



DeckSee User Guide

Live multicamera monitoring on Apple Vision Pro
DeckSee (visionOS) & DeckSee Streamer (macOS)

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1. Meet DeckSee

DeckSee is a two-part system:

- **DeckSee Streamer** runs on a Mac. It gathers every live video source in the room — capture boxes, network cameras, SRT streams, USB cameras — and streams all of them, simultaneously, to every headset on the network.
- **DeckSee** runs on Apple Vision Pro. It shows one full-quality **hero** panel plus a rail of live thumbnails of every other camera. Tap any thumbnail and it becomes the hero, instantly. Multiple headsets can connect at once, and each picks its own hero independently.

The system's guiding rule: **if the app can find it, you never type it**. There are no IP address fields and no stream keys to copy from camera menus. Discovery runs constantly, and sources and headsets appear on their own.

The second rule: **the apps always show you they're alive**. Search spinners run while looking, ● green means live and healthy, ● orange means something needs your attention, and every feed row shows its real numbers — resolution, frame rate, bitrate, latency.

2. What you need

Item	Requirement
Mac	Apple Silicon, running DeckSee Streamer
Headset	Apple Vision Pro running DeckSee
Network	Mac and headsets on the same local network. Grant the local-network permission when each app first asks — discovery cannot work without it.
Video sources	Any of: Blackmagic UltraStudio / capture card (SDI or HDMI); a Blackmagic camera or Streaming Encoder on the network; any SRT-capable sender (OBS, ffmpeg, hardware encoders); any USB (UVC) camera or capture stick.
Optional, for lowest latency	A Thunderbolt cable from the Mac to the Vision Pro (developer strap). See section 6.

3. Five-minute quick start

1. Open **DeckSee Streamer** on the Mac. Streaming to headsets starts automatically — there is nothing to switch on.
2. Plug in a source (an UltraStudio with an SDI camera, or a USB camera). Its tile appears in the multiview within a couple of seconds and its row appears under **Sources**.

3. Put on the Vision Pro and open **DeckSee**. It finds the Mac by itself; the hero panel and rail appear as soon as the first feed is live.
4. Tap thumbnails to switch cameras. That's the whole workflow.

Tip — no sources handy?

The **TEST** button in the sidebar header adds a generated test feed so you can verify the headset link before cameras arrive.

4. Connecting video sources

4.1 SDI / HDMI capture (UltraStudio & capture cards)

Plug the capture box into the Mac and the camera into the box. The feed appears automatically — format and frame rate are auto-detected (up to 4K at 60 fps), and live format changes on the camera re-lock within a moment. Devices with several inputs (for example an UltraStudio with both HDMI and SDI) can supply a feed per input.

First time using a Blackmagic capture device on this Mac?

Install Blackmagic Desktop Video, then approve the driver: System Settings → General → Login Items & Extensions → Extensions → Driver Extensions (use the *By Category* tab). Until it's approved, the box won't be seen by any app.

4.2 Blackmagic cameras over the network

Cameras with Blackmagic's network control (Pocket Cinema, Studio Cameras, PYXIS, URSA Broadcast, Cinema Camera 6K and similar) connect with one click — DeckSee Streamer configures the camera itself.

One-time camera setup

1. Connect the camera to the Mac with USB and open **Blackmagic Camera Setup**.
2. Under Network Access, enable **Web media manager (HTTP)**.
3. Join the camera to the same network as the Mac (Ethernet or Wi-Fi).

Every time after that

1. The camera appears in the sidebar under **Available** — automatically.
2. Click **Connect**. DeckSee Streamer opens a private listening port for the camera, tells the camera where to stream, and starts it. If the camera has no compatible streaming profile, DeckSee Streamer installs its own "DeckSee" profile on the camera first — you'll see this narrated in the log.
3. A few seconds later the tile appears. The camera's row shows live status straight from the camera: ● "Pushing 8.4 Mbps", timecode, record tally, battery.

If auto-configuration isn't possible

the feed's status row shows the exact address to enter on the camera instead (for example `srt://192.168.1.20:9001`) — set that as the camera's live-stream destination and the tile appears the same way.

Note:

the URSA Cine Immersive does not offer network streaming on current hardware — immersive cameras are the domain of DeckSee's sibling system, URSee, over SDI capture.

4.3 Blackmagic Streaming Encoder HD / 4K

Streaming Encoder boxes behave exactly like network cameras: they're auto-configured with the same one click. This is the easiest way to put wireless eyes on *any* SDI camera — attach an encoder to the camera's SDI output, put it on the network, click Connect.

4.4 SRT senders — OBS, ffmpeg, hardware encoders

For everything else that speaks SRT, DeckSee Streamer keeps a **drop box** open at all times: a ready-to-receive address that any SRT sender can push to. Click the **SRT** button in the sidebar header to see the current live address with a copy button and sender instructions.

- The moment a stream lands, its tile appears — and a *new* drop box opens on the next port automatically. Up to **eight** SRT streams can run at once (ports 9991–9998).
- Remove an SRT feed (trashcan on its row) and its port returns to the pool.

OBS

```
Settings → Stream
Service: Custom
Server: srt://<mac-ip>:9998 ← use the address shown in the SRT panel
```

ffmpeg

```
ffmpeg -re -i input.mp4 -c:v libx264 -preset veryfast -tune zerolatency \
-b:v 8M -f mpegts "srt://<mac-ip>:9998"
```

Hardware encoders:

set mode to *Caller*, address and port from the SRT panel, latency 120 ms is a good starting point. H.264 video is expected.

