8.2 — Hardware Setup

- 8.2.1 Recommended monitor setup for the pro shop counter
- 8.2.2 Monitor arm installation overview (link to Monitor Mount shelf)
- 8.2.3 Using Spectre Cloud on a tablet at the drill press

8.2.1 Recommended monitor setup for the pro shop counter

Recommended monitor setup for the pro shop counter

> 8.2.1 hardware

Spectre Cloud runs entirely in a web browser — there is no software to install and no specific hardware requirement beyond a supported device and an internet connection. That said, the physical setup of the screen or screens at your pro shop counter has a meaningful impact on how efficiently you can use the app day to day. This page covers the monitor configurations that work best for pro shop environments, from a single screen at the counter to a dedicated drill press display, and the practical considerations that go into each.

□□ Minimum Screen Requirements

Spectre Cloud is designed for a minimum screen size of **8 inches**. Below this size, the spec sheet layout and measurement fields become too compressed to use comfortably in a fitting workflow. Within that constraint, the app adapts responsively to the screen available — but the larger the working area, the less scrolling and navigation is required to access all the fields on a spec sheet in a single view.

- **8" tablet** — functional minimum. Suitable for mobile use at the press or for shops with very limited counter space.
- **10–12" tablet** — comfortable for all workflows. Most of the spec sheet is visible without scrolling on a 10" screen in landscape orientation.
- **Desktop monitor or laptop screen (21"–27")** — the most comfortable working size for the counter. A full spec sheet, the bowler list, and the Oval Calculator output are all visible simultaneously without scrolling.
- **Widescreen or ultrawide monitor (29"+)** — allows two-panel layouts, side-by-side spec sheet comparison, or simultaneous bowler profile and spec sheet views without switching tabs.

Single-Screen Counter Setup

For most solo operators and small shops, a single screen at the counter is the standard configuration. The key decisions are screen size, orientation, and positioning relative to the bowler and the fitting work area.

Screen size and type

- A **desktop monitor of 24" or larger** is the most comfortable single-screen setup. At this size, the full spec sheet is visible in one view and the bowler's profile and spec sheet history are accessible without leaving the current screen.
- A **laptop** works well if the counter space is limited — a 13"–15" laptop is easier to position flexibly than a full desktop setup.
- A **tablet on a stand** is a practical option in compact counter environments, particularly where the counter doubles as a service area and a fixed monitor is impractical. A 10"–12" tablet in landscape orientation covers all primary Spectre Cloud workflows.

Positioning relative to the bowler

- Position the screen so **you can see it clearly** while taking measurements — a screen you have to lean past the bowler to read slows the fitting down.
- For fitting conversations, angle the screen so the **bowler can see it too** when relevant — the 3D Layout view and the Arsenal are more engaging when the bowler can see the screen rather than having results described to them.
- Avoid positioning the screen directly behind the bowler — it forces you to look past them constantly, which is awkward for both parties during a fitting.

□□ Two-Screen Counter Setup

Shops with a dedicated counter area that separates the fitting conversation from the drill press benefit from a two-screen setup — one screen facing the operator at the counter, and a second at the drill press. This is the configuration most commonly used by medium and larger shops.

Counter screen

Used for bowler intake, spec sheet creation, fitting data entry, and the 3D Layout view. Positioned to be readable by both the operator and the bowler.

- □ A 24"–27" desktop monitor or a mounted display at counter height works well here.
- □ A second input device — a keyboard and mouse on a pull-out shelf — allows comfortable data entry without hunching over a laptop.

Drill press screen

Used to display the completed spec sheet at the press. This screen is a reference display — the driller reads from it rather than entering data. The primary requirements are readability from a short distance and resistance to the workshop environment.

- □ A **tablet on an adjustable arm or stand** is the most practical drill press display — it can be positioned at the exact height and angle needed and moved out of the way when not in use.
- □ A **small monitor or secondary laptop screen** works if the press has a dedicated surface nearby.
- □ A 10"–13" screen is sufficient at the press — the spec sheet at this size is readable from normal working distance without needing to approach the screen closely.
- □ Use a **screen protector** on any tablet used at the drill press — drill dust and coverstock particles are hard on unprotected glass.
- □ Do not position the drill press screen so close to the press that vibration or debris affect it during operation — mount it on a stable surface at least 30cm from the press head.

