User Manual

Build V44.10
by Makalen Pty Ltd

fovpro.app · fovpro.com.au

CHAPTER

Contents

CHAPTER 1

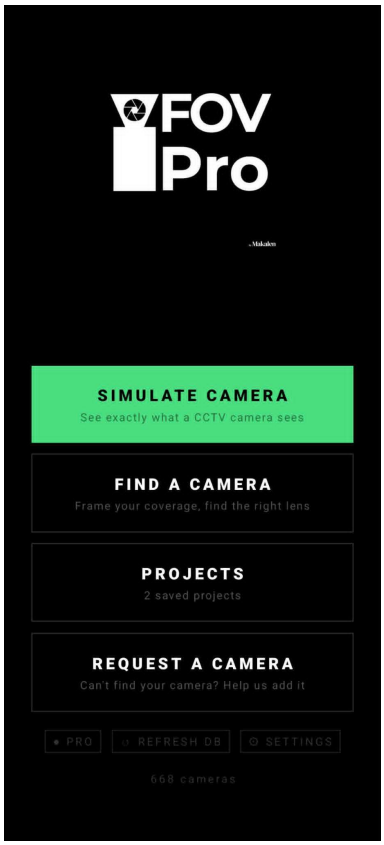
Welcome

Thanks for installing FOV Pro. This app is built for CCTV DIYer’s, security installers, project managers, consultants and integrators who need to plan, verify or communicate CCTV camera coverage on site.

FOV Pro uses your phone's cameras to visualise the field of view of 1000+ real CCTV models. Point your phone where the camera will be mounted, select the model, and see exactly what it will see, before it's installed, before it's specified, before it's quoted.

CHAPTER 2

The Home Screen



The home screen.

The home screen is your launcher.

SIMULATE CAMERA: the main tool. Select a CCTV model and see what it sees, live, through your phone.

FIND A CAMERA: the reverse tool. Frame the coverage you want and get a filtered list of CCTV models that produce it.

PROJECTS: saved site surveys. Every camera position you save from Simulate lands here.

REQUEST A CAMERA: can't find a model in the database? Submit it here and we'll add it.

● **PRO**: shows your subscription status. Tap it to open Settings.

■ **REFRESH DB**: forces the app to re-pull the camera database and your phone's calibration data from our servers. Use this if a new model has been added or a data correction made and you want it immediately rather than waiting for the automatic refresh.

■ **SETTINGS**: build version, Pro status, promo codes and restore purchases.

The count at the bottom (**1000+ cameras** at time of writing) shows the current database size.

CHAPTER 3

Selecting a Camera

Tap **SIMULATE CAMERA** from the home screen to open the camera picker. Cameras are grouped by brand; tap a brand row to expand it.

Search

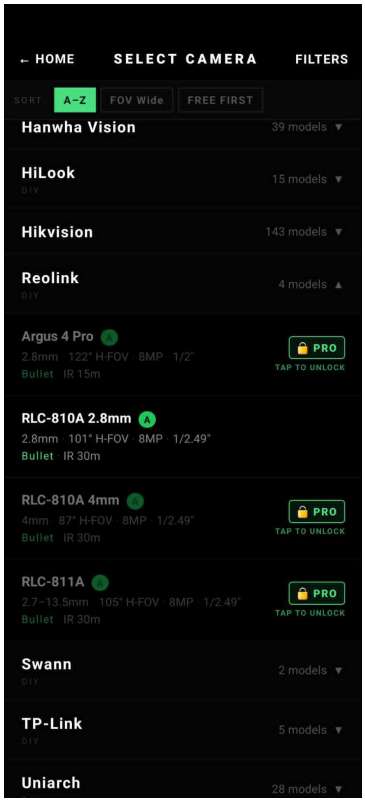
A search bar sits below the top bar. Type any part of a brand or model number and the list filters live. Matching ignores hyphens, spaces and slashes, so **2342** finds the DS-2CD2342WD-I, and **qnd 8010** finds the QND-8010R. While a search is active the list shows flat alphabetical results; tap ✕ to clear the search and restore brand grouping. Search works on top of any active filters.

