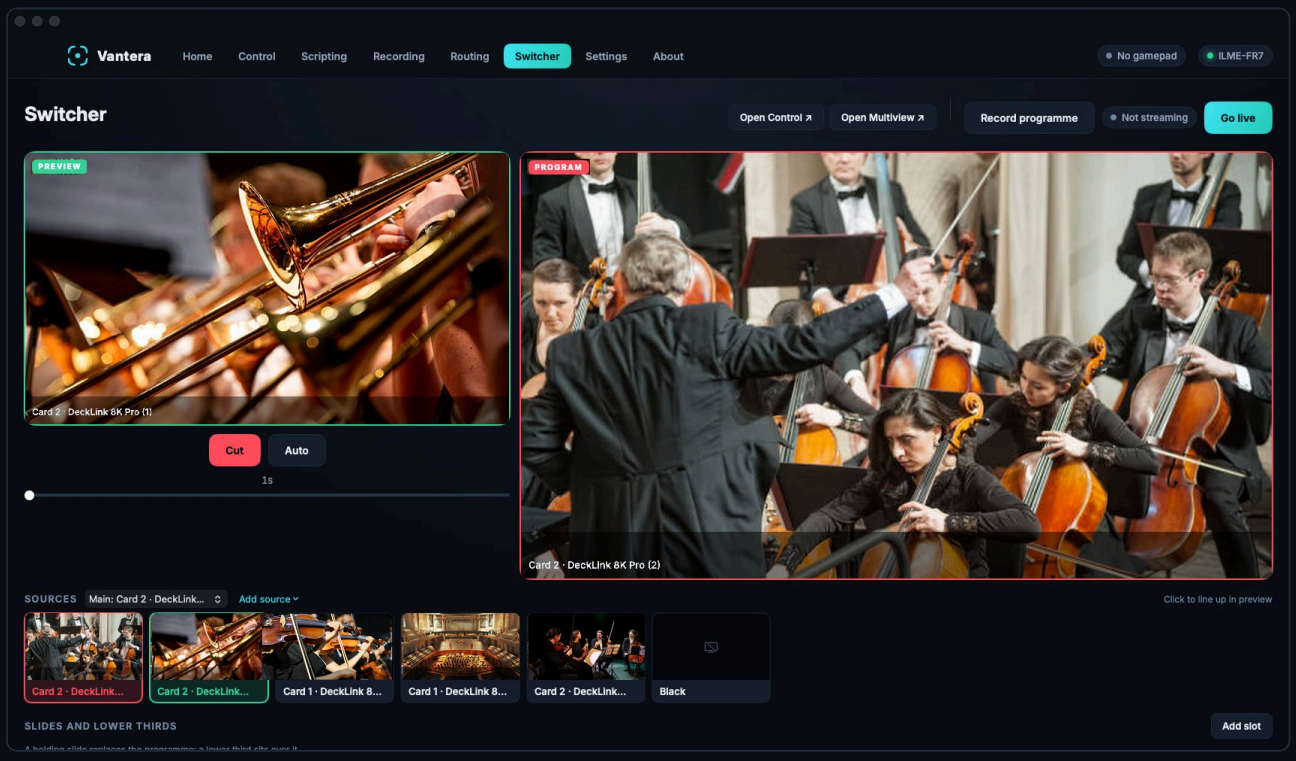
Vantera

USER MANUAL

PGM PVW



vanterastudio.com

hello@vanterastudio.com

BEFORE YOU START

ABOUT THIS MANUAL

WHAT IT COVERS

This manual covers Vantera 2.12 for Mac. It describes every page of the app: Home, Control, Recording, Routing, Switcher, Scripting, Settings and About, and all compatible hardware.

Chapters that apply to one edition only carry an edition tag under the title. BROADCAST means the feature is in the Broadcast edition.

CONVENTIONS

- Buttons and labels are written as the app shows them, in bold: **Record all**, **Arm show**.
- Menus are written with ›: **Window › Main Window**.
- Keys are shown like this: ⌘ K.
- Numbered teal circles on a figure match the key underneath it.

VIDEO STANDARDS

Vantera is built and tested for PAL rates: 25 and 50 frames per second. Timecode in this manual is shown as hours, minutes, seconds and frames, `15:39:22:12`.

KEEPING UP TO DATE

Vantera updates itself. When a new version is ready, the app offers it (chapter 14). The latest copy of this manual is always at `vanterastudio.com/Vantera-User-Manual.pdf`.

HELP

Email hello@vanterastudio.com. If something has gone wrong, use **Report a problem…** on the About page first: it gathers what we need into one file.

LEGAL

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VANTERA 2.12

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CHAPTER 01

WELCOME

Vantera is a Mac application for camera control, multi-channel recording, router control, live switching and streaming, and scripted camera direction. Cameras from different makers all answer to the same controller.

FIVE JOBS, ONE APPLICATION

PAGE	WHAT IT DOES	CHAPTER
Control	Pan, tilt, zoom, focus and iris for every camera, with presets, from any controller.	03, 04
Recording	Up to twelve channels recorded together, with shared timecode.	05
Routing	See and repatch the Videohub that feeds the recorders.	06
Switcher	Vision mixing, graphics, an audio mixer, programme recording, streaming and NDI output.	07, 08
Scripting	A camera script that readies every camera before its shot, with pages for handheld devices.	09–11

EDITIONS

	STUDIO	PRO	BROADCAST
Camera control, presets, panels, controllers, Stream Deck	✓	✓	✓
Switcher, streaming, programme recording, NDI output	–	✓	✓
Slides, typed lower thirds, video clips, ATEM panel	–	✓	✓
Recording channels	–	4	12
Videohub routing	–	–	✓
Scripting and iPad show pages	–	–	✓

FREE TRIAL

Seven days with every feature, on your own cameras. Recordings and streams carry a "DEMO MODE" watermark, and only the first three cameras can be driven. You don't need a card or an account, only the internet the first time you open Vantera.

Ready for the full version? Press **Unlock the full version** and leave your email: we send you the price list.

WHAT YOU NEED

- A Mac with Apple silicon. Intel Macs are not supported.
- macOS 13 Ventura or later: Ventura, Sonoma, Sequoia or Tahoe.
- Blackmagic Desktop Video, if using DeckLink capture.
- Cameras on the same network as the Mac.

CHAPTER 02

GETTING STARTED

INSTALL

1. Download `Vantera-latest.dmg` from vanterastudio.com.
2. Open it and drag Vantera to Applications.
3. Open Vantera, enable keychain access for IP/camera login details if necessary
4. For DeckLink capture, install Blackmagic Desktop Video if it is not already on the Mac.

LICENCE

Vantera starts as a seven-day trial with every feature. The first launch needs the internet once, to start the trial: if the Mac is offline, Vantera tries again every minute until it connects. The trial dates are kept for the Mac, so reinstalling does not restart them.

Want the full version? Press **Unlock the full version** in **Settings › Licence**, or the Demo badge at the top, and leave your email. We send you the price list, with a link to ask for an invoice, and your licence key follows by email once you have paid. Enter it in **Settings › Licence**. The licence is checked on the Mac: no internet connection is needed. About shows the edition and who it is licensed to.

Licences are annual. Vantera reminds you 20, 10, 5 and 1 days before the end date, with a button to email us for a new code, and keeps working for 30 days after it. Paste the renewed key in the same place.

FIRST SHOW CHECKLIST

- Every camera answers **Test connection** and shows a picture on Home.
- Presets stored for each camera, with stills (chapter 04).
- Recording inputs show a format and a green signal (chapter 05).
- A destination name set, and enough disk space for the take.
- Switcher sources in the order you expect, since keys 1 to 0 line them up (chapter 07).
- For a scripted show: running order checked, show armed (chapter 10).

ADD YOUR CAMERAS

1. Open **Settings › Cameras**.
2. Press **Discover** to find cameras on the network, or **Add** to enter one by hand.
3. Choose the **Protocol** and **Picture** source, then **Test connection**. A VISCA camera also takes a framing: Sony UDP for most makes, raw UDP 1259 or TCP 5678 for PTZOptics and its relatives.
4. If the camera refuses commands without a sign-in, enter it under **Sign-in**. It is kept in the macOS Keychain.

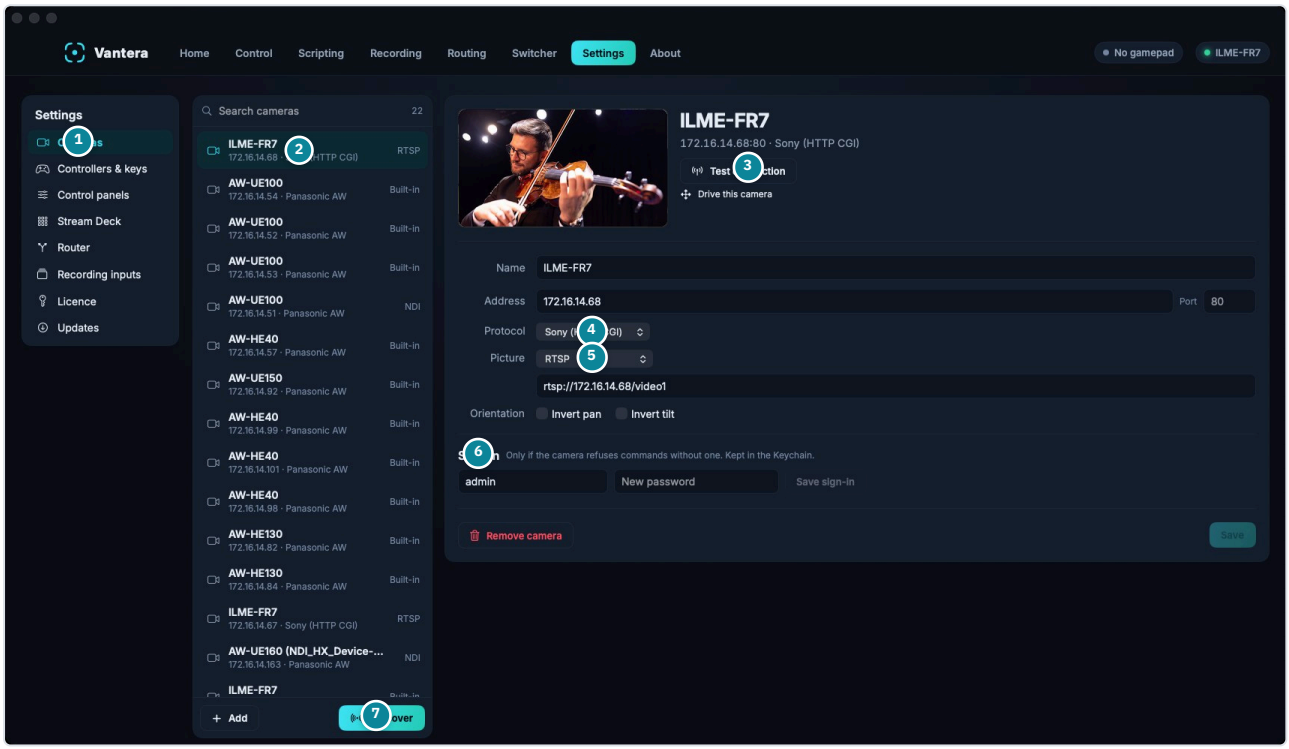


FIGURE 2.1 Settings › Cameras.

1. Settings sections
2. Camera list, searchable
3. Test connection
4. Protocol
5. Picture source
6. Sign-in, kept in the Keychain
7. Add and Discover

Drive this camera opens it on Control.

