THE CUESURGE FIELD MANUAL

Run the show.
Own every cue.

A practical operator reference for show callers, production managers, and AV leads.

EDITION	SOFTWARE	PUBLISHED
First	**v0.1.370+**	**Sep 2026**

A cleaner, denser edition: comfortable margins without wasting the page.

Before you begin. This manual documents CueSurge as of version 0.1.370. Features described here may look slightly different in newer versions — the app moves fast. When something you see on screen doesn't match what's on the page, trust the app; report the drift and we'll fix the next edition. CueSurge is built on Chromium via Electron, ships with a bundled LibreOffice engine for slide conversion, and integrates with a wide range of production

hardware (DeckLink SDI, ATEM, Allen & Heath SQ, Dante, DMX, Stream Deck). Each of those integrations lives in its own chapter; you don't need any single one to run a show. The best way to read this manual for the first time is straight through Part I — Getting Started. After that, keep it open on a laptop nearby and reach for it whenever the show throws you something you haven't seen. The Contents page is grouped so you can find things fast.

— The CueSurge team

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PART ONE

I Getting Started

Install CueSurge, walk the interface once, build a show, load cues, and hit Go. Read this part straight through the first time — the vocabulary you pick up here is used everywhere else in the book.

CHAPTER 1.1

Installing CueSurge

A signed Windows installer, a one-click setup, and you're at a first-launch prompt in about a

minute.

System requirements

CueSurge runs on Windows 10 (build 20H2 or later) and Windows 11. It is not currently available on macOS or Linux. The recommended baseline for anything more demanding than a single-output breakout session is: CPU — Intel Core i7 12th gen (or Ryzen 7 5000 series) or newer RAM — 16 GB minimum; 32 GB for shows with multiple 4K video cues or Program-

side Dante routing

GPU — a dedicated NVIDIA card (RTX 3060 or better) unlocks hardware video decode and stable Program window rendering when three output windows are live Storage — SSD; the installer itself is ~700 MB, and shows with bundled media

grow from there

Network — Gigabit Ethernet on the show LAN; Wi-Fi is fine for the operator laptop only when Comms and iPad Remote aren't in use See Appendix D for detailed tiers.

Downloading

Grab the latest installer from cuesurge.com/download. The download page always points at the current signed release; older versions are archived but not linked from the download page. If a client site has locked-down internet, download from your machine and copy the installer over.

```
The file is named CueSurge-{version}-Setup.exe. It is signed by Azure Trusted
```

Signing under the publisher name CueSurge LLC. The SmartScreen warning Windows may show a "Windows protected your PC" screen the first time you run the installer. This is normal and expected — even with a valid Trusted Signing certificate. SmartScreen builds trust on reputation, and reputation is a function of how many people have downloaded and run this exact version of the file without issue. New releases, and freshly-signed publishers, always start from zero.

To proceed:

1. Click More info on the SmartScreen dialog.
2. Confirm the Publisher line reads CueSurge LLC. This is the important verification

— the cert chain is what tells you the file is genuinely from us.

3. Click Run anyway.
4. Approve the following UAC prompt, which should also read Verified publisher:

CueSurge LLC. Reputation accrues automatically as more people install this version. Later versions ride on the publisher's accumulated trust and warn less often. If a SmartScreen dialog ever shows a different publisher — or no publisher at all — stop and re-download from cuesurge.com/download; the file has been tampered with.

Running the installer

Double-click the setup executable. The one-click NSIS installer auto-installs to

```
%LOCALAPPDATA%\Programs\CueSurge, creates Start Menu and Desktop shortcuts, and
```

silently installs the Visual C++ 2015–2022 Redistributable (which the Comms subsystem depends on). No wizard, no options — this is deliberate. Everything configurable lives inside the app. Installing over a previous version cleanly uninstalls the old copy first; your shows, presets, and templates live in your user profile and are preserved.

Silent install

For rack laptops that need to be provisioned by an IT team, the installer supports NSIS's silent mode. Run from an elevated shell:

CueSurge-0.1.370-Setup.exe /S

```
The /S flag skips all prompts and does not auto-launch the app when done. Combine
```

with a scripted first-launch that pre-seeds the license (see Chapter 8.1). First launch When CueSurge starts for the first time, three things happen:

1. The Starter Library is copied into your user profile — the welcome/thank-

you/stinger pack you'll see under Library.

2. The LibreOffice engine bundled with the installer is warmed up so slide conversion

is instant later.

3. You're prompted to sign in or start a 7-day trial. See Chapter 8.1 for the licensing

flow.

TIP · INSTALL LOCATION

The default install path is per-user, not per-machine. If multiple techs log into the same rack laptop, each one gets their own copy on first launch. To install per-machine (single copy, all users), run the installer from an elevated shell with /PERMACHINE=1.

WARNING · ANTIVIRUS

Some enterprise AV products flag the installer's silent launch behavior when run under

```
/S. If IT sees a block, whitelist the Trusted Signing publisher (CueSurge LLC) rather
```

than the file hash — that survives every version bump.

CHAPTER 1.2

The interface at a glance

CueSurge splits its work across one Operator window and one to three Output windows.

Everything you touch is in the Operator; everything the audience sees is in an Output.

The Operator window

The Operator window is what opens on first launch. It hosts a left-hand sidebar of tabs and a large working area to the right. The tabs are grouped by role: Show, Cues, Library, Comms, Streaming, Signage, Teleprompter, Automation, Admin. Click any tab to switch views; the working area re-populates. The sidebar can be collapsed with Ctrl + B . Above the tabs, a compact status strip shows the current Program cue, the next armed cue, and a small timer. This strip is always visible; use it to sanity-check what's

live without leaving whatever tab you're on.

The Output windows

Up to three Output windows can be open at once: Program (P1), Preview (P2), and Confidence (P3). Which of these open depends on the show; a simple keynote might only run P1, while a multi-camera event uses all three.

P1 · Program

What the audience sees, or what feeds the switcher's PGM input. Always route to your main projector or LED wall's dedicated input.

P2 · Preview

What's about to go live. Sits on a monitor next to the switcher operator so they can confirm the next look before it takes.

P3 · Confidence

Presenter-facing. Same content as Program by default; can be independently overridden (see Chapter 7.1 for the teleprompter's confidence override). Each Output window is a plain frameless BrowserWindow. Drag one onto any monitor, use F11 to fullscreen it, and CueSurge remembers where it was on the next launch.