□□ Tablet-Only Setup

For solo operators, mobile shops, or shops where a full desktop setup is not practical, a single tablet handles the entire Spectre Cloud workflow. This configuration is fully supported and widely used.

- A **10"–12" tablet in landscape orientation** is the recommended tablet configuration for solo operation — large enough to use the full spec sheet comfortably, portable enough to carry between counter and press.
- Use a **quality case with a built-in stand** — the ability to prop the tablet at a reading angle at both the counter and the press without a separate accessory is a significant convenience in a busy fitting session.
- **iPad, Android tablet, or Windows tablet** — all are supported. Choose the platform that aligns with your other shop technology for the most seamless experience (e.g., an iPad if you use other Apple devices in the shop).
- Connect a **Bluetooth keyboard** for data entry if you find touchscreen typing slow during measurement entry — a compact wireless keyboard adds minimal footprint to the counter and significantly speeds up spec sheet completion.

Connectivity Considerations

Spectre Cloud requires an active internet connection for full functionality. Monitor setup decisions should account for where and how the device connects:

- **Wired ethernet** for desktop or laptop counter setups — more reliable than Wi-Fi in a workshop environment where wireless interference from equipment can cause connection drops.
- **Wi-Fi** for tablets and laptops — ensure the access point covers both the counter and the drill press area. A connection that works at the counter but drops at the press is a workflow interruption.
- **Position the Wi-Fi access point** for coverage of the working area, not just the reception area — if the router is at the front of the shop and the drill press is at the back, a range extender or additional access point may be needed.
- **Mobile data backup** — if your shop's internet goes down during a fitting session, a phone with a mobile data connection can run Spectre Cloud as a hotspot while the primary connection is restored.

Lighting and Glare

Workshop lighting — typically bright overhead fluorescent or LED strips — creates screen glare that makes displays difficult to read during a fitting. A few practical adjustments resolve most glare problems:

- **Matte screen protectors** on tablets significantly reduce workshop glare without affecting readability.
- **Anti-glare desktop monitors** are worth specifying when purchasing a counter display for a pro shop — they cost marginally more than glossy alternatives and pay back the

difference many times over in comfort.

- **Adjust screen brightness** to match the ambient light level — a screen that is comfortable at home may be too dim under bright workshop lighting.
- **Angle the screen** away from direct overhead light sources if possible — a small tilt adjustment is often enough to eliminate the worst glare without compromising viewing angle.

Summary — Recommended Setups by Shop Type

Shop type	Recommended setup	Key consideration
Solo operator, compact space	10–12" tablet on a stand at the counter, carried to the press	Quality case with built-in stand; screen protector; Bluetooth keyboard optional
Solo operator, dedicated counter	24" desktop monitor or laptop at the counter; tablet at the press	Wired connection at counter preferred; tablet on adjustable arm at press
Multi-staff shop	Desktop monitor at counter; tablet or secondary monitor at press; each staff member logs in with their own credentials	Individual user accounts for each staff member; ensure Wi-Fi covers the full workshop area
Multi-location shop	Per-location counter and press setup as above; all locations access the same Spectre Cloud account	Consistent device standards across locations; consider centralised device management if locations are managed by the same owner
Mobile or event pro shop	Single tablet; mobile data connection as primary or backup internet	Fully charged battery or portable power bank; screen protector essential in event environments

Related Sections

- 01.3 — Minimum requirements and supported devices
- 01.4 — Supported browsers and operating systems
- 8.1.5 — Managing staff access and user accounts
- 8.2.2 — Adding and removing plugins
- 09.x — Troubleshooting: connectivity and device issues

Tip: If you are setting up Spectre Cloud on a new device for the first time, spend ten minutes configuring the browser before a fitting session — log in, confirm the layout displays correctly, check that the 3D Layout view renders if you use Arsenal Plus, and run through a test spec sheet

from start to finish. Discovering a display or connectivity issue during a live fitting is avoidable with a short pre-use check.