Sort options

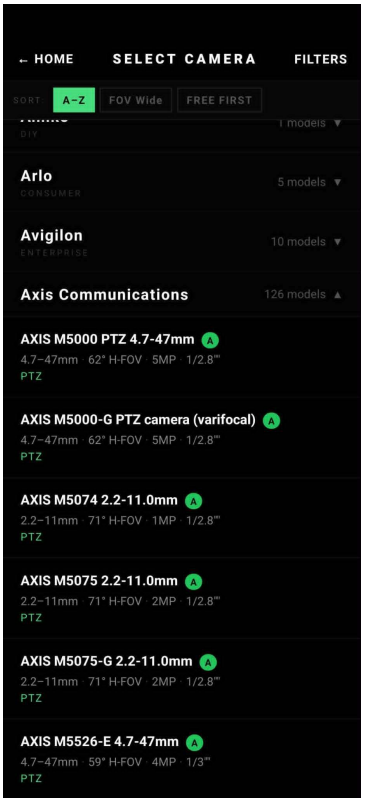
- **A–Z**: alphabetical by brand, then model.
- **FOV Wide**: widest angle first, useful when you're looking for coverage of a large area.
- **Free First**: free-tier cameras at the top of the list.

Free tier vs Pro

During the beta, most testers will see the app in **Free tier** by default. Free-tier users can browse the full list but only simulate the eight free-tier cameras. Pro-locked models show a **PRO** badge with a **TAP TO UNLOCK** hint. To try Pro features during the beta, see the Settings chapter.



Free tier — Pro-locked cameras show a TAP TO UNLOCK badge.



Pro tier — full list unlocked, no lock badges.

Accuracy tier badges

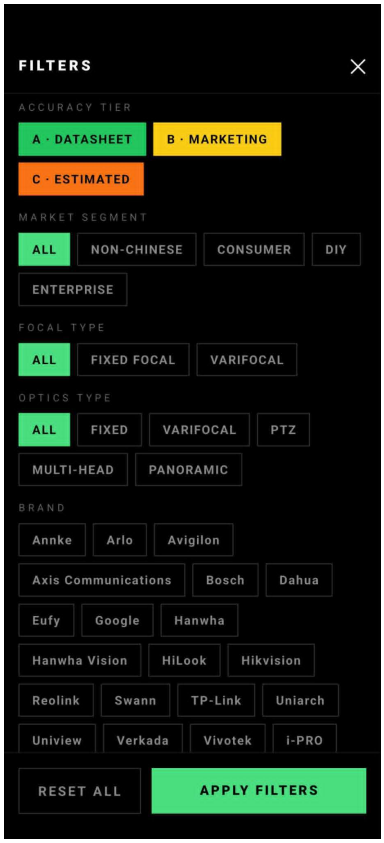
Every camera carries a colour-coded accuracy tier badge — A, B or C — indicating the quality of the underlying data:

- **A · Datasheet**: specs pulled directly from the manufacturer's datasheet. Highest confidence.
- **B · Marketing**: specs sourced from official marketing collateral. Reliable but occasionally rounded.
- **C · Estimated**: specs derived where the datasheet was incomplete. Treat as a working approximation.

The tier letter is what matters, not the colour — the labels are designed to be readable at a glance for anyone, including colourblind users. Chapter 7 explains how the tier system fits with the practical limits of a phone-based simulation, and how to calibrate your trust in the overlay for each tier.

Filters

Tap **FILTERS** in the top right of the camera picker to narrow the list. You can filter by accuracy tier, market segment (Consumer, DIY, Enterprise, Non-Chinese), focal type (Fixed, Varifocal), optics type (Fixed, Varifocal, PTZ, Multi-Head, Panoramic) and brand. Tap **APPLY FILTERS** to apply or **RESET ALL** to clear.



The Filters sheet. Accuracy tier chips at the top carry the full A / B / C legend.

Favourites

Favourites gives you instant access to the cameras you reach for most often, without having to search or scroll each time.

Adding a camera

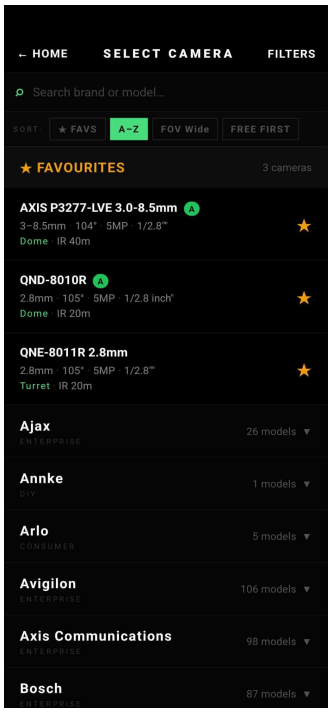
Tap the ★ star on the right of any camera row in the picker to add it to your favourites. The star turns gold to confirm it has been saved. Tap it again to remove it.