The Program strip

Along the top of the Operator, and mirrored on every iPad Remote tab, is the Program strip — a compact horizontal bar showing PVW ("preview / next cue") and PGM ("program / live cue") with big Fire and Take buttons. This is the fastest way to advance the show without leaving whatever tab you're currently in. The strip's buttons are also mapped to keyboard shortcuts you'll use constantly:

KEY ACTION

Space Take — fire the next armed cue

Enter Arm the currently highlighted cue as next Esc Clear — release the current Program cue ↑ / ↓ Move the highlight up / down the cue list

Docks and panels

The right side of the Operator window is a stack of collapsible docks — ShowDock (cue list navigator), Program (live status), Preview (next-up view), and any panels the current tab has enabled. Click a dock's title bar to expand or collapse; drag a divider to resize. Panel layout persists per tab.

NOTE · NAV RAIL SOFT-LOCK

If you accidentally hide the left nav rail (via Ctrl + B), pressing the same combo brings it back. The state is persisted per install, so this survives restarts.

CHAPTER 1.3

Building your first show

A show is a file: it holds every cue, every Output routing decision, and every panel state you

set. Losing it costs you the event, so treat show files with the same care as final render files.

New show

From the Operator window, click File -> New Show or press Ctrl + N . A blank show opens with no cues; the ShowDock on the right is empty. Save the show immediately with Ctrl + S . Give it a name that a stranger could

```
interpret in six months — 2026-10-15 · Acme Q4 Town Hall.cuesurge beats
```

```
show2.cuesurge. CueSurge shows the last-modified time in the file browser but not
```

the event date, so bake it into the filename.

Where files live

```
By default, shows save to %USERPROFILE%\Documents\CueSurge Shows\. If you're
```

working from a portable USB drive (which is common on rack laptops swapped between events), just File -> Save As to the drive — CueSurge doesn't care where the file lives. Media referenced by cues (video files, PowerPoint decks, audio tracks) is not copied into the show file. The show stores a path; if you move the media, the cue breaks. For traveling shows, put media and the show file in the same folder and always use "Save As" to that folder before you start referencing media — the app then writes paths

relative to the show file, which survive being copied to another machine.

TIP · SHOW FOLDER DISCIPLINE

```
One folder per event, always. 2026-10-15 Acme/ contains the .cuesurge file, a
```

media/ subfolder for videos and slides, and any client-supplied assets. If the show fits in that folder, it can be copied to any laptop and open cleanly. Anything referenced from Desktop, Downloads, or a random network drive is a break waiting to happen.

Show settings

Under Show -> Settings you configure things that apply to every cue in this file — default output resolution, the venue's time zone (for scheduled cues), the accent color that shows up in aux surfaces, and a "brand pack" of logos used by the timer and agenda overlays. Set these once per show at build time; you'll rarely touch them mid- event.

Autosave and recovery

CueSurge autosaves the show every 60 seconds to a shadow file

```
({showname}.cuesurge.autosave). If the app is force-quit or the laptop reboots, the
```

next launch offers to restore from the autosave. Explicit Ctrl + S commits and clears the autosave.

WARNING · SAVE BEFORE PROGRAM

Autosave protects against crashes but not against you overwriting cue timing during a live show. Save explicitly whenever you make a change you don't want to lose — right before doors, right before house lights down, right before a headline speaker.

CHAPTER 1.4

Adding your first cues

A cue is the smallest unit of "what happens next." Every cue has a type — Video, Audio,

PowerPoint, Agenda, Browser, Signage, Timer, Lower Third, Stack — and every cue has a place in the ordered cue list.

The cue list

The main view of the Show tab is your cue list: an ordered vertical strip of every cue in the show, from top (start of event) to bottom (walk-out). Each row shows the cue's type icon, its name, and a status pill (armed, live, ended). Drag rows to reorder; a live cue can be reordered but its Program state doesn't move.

Adding via drag and drop

The fastest way to build a show is to drag files directly into the cue list. CueSurge sniffs the file extension and creates the right cue type: DROP THIS GET THIS .mp4, .mov, .mkv Video cue .mp3, .wav, .aac Audio cue

.pptx, .key PowerPoint cue

.jpg, .png Signage or Lower Third (chosen at drop time)

Folder of images Signage playlist

Multi-select files in Explorer, drag them all at once, and CueSurge creates one cue per file in the order they were selected. Adding from the Library The Library tab is a browsable catalog of everything you've imported, plus the Starter Library that ships with the app. Right-click any item and choose Send to Show, or double-click to preview it and then click the + Cue button in the preview. Library items are catalogued by tag: media, presets, templates, lyrics.

Naming and grouping

Every cue has a name; the default is the filename. Rename by double-clicking the row. Names show up in Program strip, iPad Remote, Stream Deck plugin, and every screenshot you'll take of this show — a clear naming convention pays off. Cues can be grouped into Sections. Right-click any cue and choose Wrap in section, then name the section (e.g. "Opening", "Keynote", "Awards"). Sections collapse/expand in the cue list and can be armed as a whole — firing a section arms

its first cue and pre-loads the rest. Arm and take The core show-caller loop is:

1. Arm — click a cue or press Enter on it. The cue moves into the PVW (preview)

slot. Its content pre-loads offscreen so Take is instant.

2. Take — press Space or click the green Take button. The armed cue swaps into

PGM and starts running. The next cue in the list auto-arms unless a Section boundary or a Stack cue overrides.

3. Clear — press Esc to release the current Program cue. Some cue types (video,

audio) also stop on Clear; others (agenda, lower third) fade out.

CHAPTER 1.5

Running the show live

Show mode is the state you actually operate in — outputs open, cues loaded, and every

keystroke has consequences. Learn to enter and exit it deliberately.

Entering Show mode

Click the large Enter Show Mode button in the top-right of the Operator window, or press F5 . Three things change:

1. The Output windows open on their assigned monitors and go fullscreen

automatically.

2. The Operator UI tightens up — some editor panels collapse, and the Program strip

grows to the top of the screen.

3. Cue-list editing is disabled by default. You can re-enable it in Show mode via Show

-> Allow Edits , but the default is deliberately locked to prevent an accidental drag while calling cues.

The calling rhythm

A well-run show has three concurrent focuses:

Right now

PGM. What the audience sees. Watch it, watch it, watch it.

Next

PVW. What you're about to Take. Confirm it matches the run sheet.

Next after next

The cue below PVW in the list. Glance at it before Take so you're never surprised. The Program strip surfaces the first two; the ShowDock surfaces the third. Nothing else on screen matters mid-cue — resist the urge to check Streaming status or Comms during a Take.