CHAPTER 03

HOME

STUDIO PRO BROADCAST

Home shows every camera with a live picture, its number, model and IP address. Click a tile to open that camera on Control.

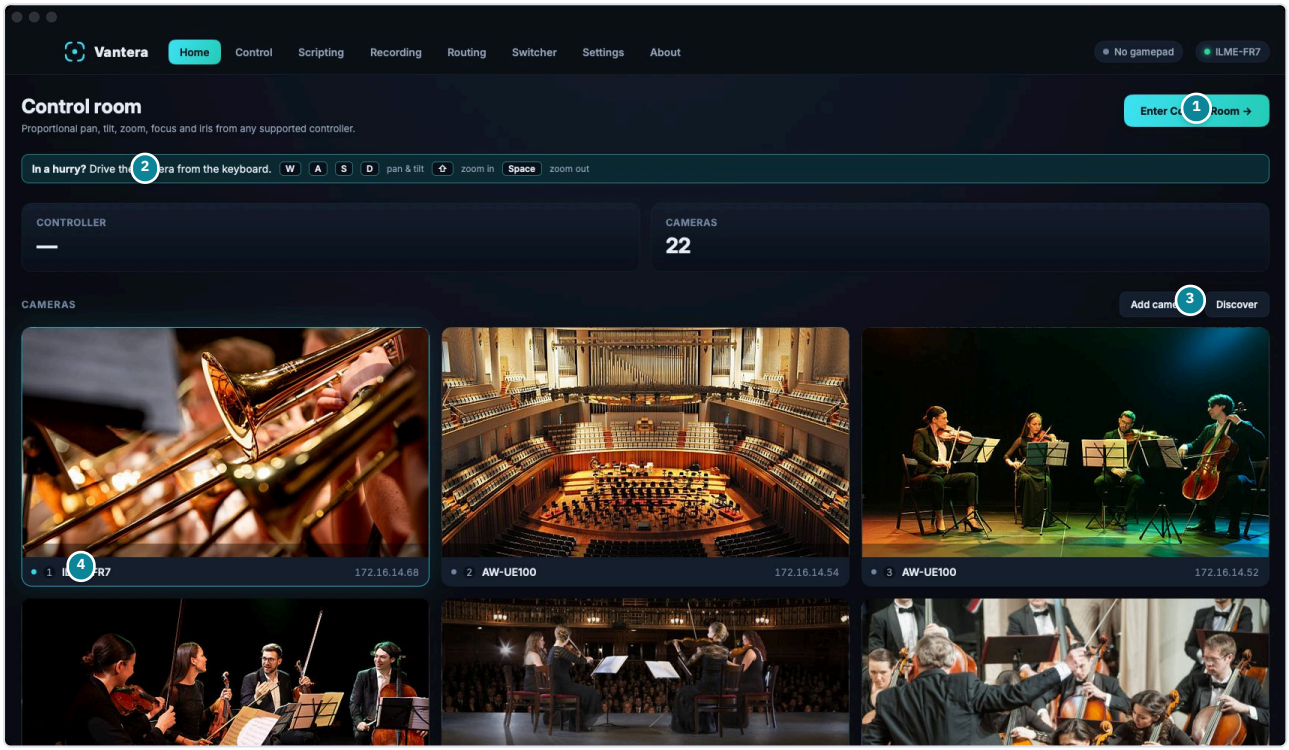


FIGURE 3.1 Home.

1. **Open Control**: opens the Control page
2. Keyboard hint bar
3. **Add camera** and **Discover**
4. Camera tile: number, model and IP address. Click to open it on Control

DRIVING FROM THE KEYBOARD

With no controller connected, the keyboard drives the selected camera.

W A S D	Pan and tilt
⇧	Zoom in
Space	Zoom out

LIVE PICTURES

Each camera opens one network stream, shared by every page that shows it. If the network drops, the tile shows "Reconnecting..." and the picture returns by itself.

The top bar shows whether a game controller is connected and which camera is selected.

CHAPTER 04

CONTROL

STUDIO PRO BROADCAST

Control is where you drive one camera at a time: the camera list on the left, a large live picture of the selected camera, the stick and lens controls underneath, and its presets on the right.

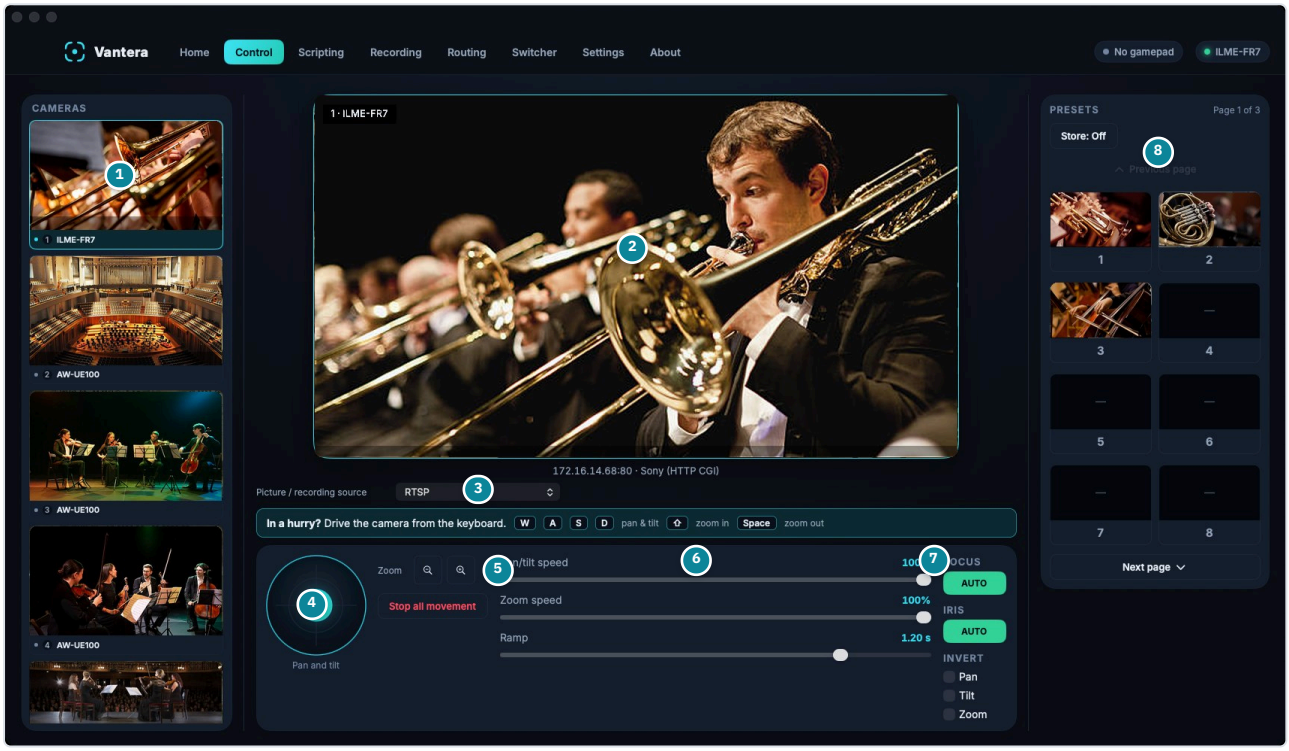


FIGURE 4.1 Control.

1. Camera list with live pictures
2. Selected camera, live
3. Picture and recording source: MJPEG, RTSP, NDI or a capture-card input
4. On-screen pan and tilt stick
5. **Stop all movement**
6. Pan/tilt speed, zoom speed and ramp
7. **Focus**, **Iris** and **Invert**
8. Presets: eight per page

MOVING THE CAMERA

Drag the stick, use a controller, or the keyboard. Speed is proportional: the further you push, the faster it moves. **Pan/tilt speed** and **Zoom speed** set the top speed, and **Ramp** sets how gently the camera responds to inputs.

Every input works at once: game controller, keyboard, on-screen stick, hardware PTZ panels, an ATEM panel and Stream Deck.

PRESETS

Turn **Store** on, frame the shot, and tap a slot. The slot keeps a still of the framing. Turn **Store** off and tap a slot to recall it. **Next page** gives more slots. Done with a shot? Point at its still and click the **×** in the corner to delete it from the camera and from Vantera.

INVERT

For a camera mounted upside down, tick **Pan**, **Tilt** or **Zoom** under **Invert**.

FOCUS AND IRIS 2.10.5

Both start in **AUTO**. Press the button to switch to Manual and a slider appears underneath. Once in Manual, the two sliders behave differently.

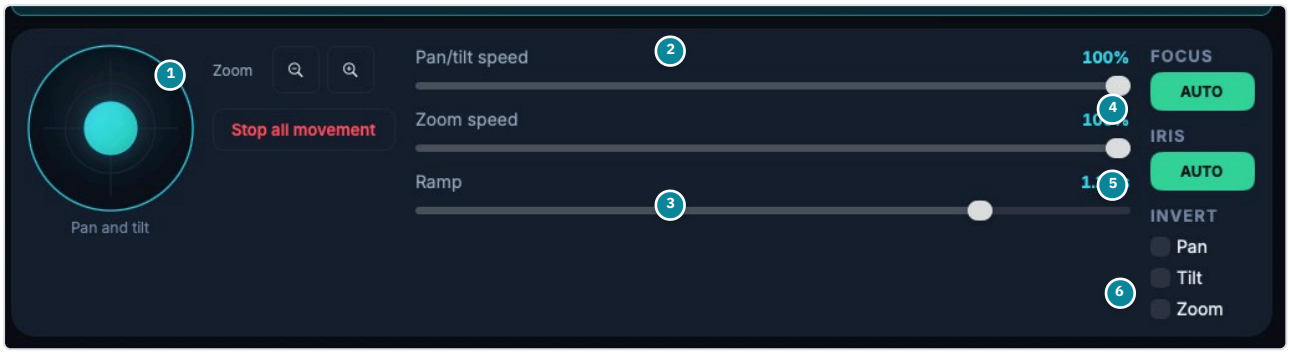


FIGURE 4.2 Close-up of the lens controls on Control.

1. Pan and tilt stick
2. Pan/tilt and zoom speed
3. Ramp
4. **Focus**: Auto or Manual
5. **Iris**: Auto or Manual
6. **Invert** pan, tilt, zoom

Focus moves while you hold it

Drag towards Near or Far and focus moves that way, faster the further you drag. When you let go the slider springs back to the middle and focus stops where it is.

Push AF

With focus in Manual, **Push AF** focuses once and returns control to you.

> TIP
> If the picture brightens or darkens on its own, check that **Iris** has not been left on **AUTO**.

FULL-SCREEN CAMERA 2.11.5

Frame a shot with the whole screen as the viewfinder. Press the corner button on Control's picture, or on any camera tile in the list, and the camera fills the screen with the stick, the zoom buttons and the key hints laid over it. `W` `A` `S` `D` pan and tilt, `⇧` zooms in and `Space` zooms out. Press `Esc`, or the corner button again, to go back to Control exactly as you left it.

VANTERA ANSWERS AS A CAMERA

Point a hardware PTZ panel at the Mac, and the panel drives whichever camera is selected in Vantera, even one from a different maker. A Panasonic AW-RP150 can drive a Sony ILME-FR7 or a PTZOptics camera: Vantera translates the commands. More details on how to set this up in Chapter 13

CHAPTER 05

RECORDING

PRO · 4 CHANNELS | BROADCAST · 12 CHANNELS

Recording captures up to twelve input channels together. Each tile shows a live picture, the format and the signal status.