Accessing your favourites

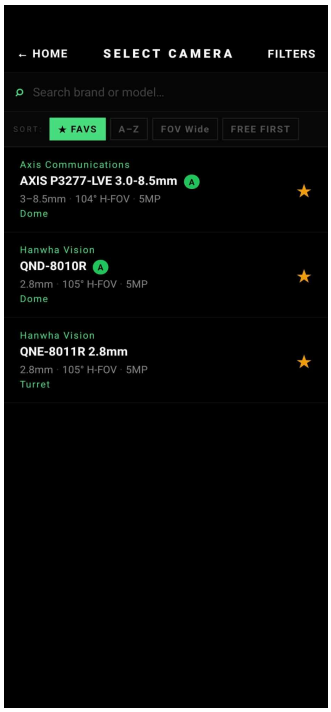
Your favourited cameras appear in two places in the picker:

- **A–Z view** — a **★ FAVOURITES** section pins your starred cameras to the top of the list, above the brand groups. The count on the right shows how many you have saved.
- **★ FAVS chip** — tap the **★ FAVS** sort chip to switch to a dedicated view showing only your starred cameras, each with its brand name, focal length, H-FOV and form factor.

Favourites are saved on your device and persist between sessions. They are available on both Free and Pro plans.



A–Z view — starred cameras pinned to the top.



★ FAVS view — your starred cameras only.

CHAPTER 4

Simulate Mode

Simulate Mode is the heart of FOV Pro. Select a CCTV camera, point your phone at the target scene, and the app renders the exact field of view that camera would capture from that position.

How the overlay works

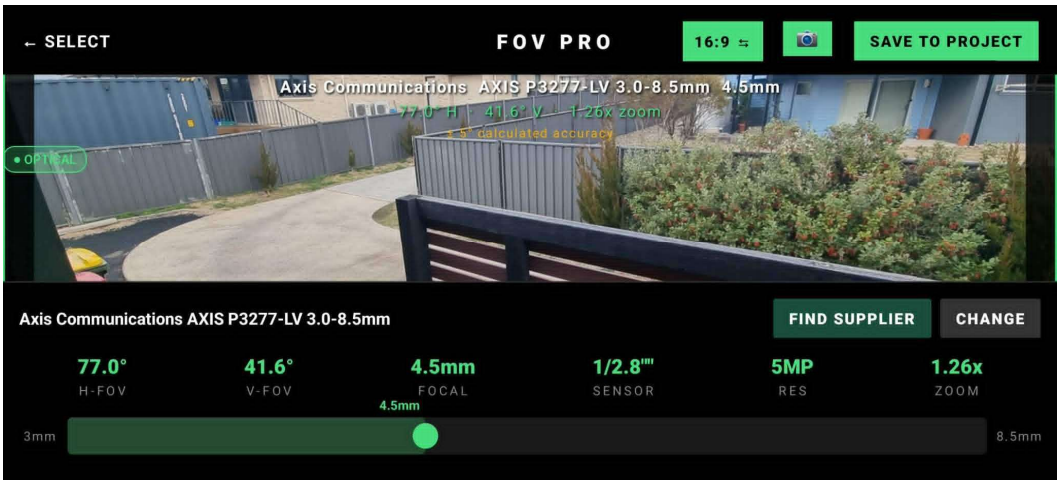
FOV Pro converts the CCTV camera's optics into a 35mm-equivalent focal length, then matches it to the closest of your phone's lenses. There are two possible outcomes:

- **The CCTV camera sees wider than your phone lens.** The overlay draws a green frame outside the visible phone image, with CCTV labels on each edge. Everything inside the phone frame is what your phone lens sees; everything between the phone frame and the green boundary is coverage the CCTV camera adds beyond that.
- **The CCTV camera sees narrower than your phone lens.** The app crops and optically zooms the phone view to match the narrower CCTV field. An ● OPTICAL badge appears in the corner confirming the phone is using true optical zoom, not digital crop.

Wider case: the i-PRO WV-X25580-F2LN2 at 2.3mm covers 131° horizontally. The green frame marks CCTV coverage extending beyond the phone image on all four sides.

Narrower case: same viewpoint, an Axis P3277-LV set to 4.5mm. The phone applies 1.26× optical zoom to match the CCTV's tighter 77° field. Note the OPTICAL badge top-left.

The Simulate controls



Full Simulate UI. Top bar: ← SELECT, FOV PRO title, aspect toggle, capture, SAVE TO PROJECT. Bottom panel: live stats, FIND SUPPLIER, CHANGE, and — for varifocal cameras — a slider covering the full focal range.