Exiting Show mode

Press F5 again, or click Exit Show Mode. Output windows return to windowed size but remain open on their monitors. Cue-list editing re-enables. If Program was live when you exit, it clears.

WARNING · NEVER QUIT MID-SHOW

Closing the Operator window while Program is live also closes the Output windows. Use Exit Show Mode to teardown gracefully instead. If you must quit — say, to install an updated version of a Slate integration mid-day — clear Program first, then quit; do not rely on Alt + F4 to do the right thing.

PART TWO

II Cues

Ten cue types cover every piece of content a live show puts on screen or through speakers. Learn one at a time, in the order presented — later types build vocabulary from earlier ones.

CHAPTER 2.1

Video cues

Video is the most-used cue type in most shows. Everything from a walk-in loop to a keynote

bumper to a case-study story runs through this one cue type — so understanding its knobs pays for itself the first day.

Supported formats

CueSurge decodes video through Chromium's media pipeline. Any container Chromium plays natively works: MP4 (H.264 / H.265 / AV1), MOV (H.264 / ProRes), MKV (H.264), and WebM (VP8 / VP9). ProRes is decoded via software; if you need reliable 4K ProRes playback, transcode to H.264 at high bitrate first. For alpha channel content (transitions, stingers), use MOV with ProRes 4444 or WebM with VP9 alpha. The Signage playlist and Lower Third cues both honor alpha; Video

cues render on their assigned Output window's background color, so pre-comp a black matte if you need it.

Basic playback controls

Once a Video cue is armed, its scrubber and transport controls appear in the Program dock. During playback: CONTROL BEHAVIOR

Play /

Pause Toggle. Also mapped to K . Restart Seek to 0 and continue playing. Rewind 5s Seek back 5 seconds. Repeat for further rewinds. Loop Restart at end instead of stopping. Fade out Ease audio and video to black over the Fade Out time set on the cue. Loop and hold Two loop behaviors:

Loop

Continues restarting until you Clear or Take a different cue. Use for walk-in / walk- out media.

Hold on last frame

Plays once, then freezes on the final frame instead of clearing. Useful for bumpers that transition into a static logo.

Output routing

Each Video cue picks a Program role: which Output window it takes over when it goes live. The default is P1. Multi-output shows can route different cues to different windows — for example, a keynote deck to P1 (Program) while a picture-in-picture speaker view runs on P3 (Confidence). Setting the role does not switch outputs at Take time; it declares what the cue owns. See Chapter 3.2 for the Output Manager.

Dante audio

Video cue audio can route to Dante subscribers per-cue rather than through the machine's default audio device. Enable Dante on a cue via Cue -> Audio -> Dante and pick the target subscriber. This is essential when video audio needs to hit the FOH mixer via Dante while sound-effects cues stay on the local device. See Chapter 5.3.

TIP · PRE-LOAD THE NEXT VIDEO

Long or high-bitrate videos benefit from an explicit pre-load. Right-click a cue and choose Pre-load to force its decoder to warm up before it's the next-armed cue. This is worth doing 30 seconds before a bumper roll if the machine is under heavy load elsewhere.

CHAPTER 2.2

Audio cues

Audio-only cues cover walk-in music, sound effects, stingers, and any moment when you want sound without changing what's on screen.

Supported formats

MP3, WAV, AAC, OGG, FLAC — the same set Chromium handles. Prefer WAV or FLAC for any cue that has to loop cleanly (MP3's LAME encoder pads the ends and creates audible clicks at loop points).

Sinks

An audio cue picks a sink — the physical or virtual audio device it plays through. Defaults are the Windows default output device; overrides are useful when you want walk-in music on the room PA while a sound-effect cue routes to the presenter's IEM. Available sinks include every enumerated Windows audio endpoint plus any Dante Virtual Soundcard channels if DVS is installed.

Ducking

Two audio cues can play simultaneously; the newer cue ducks the older by a configurable amount (default -12 dB) for the duration of the newer cue's play, then restores. Useful for interstitial announcements over walk-in music without stopping the music.

Loops

Loop behavior mirrors Video (Chapter 2.1): looped audio restarts at end, non-looped stops. Loop points can be trimmed with the in / out points on the cue's edit panel.

CHAPTER 2.3

PowerPoint & PPT Live

PowerPoint cues are the second-most-common content in event work. CueSurge supports two very different modes: pre-converted slide export, and true live PowerPoint capture. Two modes

Converted slides

The default. CueSurge uses its bundled LibreOffice engine to render each slide to a high-resolution PNG at import time. You get instant navigation, no dependency on the client's PowerPoint version, and no risk of a font swap on the day of the show.

PPT Live

Launches the presenter's real PowerPoint session and captures its output as a live source. Preserves every animation, transition, and embedded video exactly as the presenter built them. Cost: an installed copy of PowerPoint, a slightly heavier machine, and full Windows Composition Graphics (WGC) capture cost.

Importing a deck

Drag a .pptx or .key file into the cue list. CueSurge asks whether to import as Converted or PPT Live. Converted is the default and correct choice unless the deck has animations you need to preserve. Conversion runs in a background LibreOffice process; expect ~1 second per slide for typical decks. Keynote files convert via LibreOffice's Keynote import filter and may lose some animations even in Converted mode; if a client insists on native Keynote fidelity, run PPT Live from a Mac.

Presenter clicker

Whichever mode you use, the presenter drives their own advance with any USB or Bluetooth presenter remote (Logitech R500, Kensington, etc.). CueSurge intercepts the Page Up / Page Down / Left / Right key events and advances the deck. If you're running PPT Live and want the clicker to advance the real PowerPoint (not CueSurge's wrapper), see the PPT Live section below.

PPT Live specifics

PPT Live opens PowerPoint invisibly, starts a slideshow, and captures its output via Windows Graphics Capture. The captured frames are routed to whichever Program role the cue owns. Requirements: PowerPoint 2019 or newer installed on the machine (any edition) The .pptx or .ppsx file on local disk (network paths work but slow the launch) A Windows session with at least one visible display attached (WGC won't capture

on a headless VDI session)

Known limitation: WGC has a per-session cap of three concurrent capture handles; running more than two PPT Live cues at once plus other WGC-captured windows returns a 2x2 placeholder for the fourth. In practice this only bites when integrating with browser-live sources; for most shows it's invisible.

CHAPTER 2.4

Agenda cues

An Agenda cue is a live-updating session board — the "what's happening now" and "what's up next" board shown in lobbies, green rooms, and public signage.