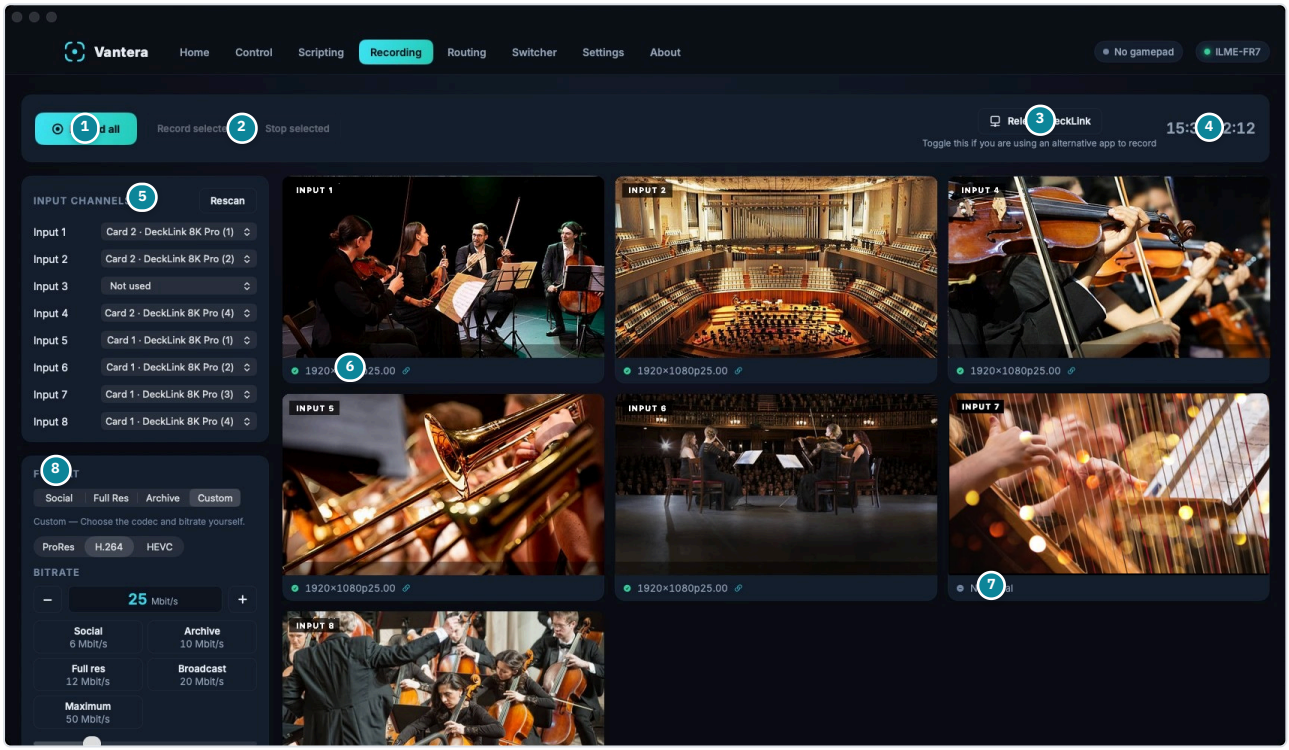


FIGURE 5.1 Recording, with the Custom format selected.

1. **Record all**
2. **Record selected**, **Stop selected**
3. **Release DeckLink**
4. Time-of-day clock
5. Input channels: source for each
6. Live picture, format and signal
7. Signal status. "No signal" means the input is set but nothing arrives
8. Format

SOURCES

Each input can be a Blackmagic DeckLink input (SDI or HDMI), NDI, RTSP, a USB camera, a screen or window, or (as a last resort) a camera's MJPEG picture. Set an input to **Not used** to leave it out. **Rescan** looks for new devices.

STARTING TOGETHER

Every channel in a take starts together. DeckLink inputs on one card start on the card's hardware clock. NDI, RTSP and USB channels start from one shared instant and line up in an editor by timecode.

TIMECODE AND NAMES

Timecode is time of day, in every file of a take. Set a destination name and every file is named:

```
Name - Input N <source> YYYY-MM-DD HH-MM-SS.mov
```

RELEASE DECKLINK

Hands the capture card to another app without quitting Vantera. Press it again to take the card back.

PICKING A SOURCE 2.11.5

Press an input's source button and a panel opens with a live still for each source Vantera can see. Choose the balcony camera by looking at it, not by remembering its name. A source with no picture yet shows its kind instead, and **Not used** leaves the input out.

A PTZ camera that is not open elsewhere shows a still fetched from the camera itself. 2.11.7

SCREENS AND WINDOWS 2.11.8

Put a presenter's slides or a software demo on air. Pick this Mac's screen, or any one window, under **Screen capture** in an input's source list, and record it or switch to it at up to 50 frames a second, up to 1080p. A whole screen brings the Mac's sound with it.

PERMISSION

The first time, macOS asks for Screen Recording permission. Allow Vantera in **System Settings › Privacy & Security › Screen & System Audio Recording**, then choose the screen again.

SOUND PER INPUT 2.11.5

Every Recording tile has a sound picker under its picture. A change takes effect at once, with no break in the pictures, and the tile's level meter shows the sound arriving.

INPUT	YOU CAN CHOOSE
DeckLink	**Embedded audio** on any two of the 16 embedded channels, any audio device, or **No audio**
Network	**Source audio**, or any audio device

TIP

Choose **No audio** for an input whose sound you do not want. Its next file has no audio track at all.

FORMAT

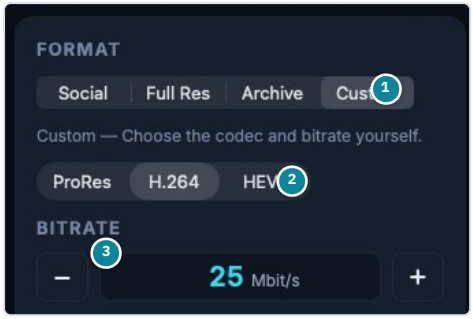


FIGURE 5.2 The Custom format control.

1. Presets: **Social**, **Full Res**, **Archive**, **Custom**
2. Codec family: **ProRes**, **H.264**, **HEVC**
3. Bitrate, with – and +

Choose a preset, or **Custom** to set the codec and bitrate yourself. 2.10.4

Custom

1. Pick the codec family: **ProRes**, **H.264** or **HEVC**.
2. For ProRes, pick the flavour from the menu: 422 Proxy, 422 LT, 422, 422 HQ, 4444 or 4444 XQ.
3. For H.264 or HEVC, set the bitrate: the large figure with – and +, a tier button, or the slider.

TIER	BITRATE	USE IT FOR
Social	6 Mbit/s	Uploads and quick previews
Archive	10 Mbit/s	Full-resolution copies kept long term, in smaller files
Full res	12 Mbit/s	Everyday full-resolution recording
Broadcast	20 Mbit/s	Masters for broadcast or heavier grading
Maximum	50 Mbit/s	The highest quality the encoder offers, with the largest files

SCHEDULED RECORDING

Set a start and stop time, once or weekly. Vantera starts and stops the take on its own.

RECORDING ONE INPUT

Every tile has its own record button. Or select tiles and use **Record selected** and **Stop selected**.

DISK SPEED 2.12.3

Under the destination, **Disk 1800 MB/s · needs 190** shows how fast the disk writes against what your inputs need. Amber is tight, red is too slow. **Test disk** runs it again.

EDIT FILES 2.12.4

When a take stops, Vantera writes an EDL, a Final Cut Pro project and a Premiere Pro project beside the files, with every cut and mix laid over the channels. If an ATEM mixes the show, choose **ATEM** under **Edit files follow**, enter its address and press Return: Vantera follows the ATEM instead. Input 3 is channel 3, unless a script camera says otherwise.

IF THE POWER GOES

Files are written in two-second pieces. A crash or power cut loses at most the last two seconds, and the recording is recovered when Vantera restarts.

Quitting during a take asks first, then closes every file properly.

CHAPTER 06

ROUTING

BROADCAST

Routing lists the recording inputs and which Videohub source feeds each one, with the router's own labels. Repatch from here and the change is the same as one made on the router's own panel.

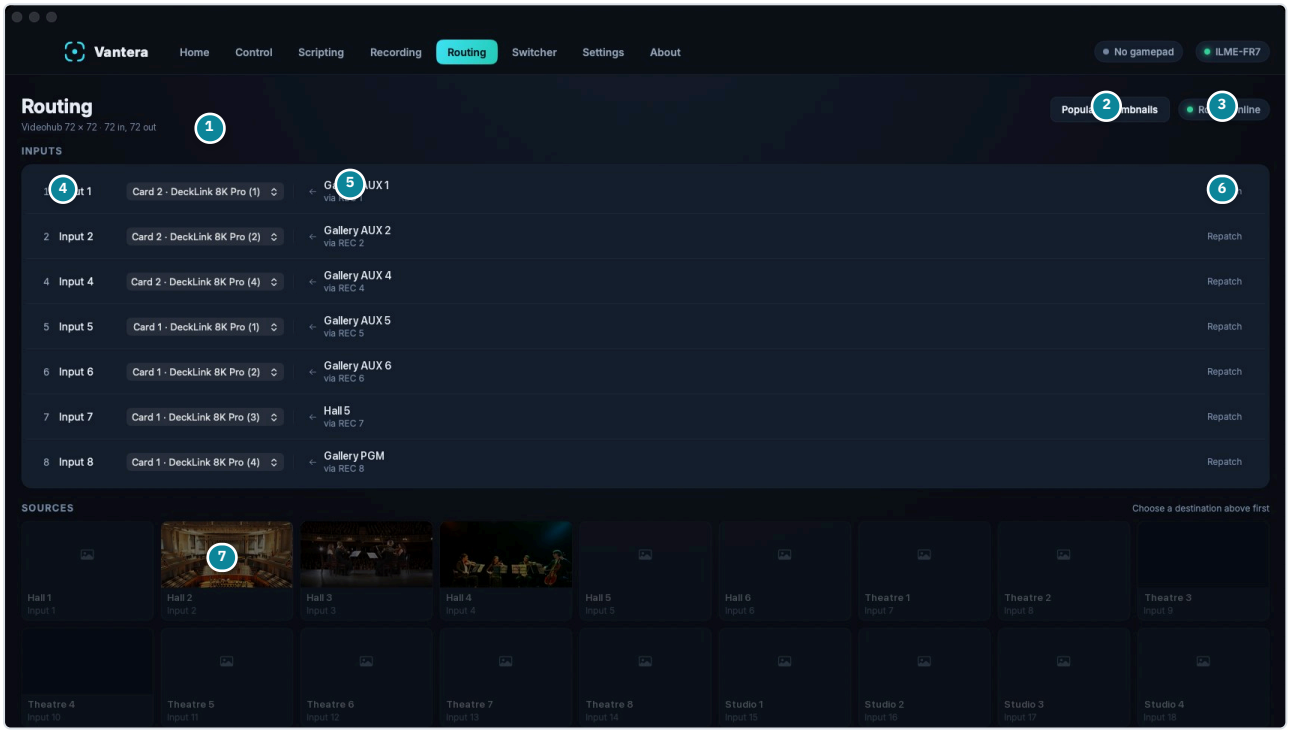


FIGURE 6.1 Routing. Router labels in this figure are placeholders.

