

Constantia BrightSign Wall

Monitoring & control desk for the museum's BrightSign video players — live screenshots, one-click reboot, Q-SYS-driven synchronised playback, remote script management, and self-updating.

1. What it is

The Wall is a Windows app that runs on the AV laptop on the museum LAN. It connects to every BrightSign player, shows a live thumbnail of each screen, and lets you reboot players and drive synchronised audio/video from the Q-SYS Core — all from one window. It also keeps a public status/history page and updates itself.

Piece	Role
BrightSign players (LS-series)	Play the room videos. Controlled over their Diagnostic Web Server (DWS) on the LAN.
Q-SYS Core	Plays the audio zones; triggers the synchronised Play/Stop sequence.
The Wall (this app)	Monitors players + hosts the bridge Q-SYS talks to. Runs on the laptop.

2. Install & first run

1. Download the latest `ConstantiaBSWall-Setup-<version>-x64.exe` from the project's download page.
2. Run it. It detects any previous version, offers to back up settings, and adds the Windows Firewall rule for the bridge (TCP 5000). Allow the elevation prompt if it appears.
3. Launch from the Start menu / desktop shortcut. The embedded bridge starts automatically on `127.0.0.1:5000` — the header shows **Bridge: running on :5000** (green).

After this first manual install, the app updates itself — see §9. Use the *Setup* installer (not the portable build) so it can self-update.

3. Dashboard

One tile per player: a live screenshot, an online/offline dot, IP, and the bridge ID. Controls in the header:

Control	What it does
Auto-refresh + interval	Refresh tiles automatically; choose 1 s up to 5 min.
Fast (1–2 s)	Screenshot-only refresh for a near-live view (lighter than a full refresh).
Cols / Fit screen	1–3 columns, or scale every tile to fit the window (no scroll) — good for a glance or a screen recording.
Refresh now / Reboot all	Force a refresh; reboot every player at once.

Per-tile reboot / full-screen	Reboot a single player; click a tile to view it full-screen.
🕒 Boot profile	Side-by-side boot diagnostics (see §8).
↓ Check for updates	Manually check for a newer version (see §9).

4. Adding players

Manually

+ **Add player** → enter IP, DWS port (usually 80), and the DWS username/password (default `admin` + the unit's serial number).

Bulk import

☰ **Import configs** reads one `.txt` per player from the configured folder (label/value pairs: friendly name, IP, port, username, password). Use this to load all players at once. The `Q-SYS IDs` button shows a Name / IP / Bridge ID table to copy into Q-SYS.

Bridge IDs are deterministic (derived from `ip:port`), so they stay stable across re-installs and re-imports — Q-SYS never needs re-pasting.

5. Q-SYS setup

Open the **Q-SYS Setup** tab. It generates the Lua scripts to paste into Q-SYS Designer, pre-filled for this laptop's bridge URL.

1. **Bridge URL** — pick the laptop IP on the Core's subnet (port 5000).
2. **Per-player Lua** — paste into each player's Text Controller; set its `PlayerIP`. Used for *manual single-player* control.
3. **Master Lua** — paste into one "Master" Text Controller; it owns the fleet (reboot + audio).
4. **Wiring** — follow the diagram (see §6).
5. **Test / Live log** — confirm the Core actually reaches the bridge; every request is logged.

A Text Controller only runs with pins defined + **Start Automatically = Yes** + **F5** (Save to Core & Run). A "Stopped" badge means it isn't running.

6. Synchronised playback (Q-SYS)

One **Play / Stop** button drives the whole experience. On Play, the master controller:

1. **Pre-flight** — waits until all players are reachable, so none is stranded.
2. **Synced reboot** — reboots all players at once (restarts video from the start).
3. **Wait for ready** — polls until every player is back online.

4. **Audio** — starts the audio zones from position 0, aligned with the fresh video.

Projectors power on (PJLink) in parallel while the players boot. The master is the *single* reboot authority — per-player controllers are for manual control only and stay off the global Play wiring.