Sessions

Each Agenda cue holds a list of Sessions. A session has a title, an optional description, a start time, a duration, and a speaker attribution. Sessions are added inline in the cue's edit panel; import via CSV or paste is also supported. The agenda is always aware of "now" via the machine clock. The current session gets a live badge; upcoming sessions show a countdown; completed sessions fade.

Public vs. Green Room surfaces

Two rendering targets ship with every Agenda cue:

Public

Audience-facing. Full session titles, speaker photos, next-up countdown. Optimized for a big lobby display at 10 feet.

Green Room

Backstage-facing. Denser layout, up to eight upcoming sessions, precise time- until countdowns, and a speaker "on deck" callout. Optimized for a monitor two feet from a speaker's face. Each renders in its own aux BrowserWindow and can route to a distinct DeckLink SDI output. Chapter 3.5 explains the aux surface plumbing.

Live overrides

During the show, tap Set Live on any session in the cue list to force it as "current" regardless of the clock, or Set Next to force what's coming up. Useful when a session runs over or a schedule shifts. Overrides clear on the next natural session boundary or when you tap Clear override.

CHAPTER 2.5

Browser Source cues

Any URL becomes a cue. Live scoreboards, sponsor overlays, Twitter walls, dashboards — if a browser can render it, CueSurge can put it on Program.

Configuration

Set a URL, output dimensions (default 1920x1080), and a couple of behavior flags:

Interactive

When enabled, keyboard and mouse input on the Output window forwards to the browser context. Useful for a live-controlled dashboard on Confidence; leave off for read-only sources.

Transparent

Removes the browser's default white background so the page's real background (or lack of one) shows through. Combine with Program-side compositing to overlay a browser-rendered lower-third on a video feed.

Reload interval

Automatic reload every N seconds. Only enable for pages that don't refresh their own content; a modern SPA usually breaks under aggressive reload.

Common patterns

Sponsor rotator — a page you host serves a sequence of sponsor logos with fades; enable Reload every 30s if the page doesn't self-rotate. Live results — sports events use Browser Source cues pointed at a scoreboard URL that updates via SSE. Countdown clocks — CueSurge's own Timer cue is faster (Chapter 2.8), but a branded countdown page can drop in as a Browser Source.

CHAPTER 2.6

Lower Thirds & graphics

Animated titles that identify speakers, subtitles, or headings — CueSurge renders them as an

overlay on whatever Program is currently showing.

Content

Each Lower Third cue has a title, an optional subtitle, and a duration. In and out animations are picked per-cue: slide, fade, or pop. Colors and fonts pull from the show's brand pack (set in Show -> Settings).

Overlay compositing

Lower Thirds overlay on Program without replacing the underlying cue. If a Video cue is playing on P1, the lower third renders on top; the video keeps playing. When the third's duration ends, the animation reverses and the video continues alone.

Bulk-adding thirds

Paste a two-column CSV (title, subtitle) into the cue list and CueSurge creates one Lower Third per row. Useful when a client sends a speaker list the day before.

CHAPTER 2.7

Signage playlists

Digital signage — static images and short videos rotating on a screen at fixed intervals — is

its own cue type. The signage cue owns a target Output and drives the rotation independently of the main cue clock.

Items

A Signage cue holds an ordered list of items. Each item is a still image or a short video. Drag files into the cue's edit panel to add; drag rows to reorder. Playback controls SETTING EFFECT Time per

slide

How long each still image dwells. Video items ignore this and play for their own duration. Transition Cut, dissolve, or slide. Applies between all items uniformly. Loop Wrap from last item back to first. Default on. Shuffle Randomize order per pass. Useful for sponsor rotations.

Screens

Signage cues target a specific Output role — usually P2 or P3, not P1 — so the main Program can stay on speaker content while signage runs on a lobby monitor. On the iPad Remote, tap any signage tile once to arm it (purple ring); tap again within 500 ms to fire it. This double-tap gate prevents accidental jumps during a live rotation.

CHAPTER 2.8

Timers

Countdown, count-up, or a fixed clock. Timers get their own aux surface, their own Program

role, and their own P3 overtime glow. Modes

Countdown

From N minutes to 0. Turns amber at 2 minutes, red at 1 minute, and glows past zero to make overtime unmissable.

Count-up

Starts at 0 and runs until you stop or clear it. Useful for panel sessions with soft time budgets.

Clock

Wall-clock time in the show's configured time zone. Useful for backstage displays.

Rendering

Timers render on the timer aux surface, which by default routes to a DeckLink SDI output (see Chapter 3.5). Alternatively, insert a Timer into any Signage or Agenda cue as an overlay element — the same countdown drives both.

Overtime behavior

When a countdown crosses zero, the P3 confidence output — if configured — pulses red-to-white to make it obvious to a presenter facing away from the room clock that they're over. Enable / disable per-timer.

CHAPTER 2.9

Stack cues & triggers

A Stack cue groups multiple cues that fire together. Combined with Triggers (hotkey, OSC,

or DMX-in), Stacks turn a single Take into an orchestrated event.

Building a stack

Right-click any range of cues and choose Stack these. The cues collapse into a single Stack row in the list; expand to see the members. When the Stack is Taken, all members fire simultaneously — the Video runs on P1, the Audio plays through Dante, the Lower Third overlays, and the Timer starts.

Order within a stack

Stack members fire in list order but with sub-millisecond skew, so an audio cue that starts on Take will always start before its accompanying video's first decoded frame. Reorder by dragging within the expanded stack.

Triggers

Any cue — including a Stack — can be bound to a Trigger. Triggers listen for: Keyboard — any key or chord not already used by the Operator. OSC — an OSC message on a chosen address. Useful for a QLab-driven external system to fire CueSurge cues. DMX in — a DMX universe:channel value. Rare but useful in complex lighting shows. Stream Deck — the Stream Deck plugin binds cues directly (Chapter 5.6).

CHAPTER 2.10

Templates & presets

Save cue configurations you use often as Templates. Save whole show scaffolds as Presets.

Reuse both across events.

Cue templates

Right-click a configured cue and choose Save as template. The template captures the cue's type, its Program role, its animation settings — but not the specific media file. Next time you drag a video onto the cue list, the app can offer to apply the template. Templates live in the Library tab under a Templates section and can be exported as .cst files for sharing between machines.

Show presets

A whole show can be saved as a Preset — cues, sections, brand pack, output roles, everything but the media paths. Reload the preset on a new event, drop in the client's media, and you have a repeatable event structure.

Team libraries

If your team runs many similar events, put a shared Library folder on a network drive and configure Preferences -> Library location to point there. New templates saved on any machine are visible on every machine.