1. Router size
2. **Populate thumbnails**
3. Router status
4. Recording input
5. Router source feeding it
6. **Repatch**
7. Sources

REPATCH AN INPUT

1. Pick a destination: the recording input to change, or press **Repatch** on its row.
2. Click a source thumbnail. The router switches straight away.

SETTING UP

Enter the Videohub's address in **Settings › Router** (chapter 14). Vantera finds the recording destinations from the router's labels, or you can choose them by hand.

CHAPTER 07

SWITCHER

PRO BROADCAST

The Switcher is Vantera's vision mixer. Preview is green, programme is red. Line up the next source in preview and take it to air with **Cut** or **Auto**.

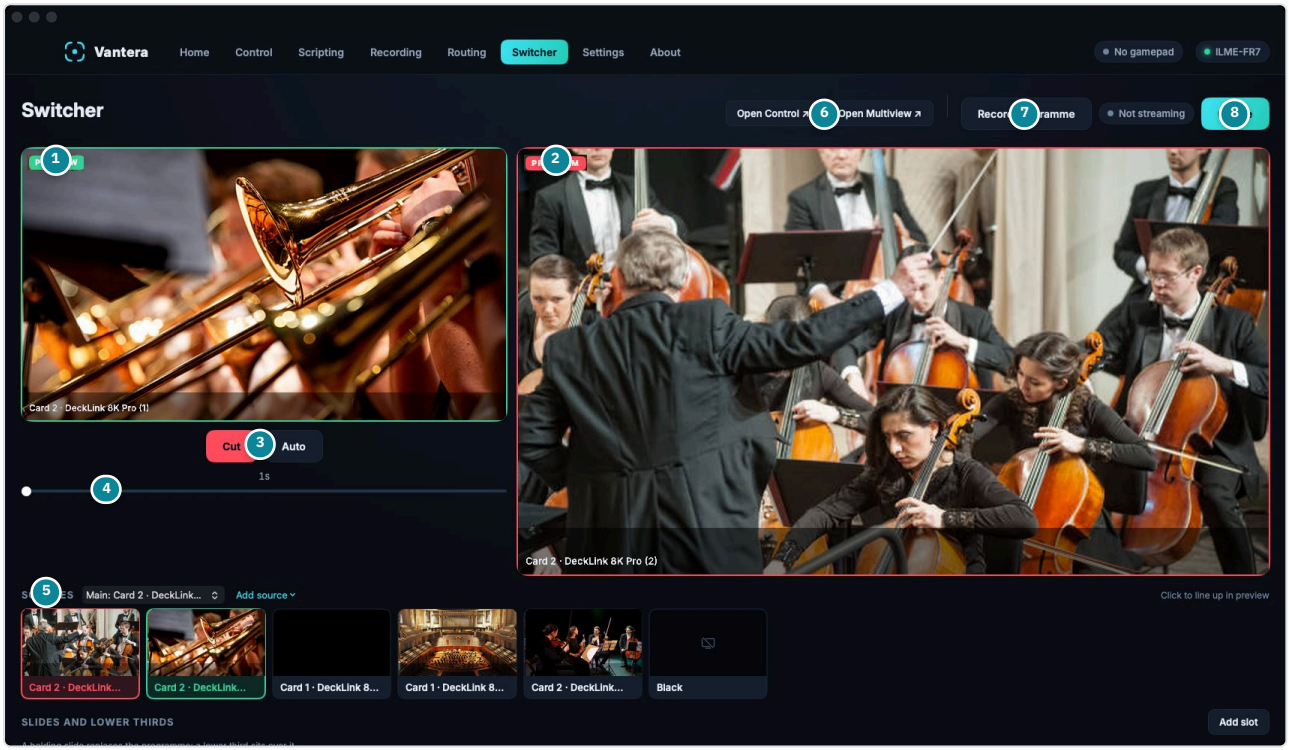


FIGURE 7.1 Switcher.

1. **Preview**
2. **Program**: on air
3. **Cut** and **Auto**
4. Transition slider and duration
5. Sources: click to put in preview
6. **Open Control**, **Open Multiview**
7. **Record programme**
8. **Go live**

SWITCHING

- Click a source to put it in preview.
- **Cut** swaps preview and programme at once. **Auto** mixes over the duration shown, or you can drag the slider to mix by hand.
- **Add source** adds a channel to the row. **Black** always stays at the end.
- Cut and Auto show their key caps, `Space` and `⇧ Shift`. Each source tile starts with its number key.

KEYS

`1` – `0`	Put that source in preview (`0` is the tenth)
`Space`	Cut
Tap `⇧`	Fade
`⌘` `K` / `⌘` `J`	Cut / Auto from any page while on air

SOUND, RECORDING AND OUTPUT

Below the sources, the Switcher page continues with the graphics slots (chapter 08), the **Audio mixer** (next page), **Chroma key**, **Programme recording**, **Destinations** and **NDI output**.

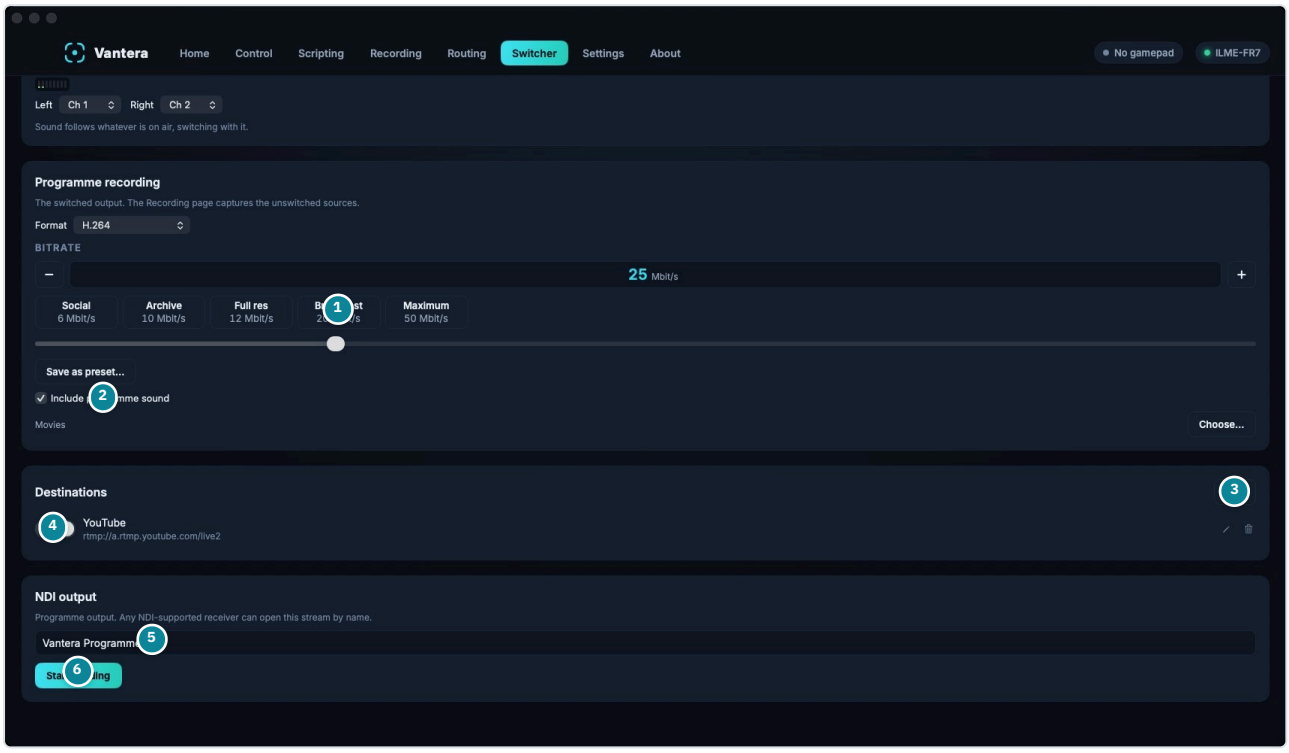


FIGURE 7.2 Programme recording, Destinations and NDI output.

1. Programme recording bitrate
2. **Include programme sound**
3. **Add** a destination
4. Destination on or off
5. NDI name
6. **Start sending**

Audio mixer

Everything that is heard: the programme's own sound and any other audio input, mixed. See the next page.

Chroma key

Removes a coloured background from a source.

Programme recording

Records the switched output, with the same bitrate tiers as Recording. The Recording page captures the unswitched sources at the same time.

Destinations

Stream to several RTMP destinations at once: YouTube, Facebook, Vimeo, or any RTMP server. **Add** one with its server address and stream key, then switch each on or off. **Go live** at the top of the page starts every destination that is on.

NDI output

Sends the programme to any NDI receiver on the network under the name you give it. Press **Start sending**.

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AUDIO MIXER 2.10.8

Under the slides, the **Audio mixer** sets what goes out on the stream, the programme recording and NDI. Each source is a strip. The **Master** on the right is the output.

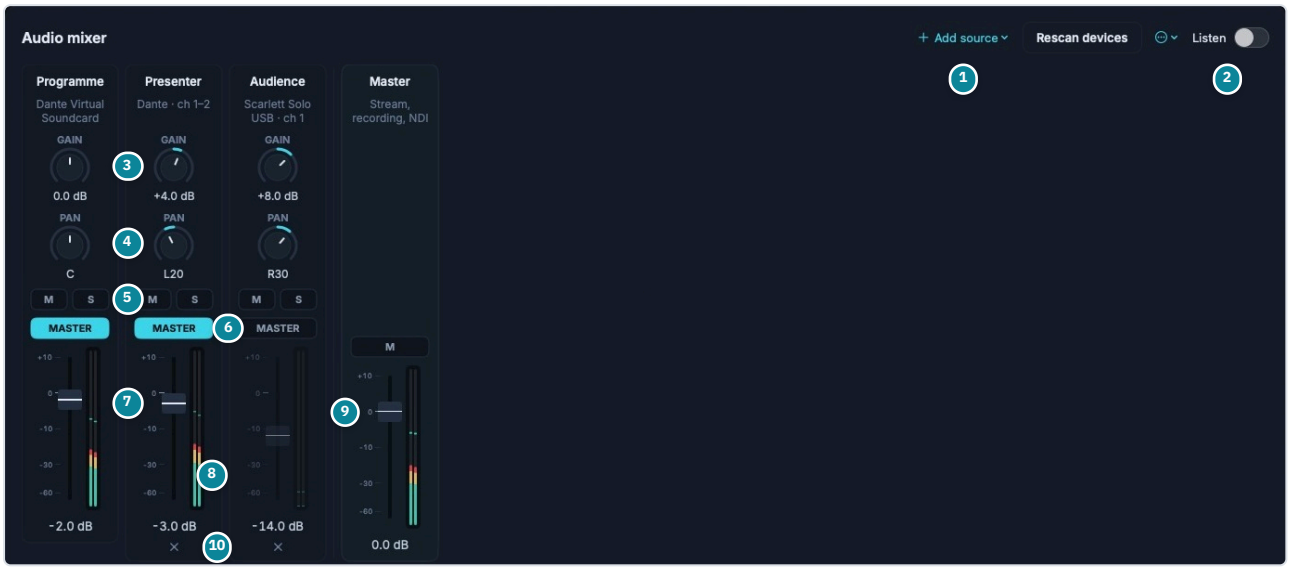


FIGURE 7.3 The audio mixer, with two sources added.