The same show can be started three ways, all hitting the one **Play / Stop** toggle (the "big blue button"): the physical Q-SYS button, the **web dashboard** Play/Stop (see §10), and the **schedule** (auto on/off at set times). All three flip the same toggle, so the projectors and the show state always stay in sync.

Sync accuracy is \pm seconds (bounded by per-unit boot time), with audio restarted from 0. Frame-exact lip-sync would require player-side timecode and is not enabled.

7. Player Scripts (remote BrightScript)

The **Player Scripts** tab backs up and updates a player's on-device script over the network — no SD-card swap, no site visit.

1. **Back up** — pull the player's scripts to a local dated folder.
2. **Inject** — push a new `.brs` (disabled until a backup exists).
3. **Reboot** — apply it.

A bad script can black-screen a player and may need a physical reset. Always back up first and test on one player before rolling out.

8. Boot profile & history

🕒 **Boot profile** shows a side-by-side table — model, firmware, uptime, network mode, content size — so a slow player stands out. **Save .txt** writes a timestamped copy to the `BootProfiles` folder.

Every fleet reboot is also recorded to the public status page (back-online time per player). The page additionally shows current online/uptime and the last Q-SYS Core activity.

If one player is slow to boot

- Mismatched firmware → match all units to the same version.
- Same firmware but slow → SD card health/speed; reimage onto a fast card.
- The ~60 s network-diagnostics screen → disable it when imaging the card.

9. Updates

The Wall checks for a newer version on launch and every few hours. When one is found it **downloads in the background** and shows **Restart & install** — one click, no manual download.

- **Later** hides the prompt for that version (a newer one re-shows it).
- **⌵ Check for updates** re-checks on demand.

10. Online dashboard (phone / browser)

A web dashboard at constantia-updates.pages.dev lets authorised staff monitor and control the show from anywhere — no need to be at the laptop. It works while the on-site app (the Wall) is running.

Signing in

1. Open the link, enter your email, tap **Continue**.
2. If you're on the access list, a 6-digit code is emailed — enter it (the email also has a one-tap link back to the code screen). Sessions last 24 h.
3. Not on the list? You'll get an email with the app download + demo, and the team is notified to approve you.

Install it like an app: on Android tap the *Install* banner; on iPhone use Share → *Add to Home Screen*. Same icon as the Wall.

Tabs

Tab	What it shows / does
Logs	Boot & uptime history (South African time) + a Q-SYS audio-detail table: when audio fired and whether every bus came up after each reboot.
Live View	The latest screenshot of each player (near-live, not real-time).
Ops	Show control — Play / Stop the show remotely (drives the same Q-SYS toggle). Schedule — set automatic ON/OFF times in SA time, choose days (or Daily / Weekdays / Weekend). Plus a live status table.
Documentation	Demo video + this manual.

Scheduling the show

Ops → Schedule: tick **Enabled**, set the ON time and OFF time (South African time), pick the days, and **Save**. The Q-SYS Core then starts and stops the show on its own at those times — it keeps running the last saved schedule even if the internet drops.

Boot-status emails go to the team on each reboot (✅ all players back, or ⚠️ some missing), with the boot + audio tables. Each email has an unsubscribe link.

11. Troubleshooting

Symptom	Fix
Bridge pill not green	Click Start bridge ; if a port clash, close the other app on :5000.
Q-SYS doesn't reach the bridge	Confirm the laptop firewall allows TCP 5000 (the installer adds this) and the Lua's bridge URL is the laptop's LAN IP, not 127.0.0.1.

Player tile black / unreachable	Reboot that player (per-tile). Never hot-swap its SD card while running.
Audio doesn't start	Press Play in Q-SYS; watch the master Status walk to "all ready". Ensure the bridge is up before pressing Play.
Player slow to come back	See §8 — usually SD speed or firmware.

12. Support

For help, contact the UWC Immersive Zone.

Internal tool for Iziko Constantia AV operations. Not for public distribution. Built and supported by the UWC Immersive Zone.