PART THREE

III Outputs

The path from a cue firing to a photon on the wall runs through the Output windows and the Output Manager. Understanding this path lets you diagnose most day-of-show mysteries in seconds.

CHAPTER 3.1

Program vs. Preview

P1 / P2 / P3 map to Program, Preview, and Confidence roles. Every cue picks which one it

owns; every Output window renders one role. The three roles

P1 · Program

What the audience sees. Feeds the switcher's PGM input or the room's main projector. Always in use during a live cue.

P2 · Preview

What's on deck. Feeds a smaller monitor next to the switcher operator, or is captured to a preview bus. Never seen by the audience.

P3 · Confidence

Presenter-facing. Duplicates Program by default. Can be overridden — showing next slides, teleprompter, or a timer — while Program stays clean.

Assigning cues to roles

Each cue's edit panel has a Program role dropdown. The default is P1; change it to route a cue to Preview or Confidence instead. Multi-role cues (a Video with a Lower Third overlay) inherit the video's role and overlay on top of it.

Independent overrides

P3 can carry a distinct feed from P1 during a cue. Common overrides: Timer on P3 — Program shows the speaker's video; Confidence shows a countdown so the speaker knows they're running long. Teleprompter on P3 — Program shows a hero shot; Confidence shows the script scrolling. Next slide on P3 — Program shows the current slide; Confidence shows the next slide with the speaker's notes.

CHAPTER 3.2

Output Manager routing

The Output Manager is a small panel that maps roles to physical outputs. It's the one place to

change "P1 goes to which projector" without touching individual cues.

Opening the Output Manager

Show -> Output Manager or click the small monitor icon in the Program strip. A panel opens with a row per role.

Physical output types

Each role can target one or more of: Windows monitor — a fullscreen Output window on a Windows display, driven over HDMI or DisplayPort. DeckLink SDI — a Blackmagic DeckLink card, driving broadcast-grade SDI (Chapter 3.3). NDI — a Network Device Interface stream sent to any NDI receiver on the LAN. Signage aux — the Signage cue's own aux surface, separate from the main P1/P2/P3 windows.

Multi-destination routing

A role can hit multiple destinations at once. Send P1 to both the room's main projector (via a Windows monitor) and to the streaming encoder (via NDI) — one cue drives both. Individual destinations can be muted without unbinding them.

CHAPTER 3.3

DeckLink SDI

Broadcast production runs on SDI. CueSurge speaks DeckLink natively; plug in a card, pick

a mode, bind a role, and you're feeding a real switcher.

Supported hardware

Any Blackmagic DeckLink card the Desktop Video driver recognizes. Tested combinations include Mini Monitor 4K, Duo 2, Quad HDMI Recorder, and the Quad SDI 8K on a Sonnet TB chassis. Install Blackmagic Desktop Video before launching CueSurge; the app enumerates cards at startup.

Mode selection

When you bind a role to a DeckLink output, CueSurge asks for a video mode (resolution + frame rate). The app tries the requested mode first; if the card rejects it (typically because the connected display doesn't support the timing), CueSurge walks a ladder of nearby modes: 1080p60 -> 1080p30 -> 1080i60 -> 720p60 -> 720p30. Pick the top of the ladder your downstream chain can accept and CueSurge remembers.

Rescan

Hot-plugging a DeckLink after the app is running requires a Rescan. In the Output Manager, click the small refresh icon on the DeckLink section. This restarts the DeckLink sidecar process and re-enumerates cards.

Splash and idle

An SDI output showing black between cues is a source of anxiety for switcher operators — is the card dead? To avoid this, DeckLink outputs can render an idle splash frame between live cues. Configure per-role in the Output Manager.

WARNING · DECKLINK AND SLEEP

Windows Fast Startup and any Sleep transition breaks the DeckLink sidecar's driver connection. Disable Fast Startup and sleep on any show rack that uses DeckLink. If a show laptop is used interactively, use Restart instead of Shut down before the event.

CHAPTER 3.4

Sonnet Thunderbolt chassis

A single laptop can drive four SDI feeds when the DeckLink Quad sits in an external Sonnet

chassis over Thunderbolt. This is how CueSurge scales past the on-board card slot limit.

Supported chassis

Sonnet Echo II TB4 and Echo III TB4 both work. The DeckLink Quad HDMI Recorder and Quad SDI 8K have been tested in production. Any single-slot PCIe card the driver supports will enumerate; multi-slot chassis populate as independent devices.

Per-slot routing

Each DeckLink slot in the chassis appears as its own device in the Output Manager. Bind roles per slot — send P1 out slot 1, an Agenda aux out slot 2, a Timer out slot 3.

Startup order

Power the chassis before booting the laptop. Windows enumerates Thunderbolt at boot; a chassis powered on after boot needs a driver rescan (Chapter 3.3) to be visible.

CHAPTER 3.5

Aux surfaces

Timer, agenda, presenter — three specialty outputs that don't fit the Program / Preview /

Confidence model. They render in hidden windows and route to SDI independently.

What they are

An aux surface is a headless BrowserWindow the app renders content into. Its pixels are captured 15 times per second (30 for timer aux) and pushed to a DeckLink output. The surface is not visible on the operator machine's monitors — it exists only to feed hardware.

Timer aux

Renders the current Timer cue at 1920x1080. Bind a DeckLink role to Timer aux in the Output Manager to feed a stage-clock display. Independent from Program — a running video keeps flowing on P1 while the timer keeps ticking on its own SDI feed.

Agenda aux

Two of them: Public and Green Room (see Chapter 2.4). Bind separate DeckLink outputs; the app renders both aux surfaces at 2 fps to save CPU (the agenda changes at most once per second so a higher rate is waste).

Presenter aux

Shows an aggregated "here's what's happening" view — current session, next-up, elapsed time, current lower-third. Useful for a green-room dedicated monitor when Green Room agenda isn't dense enough.

CHAPTER 3.6

Multi-monitor setup

The typical show rack has three or more monitors: Operator, Program (feeding projector),

Preview, Confidence. Wire them once and CueSurge remembers.

Windows display arrangement

Configure Windows Display Settings first. Recommended layout for a three-monitor show rack: Monitor 1 — laptop's built-in display; runs the Operator window. Monitor 2 — external, feeds the projector (Program). Monitor 3 — external, on the operator's desk (Preview / Confidence). Set matching resolutions and refresh rates across externals where possible. Mixed- rate multi-display setups cause Program window frame drops on some GPUs.