1. **Add source**
2. **Listen**: the master on this Mac
3. **Gain**, ±24 dB
4. **Pan**
5. **M** mute, **S** solo
6. **MASTER**: send the strip to the master
7. Fader, −∞ to +10 dB
8. Meter: the source, after gain
9. Master fader and meter
10. Remove the source

The programme strip

Always first. It carries the sound of whatever is on air. Under the strips, tick **Follow the programme** and it switches with each cut. Or untick it and choose a fixed **Source**. For a multichannel input, such as 16-channel DeckLink audio, choose the **Left** and **Right** pair.

Adding a source

Add source lists every audio input on the Mac: Dante Virtual Soundcard, a USB interface, a DeckLink card's audio. Choose a channel pair, or one channel as mono. Double-click a strip's name to rename it.

Solo

S sends only the soloed strips out, on air. **SOLO** shows in the mixer's header while any strip is soloed.

Mixing

- Drag a fader or knob to move it. A click alone does nothing. Double-click a fader for 0 dB, a knob for its centre.
- **MASTER** off keeps a strip metering but out of the mix. Bring it in when it is ready.
- ⋯ › **Reset levels** sets every strip back to 0 dB and centre.

Listen

Plays the master through the Mac's output. Mute it before opening a microphone in the same room.

> **TIP**
> Added sources keep going out over a holding slide or Black, so a presenter's microphone is heard over the slide. The programme strip fades with the picture as before.

MULTIVIEW

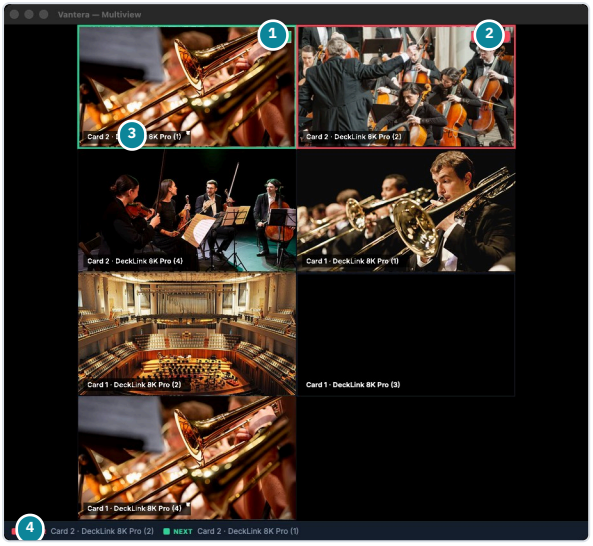


FIGURE 7.4 The Multiview window.

1. **NEXT**: in preview, green
2. **ON AIR**: programme, red
3. Source name
4. Status bar: on air and next

Open Multiview opens a separate window with every source. The source on air is outlined red, the next one green. Drag it to a second display.

OPEN CONTROL

Open Control opens the camera control page in its own window, so you can frame the next camera beside the switcher.

AN ATEM PANEL

An ATEM Broadcast or Advanced Panel can drive this switcher directly, with no ATEM switcher. See chapter 12.

SWITCHER SHORTCUTS

The **Cut** and **Auto** shortcuts can be changed in **Settings › Controllers & keys**.

CLEAN BLACK BARS

Every programme and preview frame is built on black. A source that is not 16:9 sits in clean black bars, with nothing left over from the last picture.

CHAPTER 08

LOWER THIRDS, SLIDES AND VIDEO

PRO BROADCAST

The slots under the switcher sources hold graphics and clips. A slot can be a holding slide, a lower third or a video clip, and **Add slot** makes another.

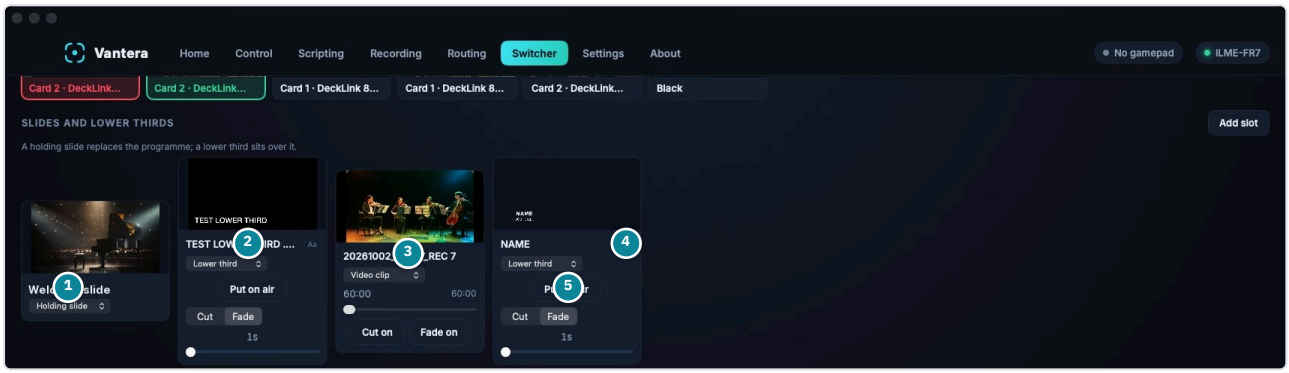


FIGURE 8.1 Slides and lower thirds on the Switcher page.

1. Holding slide
2. Lower third from an image
3. Video clip
4. Typed lower third, with **Aa**
5. **Put on air**, **Cut**, **Fade**

Holding slide

Replaces the whole programme, picture and sound. Use it before the start and in an interval.

Lower third

Sits over the live picture. Choose an image, or type the text (next page).

Video clip

Load a clip, scrub to the frame you want, then **Cut on** or **Fade on**. It plays with its sound.

TYPING A LOWER THIRD 2.10.5

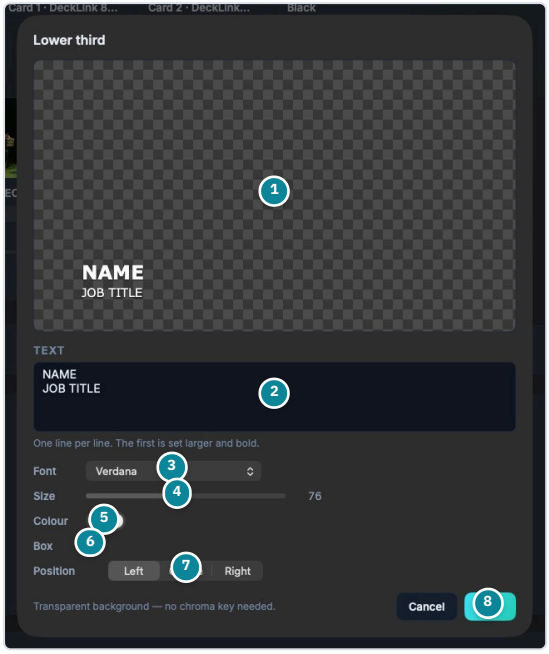


FIGURE 8.2 The lower-third editor.

1. Preview on a transparent background
2. **Text**: one line per line
3. **Font**
4. **Size**
5. **Colour**
6. **Box**
7. **Position**
8. **Save**

1. On a lower-third slot, choose **Type text**.
2. Type one line per line. The first line, the name, is set larger and bold. The lines under it, the job title, are smaller. Use as many lines as you need.
3. Choose a **Font**: any font installed on the Mac.
4. Set **Size** and **Colour**. Tick **Box** for a box behind the text.
5. Choose **Position**: **Left**, **Centre** or **Right**.
6. Press **Save**.

No chroma key

Typed lower thirds are drawn with a transparent background. They sit straight over the picture.

Editing on air

Aa on the slot reopens the editor, even while the lower third is on air. Correct a name without taking it off.

Putting it on air

Choose **Cut** or **Fade** and the duration, then **Put on air**. Press it again to take it off.

> TIP
> On an ATEM panel, DSK and KEY 1–4 trigger lower thirds, slides and video. See chapter 12.

CHAPTER 09

SCRIPTING: PLANNING A SHOW

BROADCAST

Scripting runs a show's camera script beside the switcher. You list the shots in order, each with a camera and a preset. As the director cuts, Vantera sends every free camera to its next preset before it is needed, so each shot is already framed when it is called.

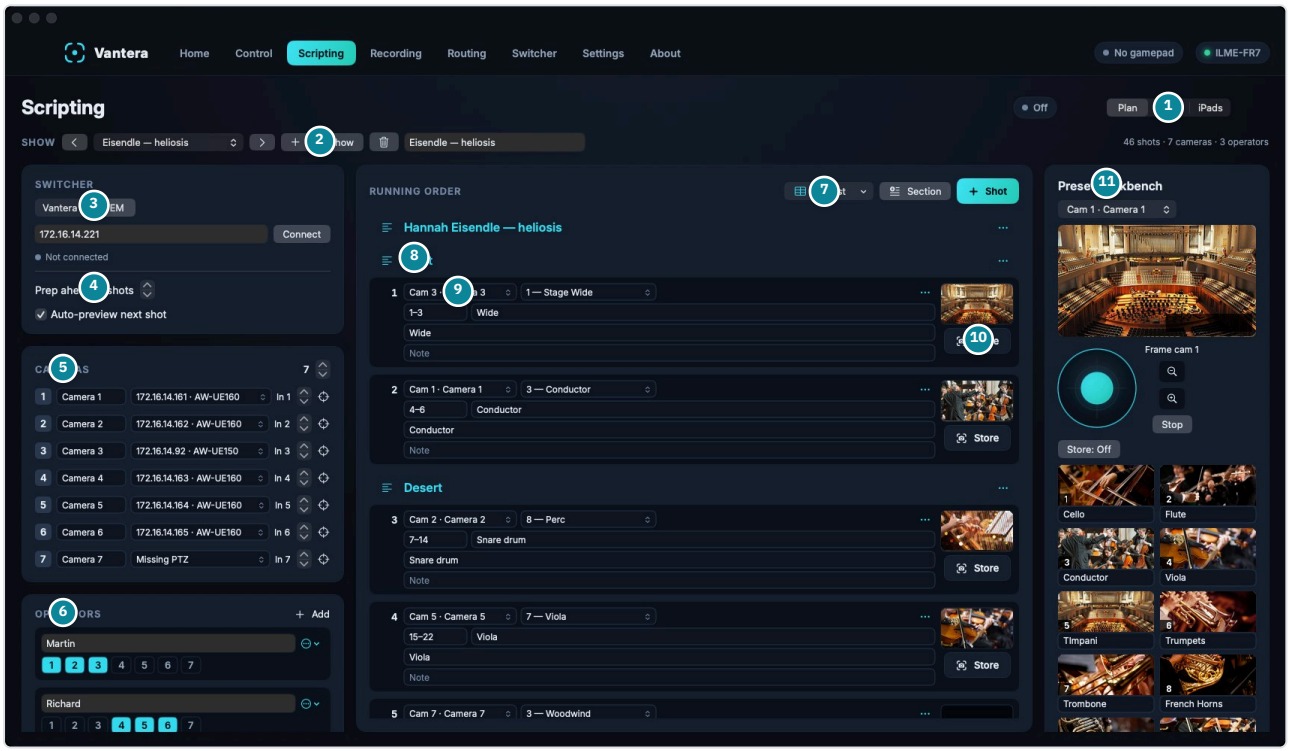


FIGURE 9.1 Scripting, Plan page.

1. **Plan**, **Show**, **iPads**
2. Show: step, **New show**, delete, rename
3. **Switcher**: Vantera or ATEM
4. **Prep ahead**, **Auto-preview next shot**
5. **Cameras**
6. **Operators**
7. **Shot list**, **Section**, **Shot**
8. Section row
9. Shot row: camera, preset, bars, subject, shot
10. **Store** the preset still
11. **Preset workbench**

1 · SWITCHER

Choose **Vantera** to follow Vantera's own switcher, or **ATEM** and enter a physical ATEM's IP address. **Connect** checks it.