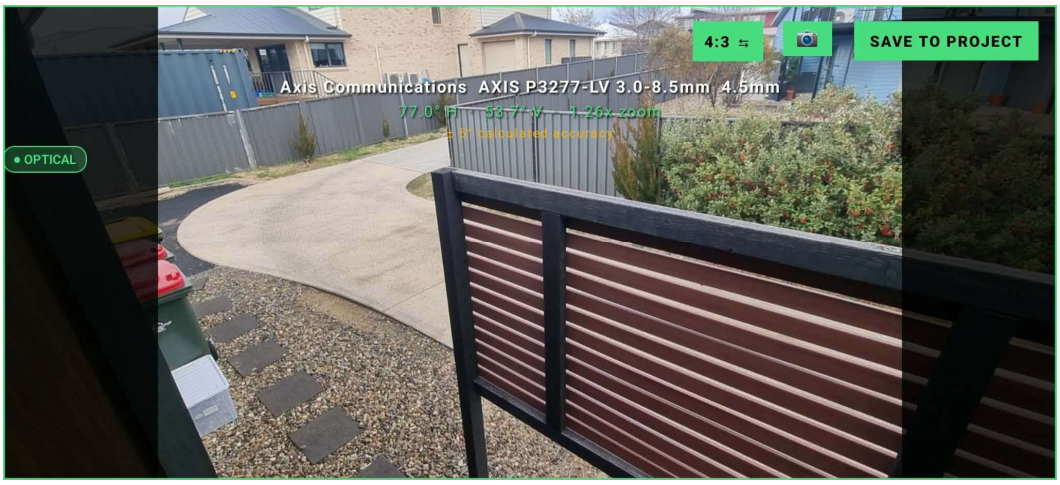
Top bar

- ← **SELECT**: returns to the camera picker.
- **Aspect toggle (16:9 / 4:3)**: switches between the sensor's native aspect ratio and the alternate crop. Which value changes depends on the camera's native aspect: a 4:3-native camera shown as 16:9 keeps its horizontal FOV and loses vertical; a 16:9-native camera shown as 4:3 keeps its vertical FOV and loses horizontal. The overlay always reflects the currently selected aspect.
- ■ **Capture**: takes a snapshot of the current view with overlay. Free-tier captures are watermarked.
- **SAVE TO PROJECT**: saves the current view, camera, GPS position and timestamp into a project. Pro feature. See Chapter 8.

Bottom panel

- **Live stats**: H-FOV, V-FOV, focal length, sensor size, resolution and current zoom, updated in real time.
- **FIND SUPPLIER**: opens a Google search for the selected camera model in your browser. Handy for checking pricing and availability while you're still on site.
- **CHANGE**: quick jump back to the camera picker.
- **Varifocal slider**: appears when the selected camera has a variable focal range. Drag to sweep between the shortest and longest focal lengths and watch the FOV recalculate live.

Aspect ratio in practice



Same camera as the previous shot, toggled to 4:3. H-FOV holds at 77°; V-FOV grows from 41.6° to 53.7° because the frame is taller. Black bars either side letterbox the wider phone view to match.

CHAPTER 5

Understanding Accuracy

FOV Pro's job is to show you exactly where a CCTV camera's coverage begins and ends. It does that well, but there are limits worth understanding before you commit a design decision to the overlay you see. This chapter explains what the app can and can't do, and how the A / B / C accuracy tier system helps you calibrate your trust in the result.

What the app renders

For every camera in the database, FOV Pro takes the manufacturer's stated horizontal field of view, converts the optics into a 35mm-equivalent focal length, and matches it to the closest lens on your phone. The green frame you see marks the true geometric boundary of the CCTV camera's coverage from your current mount point. If the CCTV camera's H-FOV number is correct, the frame is correct.

Where FOV Pro shines is telling you exactly what will and won't be in frame, the coverage decision. That's typically the question that matters most on site: will this camera see the doorway, the till, the licence plate at that distance?

What FOV Pro cannot do — wide-angle lens distortion

Real CCTV lenses at 100°+ H-FOV apply substantial barrel distortion, the fisheye-style bulge you see at the edges of ultra-wide security footage. That distortion physically bends light from beyond what a straight-line lens could see and compresses it into the visible frame. Your phone's lenses have their own optical characteristics, different from any given CCTV camera's, so the app cannot recreate the CCTV lens's distortion pattern inside the rendered scene.

In practice:

- The **boundary** shown by the green frame is accurate, subject to the accuracy tier of the source data (see below).
- The **image inside** the boundary is what your phone sees, not what the CCTV camera would render. Straight lines in the phone view will not curve the way they would on a real wide-angle CCTV image.
- At the corners of a wide-angle CCTV camera's real footage, you'll typically see slightly more scene squeezed in than the simulation implies, because barrel distortion is doing geometric work the phone cannot replicate.
- For narrow to standard lenses (below ~90° H-FOV) this effect is minimal and the simulation is a very close match to real footage.