Placing Output windows

Drag each Output window onto its intended monitor, press F11 to fullscreen, then re- open CueSurge. The window remembers its display and fullscreen state. If the display disappears (unplug), the window re-opens on the primary display next launch — plug in and drag it back.

DPI scaling

Mixed DPI setups (a 4K laptop panel with an HD external) confuse Chromium's fullscreen behavior. Set the laptop panel to 100 % scale during shows even if you normally run 150 % for regular work — the Operator UI is designed to be legible at 100 %.

PART FOUR

IV Communications

Four ways to talk to your crew during a show: live Comms, walkie- talkie clips, the iPad Remote, and a browser client for anyone who scans a QR. Pick the pattern that fits the crew size and network reality.

CHAPTER 4.1

Crew Comms

Real-time low-latency intercom between everyone on the show LAN. Speaker at the podium

hears the director in their ear; camera op hears the switcher call shots. Built on WebRTC through a mediasoup SFU.

Turning it on

Open the Comms tab. Click Start Comms. The app spawns a local mediasoup sidecar process that acts as the SFU. Everyone on the show LAN — iPad Remotes, browser joiners, other CueSurge Comms clients — connects to this SFU. No cloud round-trip; latency is a single hop.

Channels

Define channels in the sidebar: All Call, Directors, Cameras, Sound, Stage. Each participant joins one or more channels. Push-to-talk on a channel goes only to its members; latch mode leaves the mic open until you tap again. A participant can listen on multiple channels but speak on one at a time (the last channel you pressed).

Program audio bridge

The show's Program audio can be bridged into Comms channels — useful for a producer in the back who needs to hear program audio and comms simultaneously. Enable per-channel in the channel's settings; the bridge is a low-priority mix so a Comms voice speaking ducks Program by -6 dB automatically.

TIP · COMMS WORKS OFFLINE

The Comms SFU is local; it doesn't need internet. Even on an isolated show LAN with no WAN, Comms works. This is important — client-provided venue Wi-Fi is often terrible and the show LAN is usually a separate ethernet island.

CHAPTER 4.2

Walkie-Talkie / PTT

Async voice clips fired around the crew like a walkie-talkie. Useful when a full Comms

channel is overkill and a "heads up, cue 22 needs to slip 30 seconds" message covers it.

Recording a clip

In the Comms tab, hold the round PTT button. A recording indicator appears; release to send. The clip is instantly delivered to every subscriber of the target channel and played back on their next-available speaker. Clips are up to 15 seconds. Longer is a real Comms conversation, not a walkie-talkie moment.

Playback stacking

If two clips arrive back-to-back, they queue and play in order — the second doesn't cut off the first. If four clips arrive during a live cue call, they wait until Program is idle before playing, so voice from a random crew member doesn't step on the show.

CHAPTER 4.3

CueSurge Remote (iPad)

A companion iPad app that mirrors most of the Operator into a portable tablet. Call cues

from front of house, from the green room, from the stage wing — anywhere the show LAN reaches.

Pairing

Install the CueSurge Remote app from the App Store. On the iPad, tap Connect to CueSurge. On the operator machine, open Show -> Remote Access and enter the pairing code shown on the iPad. First-time pair establishes a persistent trust — subsequent launches reconnect automatically as long as they're on the same LAN.

Tabs

The iPad mirrors the Operator's sidebar into 17 tabs: Show, Switcher, VS scoreboard, Wireless Presentation, Streaming, Library, Teleprompter, Agenda, Automation, Signage, Comms, and more. Every tab has a Program strip at the top so you can advance the show from anywhere.

Demo mode

For App Store review and pre-event demos, launch the iPad app with no operator connected and tap Try Demo. A fixture show loads with fake cues you can navigate to see how the app looks in operation. Demo mode is clearly marked with a banner and does not affect any real show.

CHAPTER 4.4

Browser client & /join QR

Crew members without the iPad app can join Comms and see a limited Operator view in any

Chromium browser by scanning a QR code.

The QR code

Under Show -> Remote Access -> /join QR , the app displays a QR code. Anyone in the venue points a phone at it; the code encodes the operator machine's LAN address and a session token. The browser opens to a stripped-down control surface: PTT button, current cue name, next-cue advance.

Self-signed TLS

The browser client is served over HTTPS from the operator machine using a self- signed certificate CueSurge generates on first launch. Chromium warns once about the untrusted cert; tap Continue to site and the app pins the cert for the session. This is deliberate — a real cert would require a real DNS name, which show LANs don't have.

Feature parity

The browser client covers PTT and cue advance; it does not cover the full Operator UI. For anything richer, use the iPad app.

PART FIVE

V Integrations

CueSurge talks to the rest of the room. Switchers, audio consoles, Dante networks, lighting rigs, Stream Decks, managed switches — each gets its own chapter here. You don't need any single one to run a show; each is opt-in.

CHAPTER 5.1

ATEM switcher

Blackmagic ATEM switchers connect over IP. CueSurge acts as an ATEM controller — you

can call PGM/PVW takes, DSK on/off, and macro triggers from cues.

Discovery

Under Admin -> Integrations -> ATEM , click Discover. Any ATEM on the same subnet appears. Pick yours; CueSurge connects and holds the connection for the session.

Per-cue actions

Any cue can carry an ATEM action fired at Take time: switch to a preset input, punch a transition, trigger a macro. Bind via the cue's edit panel under ATEM.

Keyer control

Downstream Keyer (DSK) on/off is scriptable per-cue — turn a lower-third DSK on when the Lower Third cue takes, off when it clears.

CHAPTER 5.2

Allen & Heath SQ

SQ audio consoles listen on MIDI-over-TCP. CueSurge sends scene recalls, mute changes,

and DCA moves per-cue.

Setup

Under Admin -> Integrations -> A&H SQ , enter the console's IP and port (default 51325). Test connection; CueSurge sends a NoOp MIDI message and shows a green dot when the SQ acknowledges.

Per-cue MIDI

A cue can carry an SQ Scene Recall to fire at Take. Combined with a video cue, this lets a bumper roll recall the correct room mix simultaneously — no drift, no missed cue.

CHAPTER 5.3

Dante networking

Dante Virtual Soundcard (DVS) lets CueSurge route audio directly onto a Dante network.

Per-cue routing decides which Dante subscriber hears which cue.

DVS install

Install Audinate's Dante Virtual Soundcard on the show machine. Configure DVS for the show LAN's Dante VLAN. CueSurge sees DVS as a set of virtual audio sinks and routes any cue's audio through it.

Per-cue routing

Enable Dante on a cue's audio settings and pick the Dante subscriber. The subscriber list is populated from Dante Controller's known subscribers.