4.5 USB cameras and capture sticks

Any UVC device — webcams, HDMI-to-USB sticks — appears automatically when plugged in. (An UltraStudio also shows up to macOS as a webcam; DeckSee Streamer ignores that duplicate and uses the higher-quality native path from section 4.1.)

5. Connecting headsets

Open DeckSee on the Vision Pro. It discovers the Mac automatically and connects; the Mac's **Headsets** panel shows every connected viewer, what camera each is watching, its delivery frame rate and measured latency, and whether it's on Wi-Fi or a wire.

- **Name your viewer** (the pencil button next to the name in DeckSee) — "Director", "Client", "Focus" — so the Headsets panel reads like a crew list.
- **Several headsets at once** is normal use. Each one chooses its own hero camera independently; the hub sends every viewer its own tailored set of streams.

6. Wired mode — the lowest latency

Over Wi-Fi, DeckSee typically runs at 30–40 ms of latency. With a Thunderbolt cable it drops to **10–20 ms at full 4K60 quality**, and the upgrade is automatic:

1. Connect the Mac to the Vision Pro's developer strap with a Thunderbolt cable.
2. **Turn off Wi-Fi on the Vision Pro** — the wire takes over within seconds. (With Wi-Fi on, visionOS parks the wired link and the app will suggest this step.)
3. Watch the Headsets panel: the viewer's transport line flips to ● **Signal: WIRED (Thunderbolt/Ethernet)** and quality steps up to the maximum tier after a short audition period.

Unplugging mid-shoot is safe.

Pull the cable and the stream blinks and carries on over Wi-Fi (turn Wi-Fi back on first if you disabled it), stepping quality back up as the network allows. The first wired connection after plugging in can take up to a minute while macOS addresses the link — the app narrates what it's waiting for.

7. Quality, tiers, and what the numbers mean

DeckSee Streamer tunes every feed for every viewer independently:

Tier	Used for	Character
PREVIEW	Rail thumbnails	~2.5 Mbps, downscaled — light enough that a headset can decode many at once
STANDARD	Hero on a typical network	Full resolution, moderate bitrate
HIGH	Hero on a proven-clean network	Earned automatically after sustained good delivery
WIRED MAX	Thunderbolt viewers	Up to 200 Mbps 4K60 — everything at full quality

- The quality picker in the toolbar (**Auto** • **SQ** • **HQ**) pins the ceiling; Auto is recommended and is the behavior described above.
- **The Mbps on a tile is actual spend, not the cap.** A dark or static shot legitimately reads a few Mbps — the encoder spends what the picture needs.
- If the network can't keep up, DeckSee protects *latency* first: frames are thinned before delay is allowed to build. A 60 fps feed delivering ~45 fps at held 20–40 ms on Wi-Fi is the design working, not a fault; the wire delivers the full 60.

8. Using the DeckSee viewer

- **Tap a thumbnail** — it becomes the hero instantly; the previous hero returns to the rail.
- **Layouts** (bottom bar): **Hero** (one big + rail), **Grid** (equal tiles), **Float** (each feed in its own floating window you place anywhere in the room). Pull a feed out into its own window at any time — a video village in the air.
- **The hero's info bar** shows the feed's name, resolution, delivered frame rate, and measured latency.
- **Rename the viewer** with the pencil next to the name — the name appears in the Mac's Headsets panel.

9. Reading the indicators

Where	Indicator	Meaning
Any row	● Green dot	Live and healthy
Any row	● Orange dot	Working on it / needs attention — read the row's status text
Sidebar headers	Spinner	Discovery running (always on — this is normal)
Camera row	"Pushing X Mbps"	The camera's own report of its outbound stream to the hub
Source row	Resolution · fps · ↑rate	What the source delivers and what the hub streams out for it
Headset row	Signal: WIRED / Wi-Fi	Transport in use for that viewer
Tile / row	REC	The camera reports it is recording

The **diagnostics pane** narrates everything the system does in plain English — connects, quality changes, network trouble and recovery — with a one-click copy button for the whole transcript. If something seems off, the answer is usually already written there.

10. Troubleshooting

Symptom	Check
Nothing discovers anything	Same network for Mac and headset? Local-network permission granted to both apps? (macOS: System Settings → Privacy & Security → Local Network.)
Network camera never appears	Web media manager (HTTP) enabled in Blackmagic Camera Setup? Camera actually on the network (it shows an IP)?
Camera connects but no picture	Read the feed's status row — if it shows an <code>srt://...</code> address, the camera needs that set manually as its stream destination. The diagnostics pane explains why.
Capture box invisible	Desktop Video installed and the driver extension approved (see 4.1)? Only one app using the box at a time?
SRT sender won't land	Using the <i>current</i> address from the SRT panel? (It advances to a new port after each stream lands.) Sender in Caller mode? All eight boxes may be in use — remove an SRT feed to free one.
Wired never engages	Vision Pro Wi-Fi turned off? First engagement can take up to a minute after plugging in. The Headsets row shows the transport it's actually using.
Choppier than expected on Wi-Fi	Normal under a heavy feed — latency is protected first (see section 7). Use the wire for full frame rate.

11. Specifications at a glance

Item	Value
Video in	SDI/HDMI capture (to 4K60) · Blackmagic network cameras & Streaming Encoders (auto-configured) · SRT (H.264) · UVC USB devices
SRT drop boxes	8 simultaneous, ports 9991–9998, one always open
Auto-configured camera ports	Allocated automatically from 9001 upward, one per camera
Codec to headsets	H.264, low-latency tuned, adaptive per viewer × per feed
Measured latency	30–40 ms Wi-Fi · 10–20 ms Thunderbolt (4K60)
Top tier	Up to 200 Mbps, 4K at 60 fps, wired
Viewers	Multiple simultaneous headsets, each with independent camera choice

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