How the tier system reconciles this

The A / B / C accuracy tier badge on every camera tells you the confidence of the source data driving the FOV calculation. It's the tool we use to be honest about how much you should trust the overlay for any given camera:

A · Datasheet: H-FOV and sensor specs pulled directly from the manufacturer's published datasheet. Tolerance typically ±2°. Highest confidence. Treat the boundary as design-grade, safe to base coverage claims and camera-selection decisions on.

B · Marketing: specs sourced from official marketing collateral where a full datasheet wasn't published or accessible. Tolerance typically ±5°. Reliable but occasionally rounded. Treat as indicative for design, verify at commissioning if the coverage margin is tight.

C · Estimated: specs derived by calculation where manufacturer data was incomplete. Tolerance can be wider. Treat as a working approximation. Useful for early planning and shortlist filtering, not for final documentation.

Practical guidance for testers

- **Below 90° H-FOV** - the simulation closely represents what the camera will see. Distortion is minor. Trust the visual result subject to the tier.
- **90–120° H-FOV** - treat the boundary as accurate (subject to tier), but expect some visible barrel effect in the real camera's footage that the phone doesn't reproduce.
- **Above 120° H-FOV** - the boundary is still your best guide to what the camera will cover, but the character of the image itself will differ noticeably from the phone simulation. Use the boundary; discount the interior.
- For any critical design decision, compliance, coverage claims to a client, formal DORI documentation, anchor on A tier cameras where possible, or field-verify against a known-installed sample of the model.

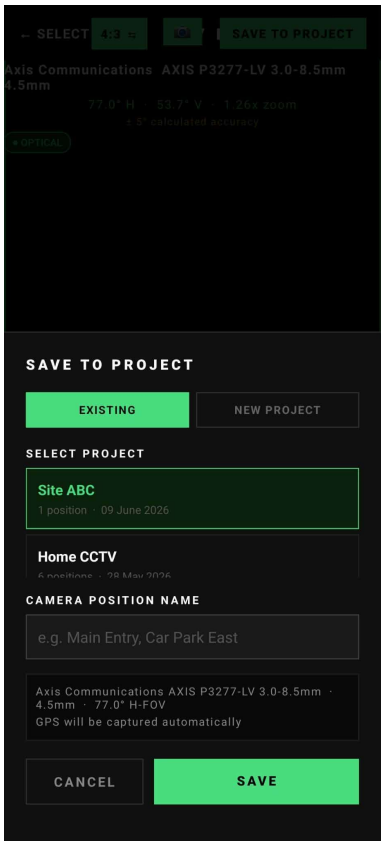
If you find a camera in the database whose overlay doesn't match reality on site, please tell us. This feedback is exactly how tier ratings get revised and how the database becomes more trustworthy over time.

CHAPTER 6

Save to Project

Save to Project is how you build a site survey, a series of camera positions across a site, each with its own FOV image, GPS coordinates, timestamp and full camera specs.

Saving a position



The Save to Project modal. The sheet lifts above the keyboard while you type.

- In Simulate, tap **SAVE TO PROJECT** in the top-right.
- Rotate your phone to **portrait** for easier data entry, the modal is designed for it.
- Choose **EXISTING** to add to a project already on the device, or **NEW PROJECT** to start one.
- Under **SELECT PROJECT**, tap the project you want. Each card shows the position count and last-used date.
- Enter a **CAMERA POSITION NAME**, something recognisable like Main Entry or Car Park East.
- Confirm the auto-populated camera summary underneath. This is pulled straight from your current Simulate state — no manual entry needed.
- Tap **SAVE**.

GPS behaviour

GPS is captured automatically at the moment you tap SAVE. For best results save while outdoors with a clear view of the sky — GPS acquisition in dense concrete buildings can be slow or fail.

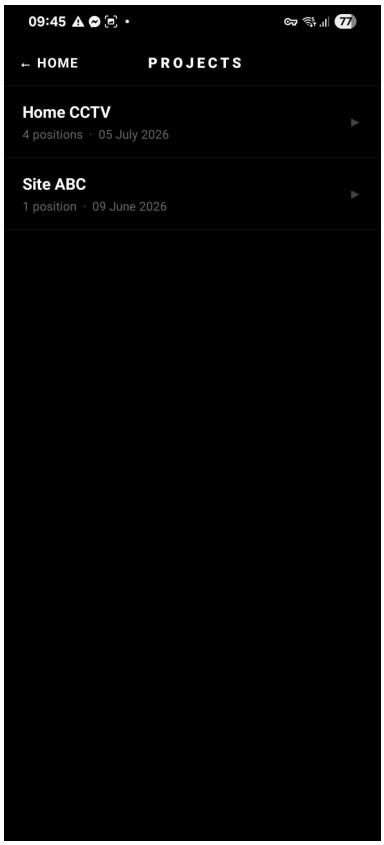
If GPS locks within 5 seconds you'll see ✓ **SAVED TO PROJECT**. If it doesn't, the save still succeeds and you'll see ✓ **SAVED (NO GPS)** — the FOV image, camera details and timestamp are all preserved; only the location is missing.