Routing panel

The Routing panel (Admin -> Routing) shows every cue's Dante binding at once, so you can audit a whole show's audio path before doors.

CHAPTER 5.4

Lighting (DMX / Art-Net / sACN)

Cue lighting states — lights up on speaker Take, wash to red on a transition — using the same

cue engine that drives video.

Transports

Three ways to reach a lighting rig: DMX — direct USB-to-DMX interface (Enttec Open DMX and similar). Art-Net — over the show LAN's Art-Net VLAN. sACN — over the show LAN's sACN VLAN; higher-fidelity than Art-Net for large rigs.

Cue lighting states

Any cue can carry a Lighting scene: a set of DMX channel values to send at Take. The engine holds those values until another cue overrides — so a bumper roll can set warm keys and the next speaker cue can flip to cool without you touching a lighting board.

CHAPTER 5.5

Bluetooth control surfaces

Small BLE control surfaces that let a Front-of-House operator drive CueSurge without a

laptop in their lap.

Supported devices

Phase 1 supports a curated set of BLE MIDI and BLE HID surfaces. Under Admin -> Integrations -> Bluetooth , click Scan. Devices in pairing mode appear; select and pair. CueSurge binds default actions (Take, Arm, Prev, Next) to the most common surface layouts and lets you rebind per-device.

CHAPTER 5.6

Stream Deck plugin

The Elgato Stream Deck plugin binds any button on any Stream Deck to any cue, Take, or

Comms channel action.

Installing the plugin

From the Stream Deck app, search the store for "CueSurge". Install and restart the Stream Deck app. CueSurge actions appear in the action drawer — drag onto a button. Actions Available Stream Deck actions: Take next armed cue — fires PVW -> PGM. Arm cue by index — moves a specific cue into PVW. Fire cue by ID — bypasses PVW and takes a specific cue directly. Powerful; use sparingly. PTT channel — hold-to-talk on a specific Comms channel from a Stream Deck key.

Alert fire — visual alert to the crew (open bug — see Chapter 7.3).

CHAPTER 5.7

Netgear port maps (SNMP)

CueSurge queries managed switches via SNMPv2c to build a live port map — which device

is on which port, PoE draw, link speed. Useful for diagnosing a "why is Dante crackling" moment.

Supported switches

Netgear M4250 series and other Netgear ProSafe switches. Community string configured under Admin -> Integrations -> Port Maps .

The Port Map panel

Every port on every configured switch appears as a small tile. Green = up; red = down; yellow = errors. Hover for LLDP details of what's connected. Poll interval defaults to 30 seconds; drop to 5 for active troubleshooting.

PART SIX

VI Streaming & Recording

Every modern event is streamed, recorded, or both. This part covers the encoder path — from CueSurge's Program output to YouTube, to disk, or to whatever destination you configure.

CHAPTER 6.1

Streaming (YouTube / RTMP)

CueSurge encodes Program to a live stream — YouTube directly (via OAuth) or any RTMP

endpoint.

YouTube

Under the Streaming tab, click Connect YouTube. A browser opens to Google's OAuth consent screen. Approve; CueSurge stores the auth token and lists your channel's upcoming live broadcasts. Pick one and click Go Live. Stream key management is handled per-broadcast by YouTube; CueSurge fetches the key from the YouTube API rather than asking you to paste it.

RTMP

For non-YouTube destinations (Twitch, Vimeo, a client-supplied endpoint), pick RTMP mode and paste the endpoint URL and stream key. CueSurge validates the format before starting.

Bitrate ladder

CueSurge encodes at a single configurable bitrate (default 5 Mbps for 1080p60). YouTube and Twitch handle transcoding downstream; you don't need to send multiple qualities.

CHAPTER 6.2

Recording

Program can record to disk simultaneously with streaming. High-bitrate archival records

are separate files from the low-bitrate stream.

File format

Records to MP4 (H.264 video + AAC audio) at 20 Mbps default. File saved to

```
%USERPROFILE%\Documents\CueSurge Shows\Recordings\{show}\{timestamp}.mp4.
```

Segmenting

For events that run more than 2 hours, enable Segmenting to write a new file every N minutes. Prevents a single file from getting unmanageably large and lets you upload segments during the event.

CHAPTER 6.3

Encoder configuration

The encoder settings that shape stream and record quality — bitrate, codec, sample rate,

GOP.

Video encoder

Hardware NVENC (NVIDIA) is default when available; falls back to x264 on machines without a supported GPU. NVENC costs almost no CPU; x264 at 1080p60 saturates a modern CPU. Prefer NVENC in every case where hardware permits.

Audio

AAC at 128 kbps stereo default. 192 kbps is worth using for music-heavy events where audio fidelity matters more than a few extra Mbps of bandwidth.

GOP length

Default 2 seconds. Shorter GOPs mean faster viewer seek but larger files; the default is a reasonable middle for live event use.

PART SEVEN

VII Advanced

Features that don't fit the earlier categories but earn their weight in specific show contexts. Skip these until you need them — return when you do.

CHAPTER 7.1

Teleprompter

A scrolling script on Confidence (P3), driven by the operator or automatically by cue timing.

Loading a script

Paste text into the Teleprompter tab or open a plain-text file. The script renders at large size — legibility from a stage podium is the priority.

Scroll controls

Manual scroll with mouse wheel, arrow keys, or Stream Deck bindings. Auto-scroll with a speed setting; the speed can be nudged per-line during delivery to keep pace.

Confidence override

By default, Confidence (P3) mirrors Program. To show a teleprompter script on P3 while Program shows the speaker's hero shot, enable Confidence Override in the Teleprompter tab. The script takes over P3; Program is unaffected. Clear the override to restore mirroring.

CHAPTER 7.2

Lyrics Mode

A song library with chord charts and lyrics for live worship, choir, or panel-style events with sing-alongs.

Library

Songs live in the Library tab under Lyrics. Import via ChordPro, plain text, or a PowerPoint deck. Duplicates are auto-detected by song name and merged.

Live delivery

Set a song as a Lyrics cue; each verse and chorus renders as its own screen with configurable style (font size, background, alignment).

CHAPTER 7.3

Automation & scheduling

Time-based automation that fires cues on the clock — a walk-in loop that starts at 09:00 sharp, an intermission bumper that triggers at :30 past.

Schedule

The Automation tab holds a schedule: cue X fires at time Y. Multiple cues can share a time. Schedule is honored during Show mode; during edit mode it's dormant. Hold and reset Two schedule controls:

Hold

Pauses the schedule at the current time. Useful when a session runs long and you need to slip the rest of the day by a few minutes.