Prep ahead 2.16: **All cameras** sends every camera to its next shot the moment it is free, or choose 1 to 6 shots. **Auto-preview next shot** puts the next camera in preview.

2 · CAMERAS AND OPERATORS

Add up to 12 script cameras. Link each to a PTZ camera and to its switcher input. Add up to four operators and give each their cameras.

3 · RUNNING ORDER

One row per shot: camera, preset (with its still), bars, subject, a shot description and a note. Section rows, such as movement titles, divide the show. **Shot** and **Section** add rows, and the ··· menu on a row inserts, duplicates, moves or deletes it. There is always an empty row at the bottom: fill it in and the next one appears.

Suggested cameras `2.10.4`

Type what the shot is, "Viola" or "Timpani", and Vantera suggests a camera that already has a matching preset saved. It never suggests the previous shot's camera. The suggestion is outlined in the accent colour and tagged **SUGGESTED**. Change it if you want another.

Preset workbench

Choose any script camera, frame it from its live picture with the stick and zoom, and **Store** presets with stills, without leaving the page. Click the picture to drive with `W` `A` `S` `D`: it shows **Keyboard on**. Typing in any field hands the keyboard back.

Starting a new show? **Clear presets** wipes one camera, or every camera in the show, from the cameras and from Vantera in one go. Your shot list stays as it is.

Importing a shot list

Shot list › Import reads a CSV with these columns:

```
Shot Number,Bars,Subject,Shot Type/Move Cue,Camera,Preset,Note
```

Export blank template `2.10.4` gives a sheet numbered 1 to 100, ready to fill in Numbers or Excel and import. Add rows past 100 whenever the show needs them. Type `Section` in Shot Number to start a new section. **Shot list › Export** writes the current show.

Shows

New show starts one. The arrows step between saved shows, and typing in the name box renames the current one. **Delete show** `2.10.4` asks first.

Operator scripts

Open a script window for each operator on the Mac, or export each operator's shots as a PDF to print.

> **TIP**
> Store presets with clear names: "Conductor", "Violin 1", "Stage Wide". The names become the buttons in the **Shot picker** (chapter 10) and drive the camera suggestions.

CHAPTER 10

SCRIPTING: RUNNING THE SHOW

BROADCAST

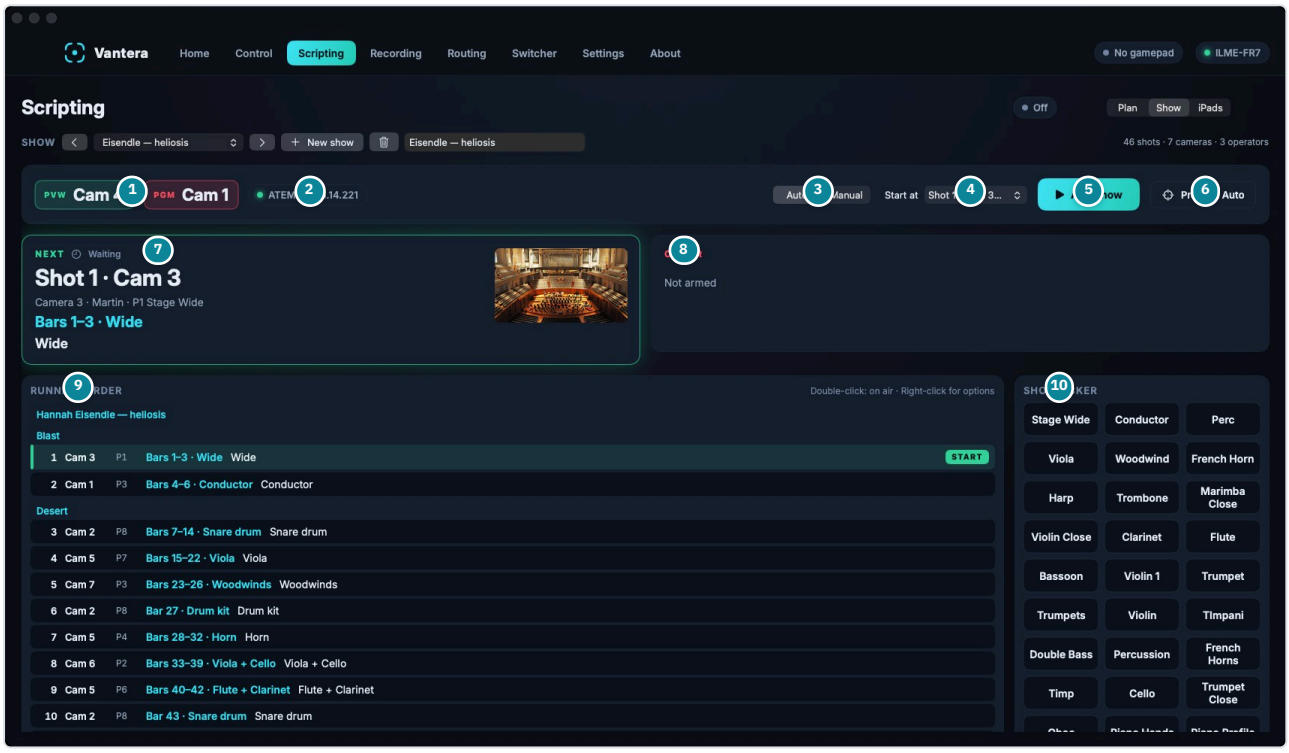


FIGURE 10.1 Scripting, Show page, before the show is armed.

1. Preview and programme
2. Switcher status
3. **Auto** / **Manual**
4. **Start at**
5. **Arm show**
6. **Presets: Auto**
7. **NEXT** card, with the next camera live
8. **ON AIR** card
9. Running order
10. **Shot picker**

ARM THE SHOW

1. Choose where to start with **Start at**.
2. Press **Arm show**. Free cameras move to their presets, and every row shows where its camera is: blue on its way, green ready, amber moved off its preset, red failed.
3. The **NEXT** card shows the shot number, camera, operator, preset, bars and description, with the next camera's live picture.

The camera on air is never moved. **Presets: Auto** lets Vantera move cameras. Turn it off if you want to move them yourself.

AUTO AND MANUAL

Auto follows the switcher's programme. When the next shot's camera is cut to air, that shot is on air and the free cameras move on.

Manual: only **Next** and **Back** move the show. A presentation clicker (`Page Down` `Page Up`) and `→` `←` work too.

With the show off, **Next** and **Back** step through your shots' stills `2.16`. Rehearse the whole script with the director before a camera moves.

OFF SCRIPT

Cut to something not in the script and Vantera shows **Off script** and holds. The camera on programme is yours: Vantera stops steering it, even mid-move, and sends it to its next shot once you cut away. It picks up again when you return.

SHOT PICKER

A button for every preset name in the show. Press "Conductor" and Vantera finds a free camera with that preset and puts it in preview. The button flashes when no free camera has it. Press **CUT** while that camera is still moving and Vantera cuts the moment it arrives.

BUILD A SCRIPT BY EAR 2.16

Name your presets, press **Build** on the Plan page or in the iPad's shot picker, and play the recording. Tap the instrument you hear: Vantera adds the shot on the camera that has had longest to get there and shows every other shot of it as a still to swap in. **Undo** takes the last one back.

DURING THE SHOW

- Operators follow their next shot on their iPads (chapter 11).
- The director can move the show from the director's iPad.
- Per-operator script windows on the Mac show the same.

PRESETS THAT LAND 2.16

A scripted recall wins over a hand resting on a controller: the camera goes to its preset, then it is the operator's again. Vantera reads back where each camera stopped, Panasonic and Sony FR7 alike, and sends it again if it stopped short.

FIX A PRESET MID-SHOW 2.16

Orchestra moved? Reframe the camera and press **Update** on the NEXT or ON AIR card, on the Mac or an iPad. Every shot that uses the preset gets the new framing and still. Nothing moves.

> **TIP**
> For an unscripted shot, use the **Shot picker** instead of driving a camera by hand. Vantera then picks a camera that is free and leaves the next scripted shots alone.

CHAPTER 11

IPADS FOR THE DIRECTOR AND OPERATORS

BROADCAST

The iPads page gives the director and each operator a live page of the show. Scan a QR code with the iPad's camera. There is no app to install. The pages work in any browser on the same network as the Mac.

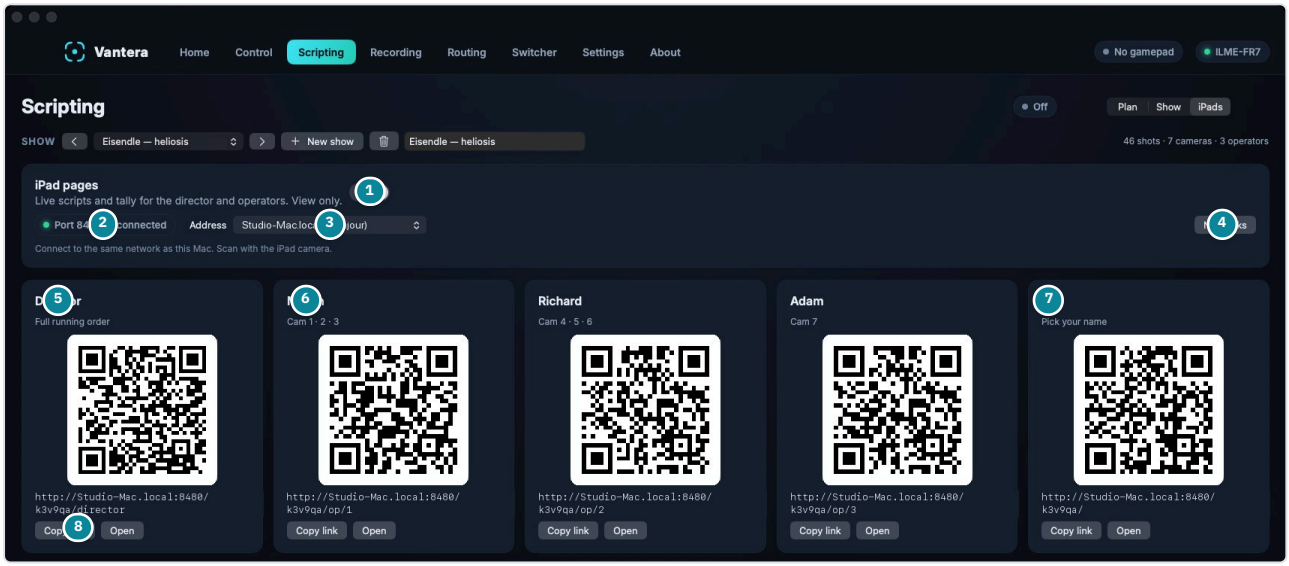


FIGURE 11.1 Scripting, iPads page. The QR codes and links shown are examples.

1. iPad pages on or off
2. Port and connected pages
3. **Address**: Bonjour name or IP
4. **New links**
5. Director
6. Operator, with their cameras
7. **All**: people pick their name
8. **Copy link**, **Open**

SETTING UP

1. Switch on **iPad pages**.
2. Put the iPads on the same network as the Mac.
3. Scan the director's code, each operator's code, or the **All** code and pick a name.

If an iPad cannot find the Mac by name, choose its IP address under **Address**.