CHAPTER 7

Projects & PDF Reports

Everything you've saved lives under the **PROJECTS** tile on the home screen.

The Projects list



The Projects list.

Tap **PROJECTS** from home to see every project on the device. Each card shows:

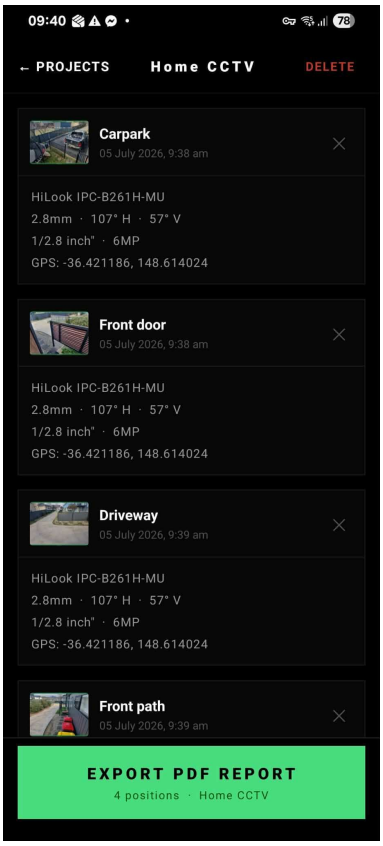
Project name: as you named it when saving.

Position count: how many camera positions the project contains.

Last saved date: the most recent time anything was added.

Tap a card to open the project.

Inside a project



Inside a project, each position card carries a thumbnail, specs and GPS.

Each saved position appears as a card with a thumbnail of the FOV capture, the position name, timestamp, full camera specs and GPS coordinates.

Tap a thumbnail: opens the capture full-screen, with an information bar showing the position name, camera, focal length, FOV, sensor, resolution, GPS and timestamp. Tap ✕ CLOSE to return. No more exporting a PDF just to see a shot at full size.

X on a card: delete just that position.

DELETE in the top right: remove the entire project.

EXPORT PDF REPORT at the bottom generates a branded PDF site survey report of the whole project.

The site survey report

The exported PDF is what your client sees, save positions on site knowing the report will present as-is. Each page carries the FOV Pro header, the project name as subtitle, and one camera position with its FOV image and full specs table.

Two pages of an exported project showing the FOV capture, camera model, focal length, H/V FOV, sensor, resolution and GPS coordinates for each saved position.

CHAPTER 8

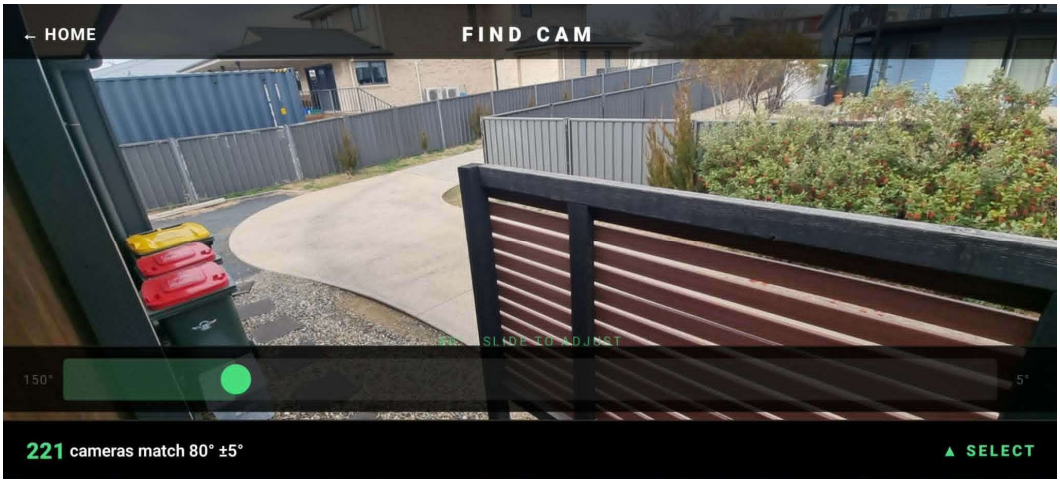
Find Cam

Simulate Mode is *I know the camera, show me the coverage*. Find Cam is the reverse: *I know the coverage I need, tell me which camera does it*.