Reset

Clears the schedule's "already-fired" flag on every cue. Useful for rehearsals when you want to re-run the same schedule from the top.

CHAPTER 7.4

Wireless Presentation receiver

A ClickShare-style browser-to-screen mirror. A presenter opens a URL on their laptop and

their screen appears as a live source in CueSurge — no dongle, no install.

Enabling

Under Show -> Wireless Presentation , click Start. A pairing code and URL appear. The presenter opens the URL on their laptop's browser and enters the code; their screen begins mirroring.

TLS

Served over HTTPS with a self-signed cert (same pattern as the /join browser client, Chapter 4.4). Presenters accept the cert warning once.

Source routing

The receiver appears as a source in the Output Manager; bind it to any Program role. When live, it captures the presenter's shared surface at 30 fps and renders on the assigned Output.

PART EIGHT

VIII Licensing

CueSurge is a paid product. This part covers the trial flow, per-device licensing, and where to manage your subscription.

CHAPTER 8.1

Trial & activation

A 30-day trial with credit card starts on first launch. After the trial, subscription is

$70/month or $700/year.

Starting the trial

On first launch, enter your email and payment details. Stripe stores the card; you're not charged until day 31. Trial features are identical to a paid subscription — no artificial gates.

Activating a purchased license

If you already have a license key (from a bulk purchase or a nonprofit code), paste it into the activation screen instead of starting a trial. The key format is CSGE-XXXX-XXXX- XXXX-XXXX.

Offline grace

Once activated, CueSurge validates against the license server every 30 days. If the show machine goes offline (isolated venue LAN), it holds the license for 30 days without re-validation. Bring it online for a moment inside that window and the grace resets.

CHAPTER 8.2

Managing devices

One license activates one device at a time. Move between machines by deactivating the old

one first.

Deactivating from the current machine

Under Help -> License , click Deactivate. The device is removed from your license; you can now activate on another machine.

Remote deactivation

If the previous device is unreachable (broken laptop, someone else's rack), log into the subscription portal (Chapter 8.3) and deactivate remotely.

CHAPTER 8.3

Subscription portal

All subscription management — invoices, plan changes, device list, cancellation — lives at

```
license.cuesurge.com.
```

Sign-in

Email-only sign-in with a magic link. No password. The link expires after 15 minutes; request a fresh one if needed.

What lives here

Your current active license and its status Every device your license has been activated on, with deactivation buttons

Invoice history and receipts

Plan change (monthly ↔ annual) and cancel-at-period-end Payment method update via Stripe Customer Portal

Cancellation

Cancellation takes effect at the end of the current billing period. The license continues to work through the end of the period and stops on the day after. APPENDICES A · E

Reference

Fast-lookup material you'll want on hand during a show. Shortcuts, format tables, common failures, and network reference. A Keyboard shortcuts Operator — universal KEY ACTION Space Take next armed cue Enter Arm highlighted cue Esc Clear current Program cue ↑ / ↓ Move highlight Ctrl + S Save show Ctrl + N New show Ctrl + O Open show Ctrl + B Toggle sidebar F5 Toggle Show mode F11 Fullscreen focused window Video cue transport KEY ACTION

K Play / pause J Rewind 5 seconds KEY ACTION L Forward 5 seconds R Restart to 0 M Toggle mute Comms

KEY ACTION

Ctrl + hold PTT current channel

Ctrl + 1 –9 Switch active channel B Supported file formats Video CONTAINER CODECS NOTES .mp4 H.264, H.265, AV1 Best all-around. H.264 for max compatibility. .mov H.264, ProRes ProRes decodes in software; heavy at 4K. .mkv H.264 Works. Not preferred — some players choke.

.webm VP8, VP9

(+alpha) Best for transitions with alpha. Audio

FORMAT NOTES

.wav, .flac Cleanest loops. Prefer for walk-in music. .mp3 Works. Not for cue-critical loops. .aac, .m4a Works. .ogg Works. Slides & images

FORMAT NOTES

.pptx Converted via bundled LibreOffice or PPT Live. .key Converted via LibreOffice. Some Keynote animations lost.

FORMAT NOTES

.pdf Each page becomes a slide. .png, .jpg Signage, lower thirds, backgrounds. .svg Signage only; not for lower thirds. C Troubleshooting

SmartScreen warns on install

Expected on new releases. SmartScreen builds trust from reputation and every fresh version starts from zero, even with a valid signature. Click More info, verify the Publisher line reads CueSurge LLC, then Run anyway. If the publisher shows anything else — or nothing — re-download from cuesurge.com/download; the file has been tampered with. Program window is stuttering Most common causes, in order:

1. Windows Fast Startup is on. Disable in Power Options.

2. The GPU is under load from another app (Chrome tabs, Teams, etc.). Close them.

3. The Output monitor is at a different refresh rate than the Operator monitor. Set them equal.

4. PPT Live is active and CPU is saturated. Convert to Converted-slides mode instead.

DeckLink shows black

Check, in order: driver installed (Blackmagic Desktop Video), card recognized in Blackmagic Media Express, cable and downstream device compatible with selected mode, mode-ladder fallback isn't landing on an unsupported timing. Rescan cards (Chapter 3.3).

Comms audio is one-way

Firewall blocking UDP on the show LAN. The Comms sidecar uses ephemeral UDP ports; add a whitelist for the CueSurge process rather than specific ports.

iPad Remote can't discover

The iPad and Operator machine are on different subnets. Confirm both are on the same LAN with mDNS traffic allowed. D System requirements By production tier

TIER USE SPEC

Breakout Single output, PPT + video only i5 12th gen · 16 GB ·

integrated GPU

Standard P1 + P2, occasional multi- camera i7 12th gen · 32 GB · RTX

3060

Broadcast P1/P2/P3, DeckLink SDI, Dante, streaming i9 13th gen · 64 GB · RTX 4070 E

Network ports reference

Inbound (listeners CueSurge opens)

PORT PROTOCOL PURPOSE

7400 HTTPS Wireless Presentation receiver, /join browser

client

7401 TCP Control Surface (Stream Deck plugin) 7402 HTTP/WS iPad Remote pairing + SSE

40000–

40999 UDP Comms SFU media (ephemeral range) Outbound

DESTINATION PURPOSE

```
license.cuesurge.com:443 License validation
```

rtmp://a.rtmp.youtube.com:1935 YouTube streaming ATEM subnet ATEM control (Blackmagic protocol) SQ console TCP 51325 Allen & Heath SQ MIDI-over-TCP