NEW LINKS

New links replaces every link and closes the pages already open. Use it if a link has gone further than it should.

The pages update themselves, and recover their pictures if the network drops.

OPERATOR'S IPAD

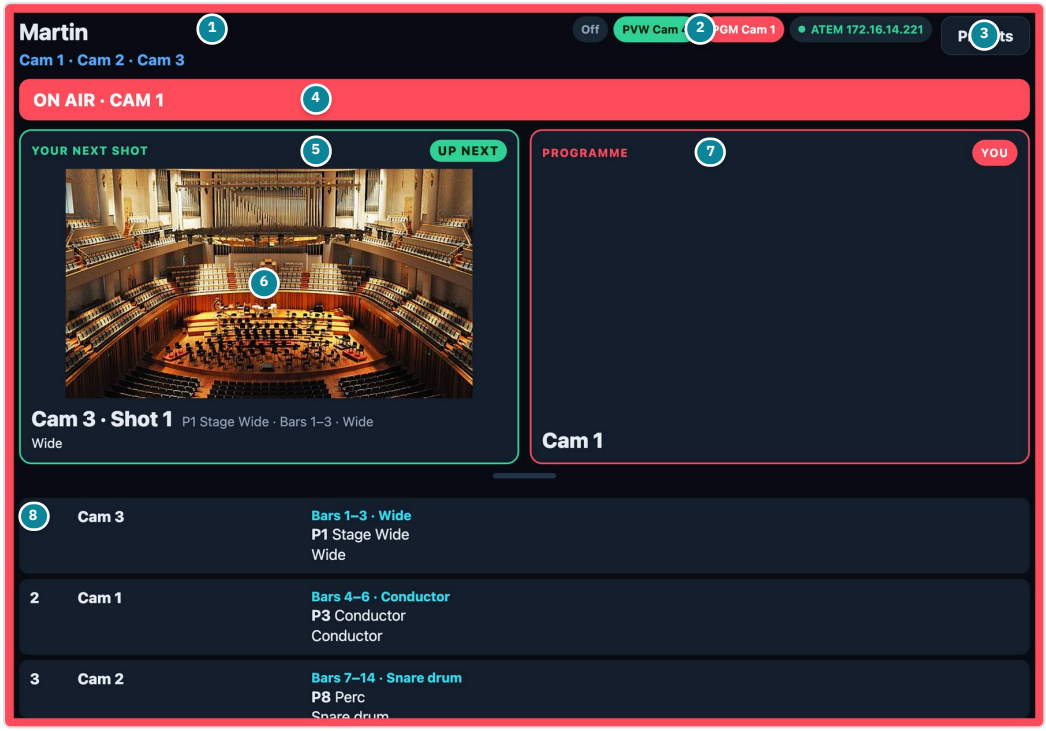


FIGURE 11.2 An operator's page, with one of their cameras on air.

1. Operator and their cameras
2. Show status
3. **Presets**
4. On-air banner
5. **YOUR NEXT SHOT**
6. Live picture of their next camera
7. **PROGRAMME**
8. Their running order

The page shows that operator's next shot, with a live picture of their camera and the programme beside it. The whole screen turns red when one of their cameras is on air, and green when it is on preview.

DIRECTOR'S IPAD

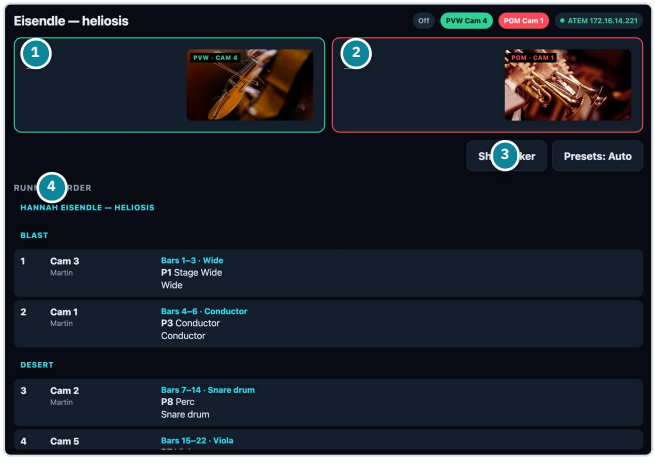


FIGURE 11.3 The director's page, before the show is armed.

1. **NEXT**, with preview live
2. **ON AIR**, with programme live
3. **Shot picker**
4. Full running order

What is on air and what is next, with live pictures, and the full running order.

- **Back** and **Next** move the show.
- Skipping ahead? Tap the shot being called, then **CUE**: its camera goes to its preset and on preview, and the page tells you when it is ready to cut. In Automatic, **TAKE** cuts the moment it arrives.
- Coloured rows flag a camera that needs you before its shot is called. **Recall** and **Update** fix it from the iPad.
- **Shot picker** works as on the Mac, laid out as a stage you can arrange. It stays open for the next pick until you close it. A press that cannot get through flashes red. Press again.

CHAPTER 12

ATEM PANEL CONTROL

PRO BROADCAST

Vantera answers as an ATEM switcher. Connect an ATEM 1 M/E or 2 M/E Broadcast or Advanced Panel straight to the Mac, and the panel drives Vantera's switcher. No ATEM switcher is needed.

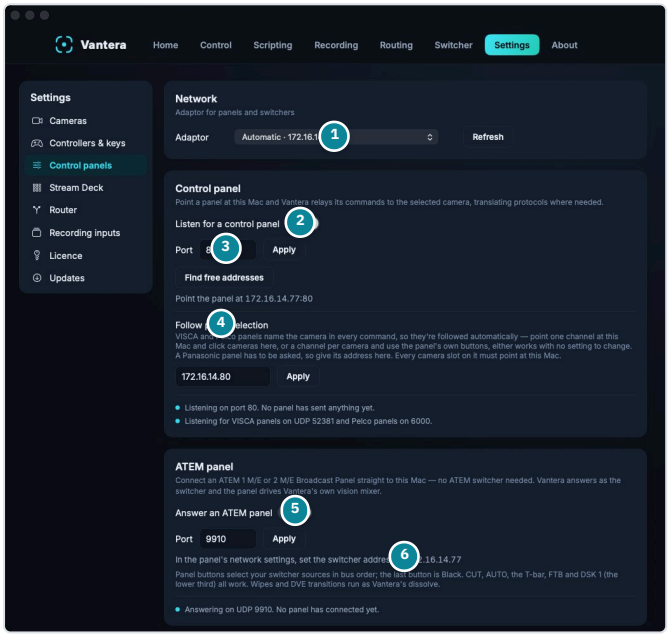


FIGURE 12.1 Settings › Control panels.

1. Network adaptor
2. **Listen for a control panel**
3. Port
4. **Follow panel selection**
5. **Answer an ATEM panel**
6. Address to give the panel

CONNECT THE PANEL

1. In **Settings › Control panels**, choose the network **Adaptor** the panel is on.
2. Turn on **Answer an ATEM panel**. The port is 9910.
3. In the panel's own network settings, set the switcher address to the one Vantera shows.

The status line changes from "No panel has connected yet" when the panel finds Vantera.

WHAT THE BUTTONS DO

PANEL	IN VANTERA
Programme and preview buses	Select switcher sources in bus order. The last button is Black.
CUT, AUTO, T-bar	**Cut**, **Auto** and the transition slider.
FTB	Fade to black.
DSK, KEY 1–4	Put lower thirds, slides and video on and off air.
Wipes and DVE	Run as Vantera's dissolve.

CHAPTER 13

PTZ PANELS AND STREAM DECK

STUDIO PRO BROADCAST

HARDWARE PTZ PANELS

Point a panel at the Mac and Vantera passes its commands on to the selected camera, translating between protocols where it has to. A Panasonic AW-RP150 can drive a Sony ILME-FR7. VISCA-over-IP and Pelco panels work the same way. Settings are in figure 12.1, items 1–4.

1. **Settings › Control panels**: choose the network **Adaptor**. `2.9.1`
2. Turn on **Listen for a control panel**. The default port is 80. If something else is using it, **Find free addresses** suggests another.
3. Point the panel at the address shown, "Point the panel at ...".

Vantera also listens for VISCA panels on UDP 52381 and Pelco panels on 6000.

Follow panel selection

VISCA and Pelco panels name the camera in every command, so they are followed automatically. Point one channel at the Mac and click cameras in Vantera, or a channel per camera and use the panel's own buttons.

A Panasonic panel has to be asked: enter its address under **Follow panel selection**. Every camera slot on it must point at the Mac.

ELGATO STREAM DECK

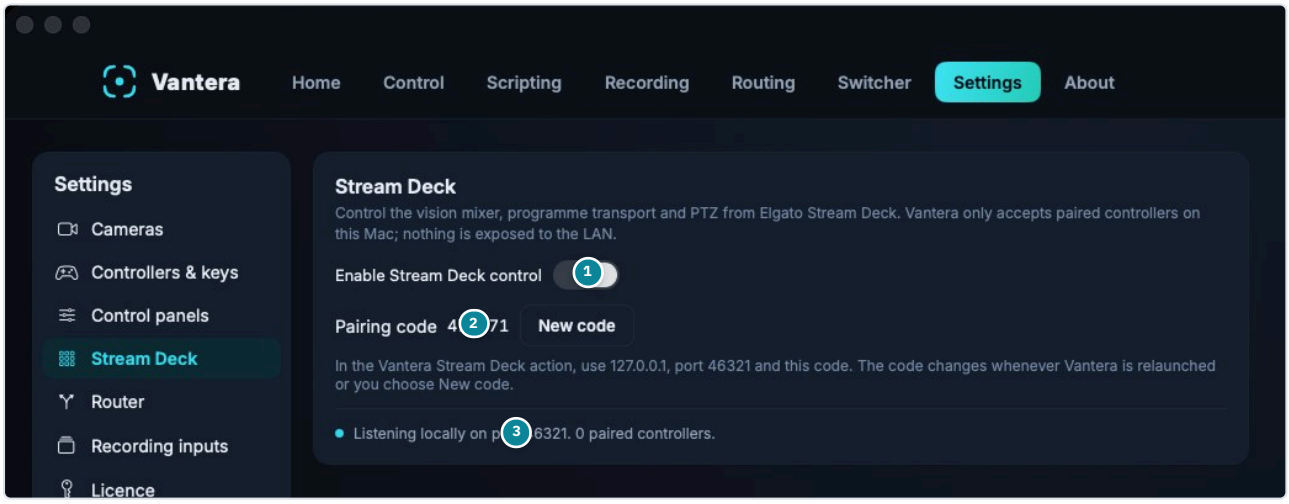


FIGURE 13.1 Settings › Stream Deck.

1. **Enable Stream Deck control**
2. **Pairing code** and **New code**
3. Status: listening, paired controllers

The Vantera plug-in and profile give camera moves, presets, recording and switching, for all twelve channels, on a Stream Deck, or the Stream Deck mobile app.

1. Turn on **Enable Stream Deck control**.
2. In the Vantera Stream Deck action, enter `127.0.0.1`, port `46321` and the pairing code.

The code changes whenever Vantera is relaunched or you choose **New code**.

LOCAL ONLY

Vantera accepts only paired controllers on this Mac. Nothing is exposed to the network.