Framing the shot

Tap **FIND A CAMERA** from the home screen. A landscape view opens with your phone's camera live and a horizontal slider along the bottom. The slider ranges from **5°** (extreme telephoto) on the right to **150°** (ultra-wide) on the left. The green dot marks your currently-selected horizontal FOV.

Frame the area you want covered, a doorway, a car park, a driveway approach and drag the slider until the on-screen view matches the coverage you want the CCTV to see. A live tally in the bottom-left shows how many cameras in the database can produce that field of view within ±5°.

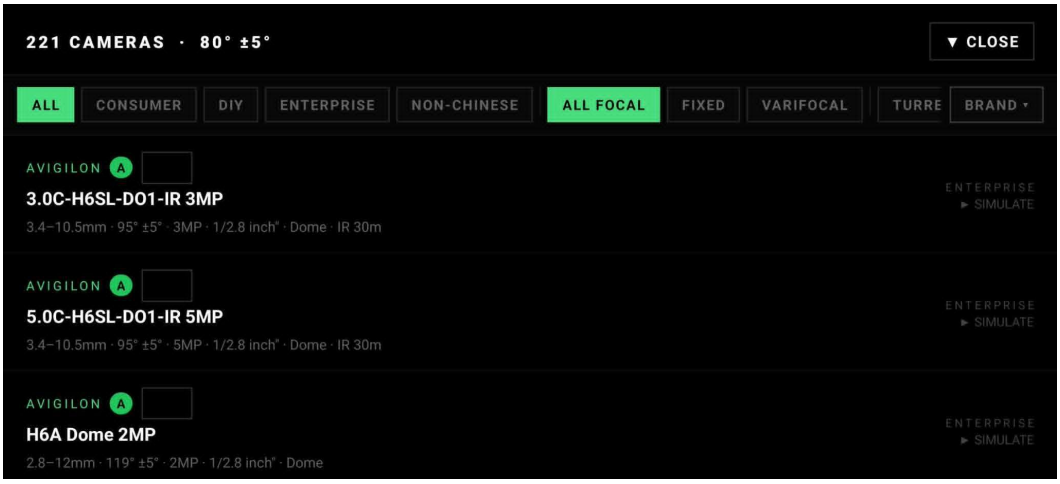


Find Cam framing view. Slider at 80° H-FOV, 221 cameras match. Tap ▲ SELECT to open the match list.

Filtering the matches

Tap **▲ SELECT** to open the match list. Use the chips across the top to narrow the results — market segment (Consumer, DIY, Enterprise, Non-Chinese), focal type (Fixed, Varifocal), body type and a brand picker. Each result card shows the brand, model, accuracy tier, focal range, FOV with tolerance, sensor, body type, IR range and market segment.

Tip: if the tally is high (200+), narrow with the filters before scrolling. Filtering by Enterprise and Varifocal alone will typically drop a 221-match result to something you can scan in ten seconds.



Match list with filter chips. Each result carries brand, model, accuracy tier, focal range, FOV, sensor and body type.

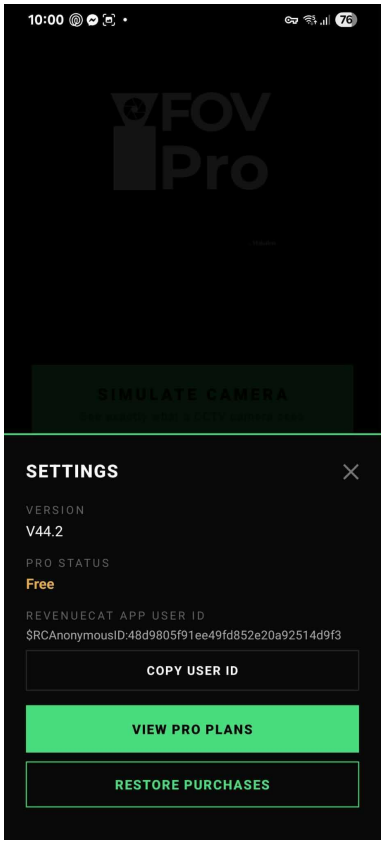
Jumping to Simulate

Tap any result card (or its ■ **SIMULATE** action) and Find Cam hands you straight into Simulate Mode with that camera loaded and pointed at the same view. Use it to verify the shot on site, then save to project or move to the next position.

