog shows:

- The source name and linked QLab cue
- The estimated number of fade cues to be created
- Total trajectory duration (minutes:seconds)
- A **Simplify Tolerance** slider (0.001–0.05) — lower values preserve more detail; higher values produce fewer, coarser cues.

The **Export** button is disabled if the estimated cue count is fewer than 2.

What Gets Created in QLab

On export, Spatial Awareness:

1. Creates one QLab fade cue per trajectory keyframe via OSC.
2. Assigns each fade cue's name, duration, and per-output level via OSC.
3. Sets each fade cue to target the source's linked QLab cue.
4. Sets auto-follow between consecutive fades so they chain together.
5. After all properties are written, collects the fade cues into a group cue named after the source, placed directly after the source's audio cue in the QLab workspace.

Note: If the grouping step fails, the individual fade cues are still present and a warning is shown. Speakers without a QLab output assigned are skipped with a warning. Export requires QLab 5 (QLab 4 is partially supported).

EDITING

Undo

Press Cmd+Z to undo the last edit. Undo covers: moving objects, deleting objects, changing panning modes, adjusting calibration, modifying trajectories, changing speaker facing directions, and most other canvas edits. Multiple undo steps are available within a session.

Note: Undo history is not saved to the project file — closing and reopening a project clears the undo stack.

REFERENCE

Keyboard Shortcuts

File

Shortcut	Action
⌘N	New Project
⌘O	Open Technical Drawing
⌘⇧O	Load Project
⌘S	Save Project
⌘⇧S	Save Project As
⌘⇧E	Export PDF

Canvas

Shortcut	Action
↑ ↓ ← →	Pan the canvas
⇧↑ / ⇧↓	Zoom in / zoom out
⇧← / ⇧→	Rotate canvas 90° left / right
Delete / Backspace	Delete selected object or trajectory keyframe
⌘Z	Undo

Tools

Shortcut	Action
S	Select Add Source tool
O	Select Add Speaker tool (when unlocked)
C	Select Calibrate Scale tool
M	Select Measurement Tool
T	Select Add Label tool
L	Lock speakers
U	Unlock speakers

Sources (requires a source to be selected)

Shortcut	Action
Space	Start or stop the linked QLab cue
⇧R	Arm trajectory recording (or cancel standby)

Shortcut	Action
⇧E	Toggle trajectory playback enabled/disabled
⇧D	Toggle Doppler effect
⇧M	Toggle Mono to Outputs
⇧,	Increase stereo width
⇧.	Decrease stereo width

View

Shortcut	Action
⇧F	Toggle Speaker Focal Point display
Escape	Panic All — stop all running QLab cues

WORKFLOW

Workflow Guide

Setting Up a New Show

1. **Open your venue's technical drawing** (PDF recommended), or use **Import → Import Venue Plan...** to generate a drawing directly from a D&B ArrayCalc file.
2. **Calibrate the scale** using the Calibrate Scale tool and a known measurement on the drawing. (ArrayCalc imports are pre-calibrated automatically.)
3. **Unlock speakers** and use **Add Speaker** (or right-click Add Speaker to auto-add from a QLab audio patch, or Import → Import Speaker Positions... from EASE XLD) to place all loudspeakers at their real positions.
4. **Double-click each speaker** to assign a name, QLab output number, and facing direction.
5. **Lock speakers** when placement is complete.
6. **Connect to QLab** — confirm the green connection indicator in the Inspector.
7. **Use Add Source** (or right-click to pick from the QLab cue list) to place sources for each performer or sound origin.
8. **Double-click each source** to link it to the correct QLab cue, choose a panning mode, and adjust which speakers it routes to.
9. **Record trajectories for each moving source.**
10. **Save the project** (requires a licence).

Running a Show

- Use **Show Mode** (toolbar masks button) to lock editing before the show starts.
- Operate QLab as normal during the show.
- **Trajectory playback** will automate source movement in sync with QLab cue timing.
- Monitor the Inspector for live level and distance values.

Tips

- **Calibrate before placing sources.** Scale affects all delay, distance, and panning calculations.
- **Set speaker facing directions** before enabling the Speaker Focal Point — the focal calculation uses them.
- **Lock speakers** once positioned to prevent accidental movement.
- **Duplicate output warnings** appear in the Inspector and Speaker Properties panel if two speakers share the same QLab output. Resolve these before show day.
- **The Output Mixer** is for trim offsets only — keep all trims at 0 dB during setup and only adjust to compensate for specific speaker imbalances.
- **Save frequently.** Trajectories, calibration, and all settings are in the project file. Undo history is not.
- **Fade Cue Export** creates a self-contained QLab sequence from a recorded trajectory — useful for shows where Spatial Awareness will not be running during the performance.