CHAPTER 14

SETTINGS

SECTION	WHAT IT HOLDS	SEE
Cameras	Add, edit, test connection, protocol, picture source, invert, sign-in	02
Controllers & keys	Ramp, dead zone, response curve, maximum speed; switcher shortcuts	below
Control panels	Network adaptor, PTZ panel, follow panel selection, ATEM panel	12, 13
Stream Deck	Enable, pairing code	13
Router	Videohub address and recording destinations	below
Recording inputs	How many input channels to use, up to the edition's limit	05
Licence	Enter or view the licence; **Unlock the full version** asks for pricing	02
Updates	Version, **Check now**, check when Vantera opens	below

CONTROLLERS & KEYS

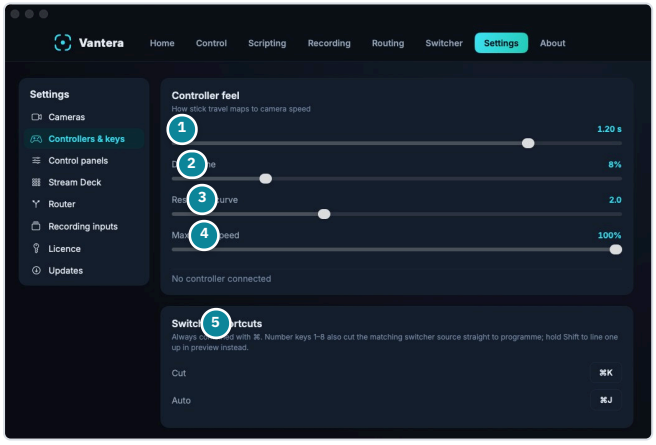


FIGURE 14.1 Settings › Controllers & keys.

1. **Ramp**
2. **Dead zone**
3. **Response curve**
4. **Maximum speed**
5. **Switcher shortcuts**

Controller feel sets how stick travel maps to camera speed.

- **Ramp**: how long the camera takes to reach speed.
- **Dead zone**: stick travel ignored around the centre.
- **Response curve**: higher gives finer control near the centre.
- **Maximum speed**: the top speed at full travel.

Switcher shortcuts are always combined with ⌘.

ROUTER

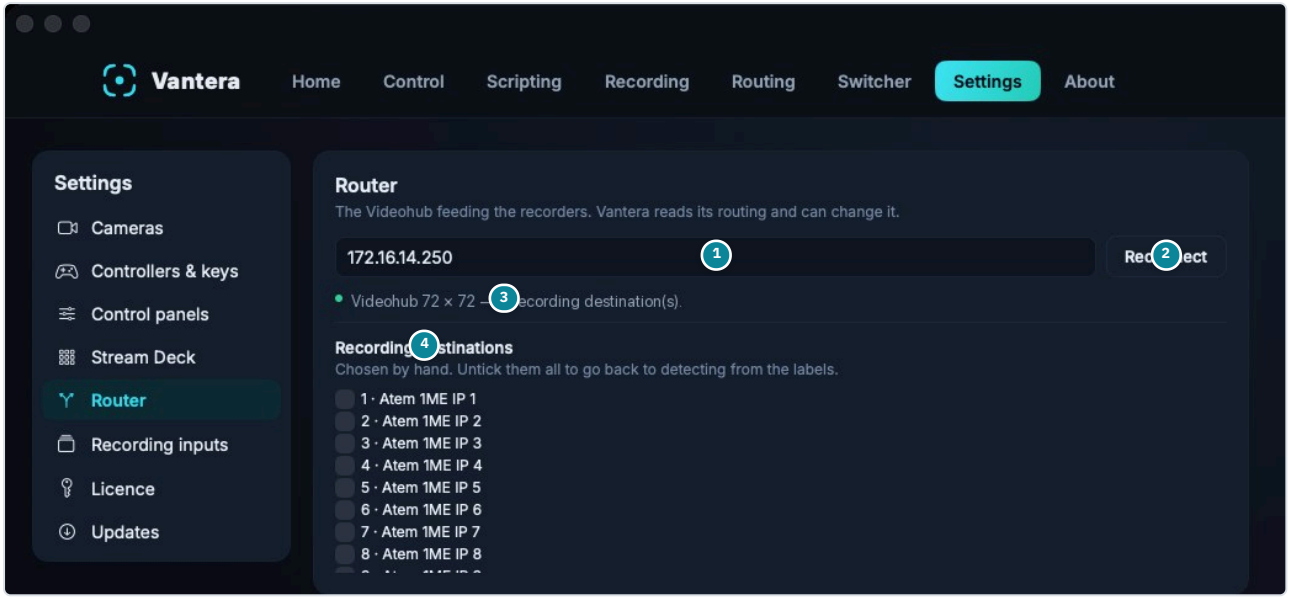


FIGURE 14.2 Settings › Router.

1. Videohub address
2. **Reconnect**
3. Router size and destinations found
4. **Recording destinations**, chosen by hand

Vantera reads the Videohub's routing and can change it. It works out which router outputs feed the recorders by reading their labels. To choose them yourself, tick them under **Recording destinations**. Untick them all to go back to the labels.

UPDATES

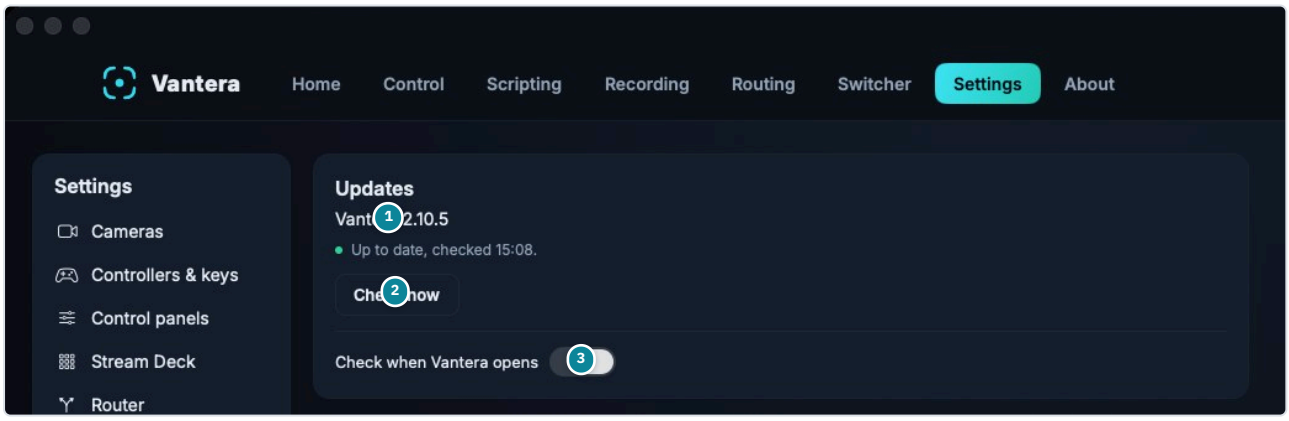


FIGURE 14.3 Settings › Updates.

1. Installed version and last check
2. **Check now**
3. **Check when Vantera opens**

When a new version is ready, Vantera offers it. Accept and it downloads the update, verifies it, replaces itself and reopens. It will not update during a recording, a stream or a show.

CHAPTER 15

TROUBLESHOOTING

The main window has gone

Window › Main Window, or ⌘ 0.

A camera shows a picture but will not move

In **Settings › Cameras**, check the **Protocol** and press **Test connection**. Some cameras need a **Sign-in**.

A camera moves but shows no picture

Try another **Picture** source: RTSP, NDI, MJPEG or a capture-card input. Check the RTSP address.

The camera moves the wrong way

Tick **Invert** pan, tilt or zoom on Control, or in the camera's settings.

A recording input says "No signal"

The input is set but nothing is arriving. Check the cable, the router patch on Routing, and that the source matches a PAL rate.

The DeckLink card is busy

Another app has it. Close that app, or in Vantera use **Release DeckLink** to hand it over. Install Blackmagic Desktop Video if it is missing.

The trial will not start

The first launch needs the internet once. Connect the Mac and Vantera tries again every minute until the trial starts.

A hardware panel does nothing

Check the **Adaptor** in **Settings › Control panels**. If port 80 is taken, use **Find free addresses**.

The ATEM panel will not connect

Set the switcher address in the panel's network settings to the address Vantera shows, and check **Answer an ATEM panel** is on.

The Stream Deck stopped working

The pairing code changes when Vantera relaunches. Enter the new code in the Stream Deck action.

An iPad page will not open

Put the iPad on the same network as the Mac. Under **Address**, choose the Mac's IP address instead of its name.

A script camera did not move

The camera on air is never moved. Check **Presets: Auto** is on and the show is armed.

A row is tagged "Same camera"

Two shots in a row use one camera. Change one of them.

The show shows "Off script"

Something not in the script was cut to air. Vantera holds, and picks up when you return to the script.

An update was not offered

Vantera does not update during a recording, a stream or a show. Use **Check now** afterwards.

Screen capture shows nothing

Allow Vantera under **System Settings › Privacy & Security › Screen & System Audio Recording**, then choose the screen again.

Anything else

About › **Report a problem...**, then send the email.

CHAPTER 16

SPECIFICATIONS

MAC	Apple silicon only
MACOS	13 Ventura or later: Ventura, Sonoma, Sequoia, Tahoe
FRAME RATES	PAL: 25 and 50 fps
RECORDING CHANNELS	4 (Pro), 12 (Broadcast)
RECORDING SOURCES	DeckLink (SDI/HDMI), NDI, RTSP, USB cameras, screens and windows, camera MJPEG
CODECS	H.264, HEVC, ProRes 422 Proxy, 422 LT, 422, 422 HQ, 4444, 4444 XQ
H.264 / HEVC BITRATE	Tiers: Social 6, Archive 10, Full res 12, Broadcast 20, Maximum 50 Mbit/s, or any value on the slider
TIMECODE	Time of day, in every file of a take
CHANNEL START	DeckLink on one card: 0 µs spread, measured. NDI, RTSP, USB: one shared start instant, aligned by timecode
CRASH SAFETY	Two-second file pieces, recovered on restart
CAMERA PROTOCOLS	Panasonic AW (IP), VISCA over IP (Sony UDP, raw UDP, TCP), ONVIF Profile S, Axis VAPIX, Sony CGI over HTTP, Pelco D, Pelco P
CAMERAS	Panasonic AW-UE160, UE150, UE100, UE80, UE50, UE40, HE130, HE42, HE40, HE20; Sony ILME-FR7, BRC-X400, BRC-AM7, SRG series; Canon CR-N700, N500, N300, N100, CR-X500; PTZOptics, BirdDog, AVer, Marshall, Lumens, Avonic; Axis (VAPIX); Reolink and other ONVIF PTZ cameras
CONTROL SURFACES	PlayStation and Xbox controllers; keyboard; Panasonic AW-RP150, Datavideo RMC-300A, VISCA-over-IP and Pelco panels; ATEM 1 M/E and 2 M/E Broadcast and Advanced Panels; Elgato Stream Deck
ROUTER	Blackmagic Videohub
SWITCHER	Cut, Auto, transition slider; holding slide, lower thirds, video clips; chroma key; audio mixer: any Core Audio input as a strip with gain, pan, fader, mute, solo and send to master; master fader
OUTPUT	Several RTMP destinations at once; NDI output; programme recording
SCRIPTING	Up to 12 cameras, 4 operators; follows Vantera's switcher or an ATEM; prep ahead 1–6 shots or every camera
IPAD PAGES	Any browser on the same network; no app
MEASURED	One Mac Studio: 12 channels recording together for an hour, six SDI in ProRes and six cameras in H.264. Memory steady around 760 MB
LICENCE	Checked offline. Signed and notarised by Apple. Updates itself



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