CHAPTER 9

Settings

Tap ■ **SETTINGS** at the bottom of the home screen to open the Settings sheet.



The Settings sheet.

VERSION: the build installed. Please quote this in any feedback.

PRO STATUS : shows Free, Pro or Trial depending on your entitlement.

REVENUECAT APP USER ID: the ID that identifies your device to the subscription system.

COPY USER ID: copies the ID to your clipboard so you can paste it into a message.

VIEW PRO PLANS: opens the paywall (see Chapter 12).

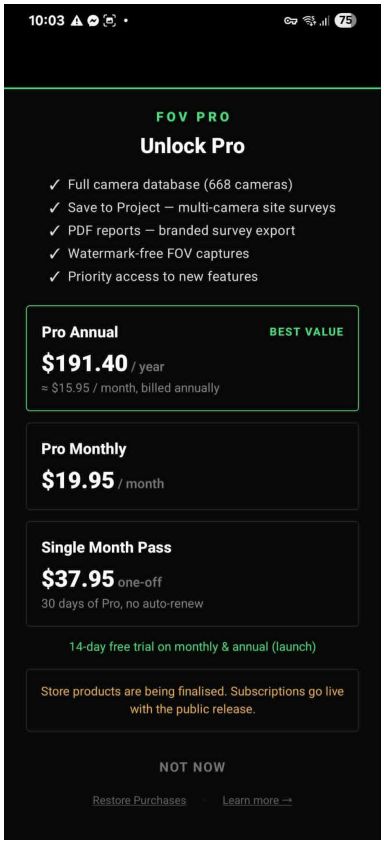
RESTORE PURCHASES: re-establishes Pro entitlement after reinstall, factory reset or a device change.

Close the sheet with the X in the top-right.

CHAPTER 10

Unlocking Pro

From Settings, tap **VIEW PRO PLANS** to open the paywall. It lists Pro benefits and the three purchase options.



The paywall as it appears in the app, pricing will differ in each country.

What Pro unlocks

- Full camera database (1000+ cameras and growing)
- Save to Project: multi-camera site surveys
- PDF reports: site survey export
- Watermark-free FOV captures
- Priority access to new features

Plans

Pro Annual: yearly access billed annually. Best value.

Pro Monthly: ongoing monthly subscription.

Single Month Pass: one-off, 30 days of Pro with no auto-renew. Not currently available for iOS

Regional pricing and any introductory offers will be differ from those displayed above.

CHAPTER 11

Known Limitations & FAQ

Panoramic and fisheye cameras

Panoramic and fisheye models appear in the database and the filters, but their extreme optics cannot be fully represented on a phone screen with the current overlay approach, treat their simulation as indicative only. A dedicated view mode for these camera types is under consideration for a later release.

Accuracy depends on your phone too

See Chapter 7 for a full explanation of how the A / B / C tier system reconciles with what a phone-based simulation can and can't do. One additional variable worth noting: phones with more diverse lens arrays (ultra-wide, main, tele) produce closer matches across a wider range of CCTV models. Older or single-lens phones will show larger effective tolerances, especially at the wide and long extremes. The app calibrates per device, recognised phones use measured or manufacturer-derived corrections, and the accuracy statement in Chapter 7 assumes a recognised device.

Offline behaviour

The camera database is cached locally after first launch, so Simulate and Find Cam work offline. The Request A Camera and Refresh DB actions require a network connection.

Multi-head cameras

Multi-head cameras (two, three or four lenses in one housing) are represented as individual heads in the database, each with its own FOV. Select the head that corresponds to the direction you're simulating.

PTZ cameras

PTZ models simulate the widest and narrowest ends of the optical zoom range. Use the varifocal slider to sweep between them and physically pan your phone to represent the pan/tilt movement of the real camera.

CHAPTER 12

Sending Feedback

Feedback from real site work is always appreciated.

What we'd like to know

- Does the FOV overlay match what you'd expect from the lens, on your device?
- Was the camera you needed in the database? If not, which one?
- Any bugs, crashes?

What to include

- Your device model and OS version.
- The app **version** from Settings (currently V44.10).
- A screenshot or short screen recording of the issue if you can grab one.
- The camera model you were simulating when the issue occurred.

How to reach us

For general bug reports, feature requests, or anything you'd prefer to send through a tracked channel, use **support@fovpro.app**

The FOV Pro website is live at **fovpro.app** (or **fovpro.com.au**, both resolve to the same site with regional pricing). If you spot anything on the site that looks off, that's also useful feedback.