8.2.2 Monitor arm installation overview (link to Monitor Mount shelf)

Monitor arm installation overview (link to Monitor Mount shelf)

> 8.2.2 hardware

A monitor arm or mounting shelf moves your Spectre Cloud display off the counter surface and into a position that works for both the fitter and the bowler — at the right height, at the right angle, and out of the way when not needed. Because monitor arm installation depends entirely on the specific product purchased and the surface it mounts to, Spectre Cloud's wiki does not duplicate the installation instructions here. Instead, this page points you to the right resource and covers the considerations specific to a pro shop counter environment.

□□ Where to Find Installation Instructions

Monitor arm and mounting shelf installation instructions are provided by the manufacturer of the specific product you have purchased. Refer to the documentation included with your arm or shelf, or visit the manufacturer's support page for the model you are installing.

If your shop purchased a monitor arm or mounting shelf through the **Spectre Cloud recommended hardware programme** or a partner retailer, installation guidance specific to that product is available at:

□□ **wiki.spectrebowling.com/hardware**

⚠ **Verify with Spectre team:** Confirm the correct URL for the hardware reference page, or replace the link above with the actual destination — whether that is a dedicated hardware shelf on the Spectre wiki, a partner retailer's product page, or a downloadable PDF guide. If no such page exists yet, this section should be updated to direct users to the Spectre support team instead.

□□ Pro Shop Counter — Mounting Considerations

Standard monitor arm installation instructions assume a home office or desk environment. A pro shop counter has a few specific characteristics worth accounting for before you drill or clamp anything:

- □ **Counter thickness and material** — pro shop counters are often thicker than a standard desk and may be solid wood, laminate over particleboard, or stone. Confirm your mounting hardware is rated for the counter thickness and material before purchasing.
- □ **Clamp vs. grommet mount** — clamp mounts attach to the counter edge and require a lip of sufficient thickness. Grommet mounts pass through a drilled hole in the counter surface. For stone or thick hardwood counters, a surface clamp with extended jaws is often the most practical option.
- □ **Cable management** — route cables along the arm and down through or behind the counter rather than leaving them loose across the work surface. Loose cables in a pro shop environment catch on equipment and create a trip hazard.
- □ **Weight rating** — confirm the arm's weight rating covers your monitor or tablet. A 24" desktop monitor typically weighs 4–6 kg; most standard monitor arms are rated to at least 8 kg, but verify for your specific model.
- □ **Reach and articulation** — choose an arm with enough reach to position the screen at the fitter's working position and swing it toward the bowler when needed. A single-pivot arm with 30–40 cm of reach covers most counter configurations.
- □ Do not mount a monitor arm to a hollow-core or thin laminate counter surface without first confirming the substrate can support the torque load — a monitor arm on an insufficiently supported surface will gradually loosen and may fail suddenly.

□□ Drill Press Screen Mounting

Mounting a tablet or small screen at the drill press for spec sheet reference requires a different approach from the counter — the mount needs to withstand vibration from press operation and position the screen clearly within the driller's sightline without obstructing movement around the press.

- A **tablet arm with a universal clamp** — designed to clamp to a bench or press frame — is the most flexible option. These are widely available and adjust for height, angle, and distance without permanent installation.
- Mount the arm to the **press bench or a nearby fixed surface**, not to the press head or moving components — vibration and movement during operation will loosen any mount attached to the press itself over time.
- Position the tablet so it is readable from normal operating posture at the press — typically at shoulder height or slightly below, angled toward the driller's eye level.
- Ensure the mount keeps the tablet **clear of drill debris** — dust and coverstock material accumulate quickly on any surface near the press head. A screen positioned to the side rather than directly above the drilling zone stays cleaner longer.

After Installation

Once the arm is installed and the screen is mounted, a few minutes of configuration in Spectre Cloud completes the setup:

1. Log into Spectre Cloud on the newly mounted device and confirm the display renders correctly at the screen's native resolution.
2. Open a spec sheet and scroll through it to confirm all fields are accessible without awkward repositioning of the arm.
3. If using the device at the drill press, open a printed or on-screen spec sheet and confirm it is readable from normal operating distance without needing to approach the screen.
4. Adjust the arm angle and height until the display is comfortable for extended use — a position that seems acceptable during a quick test may become uncomfortable across a full day of fittings.

Related Sections

- 8.2.1 — Recommended monitor setup for the pro shop counter
- 01.3 — Minimum requirements and supported devices
- 01.4 — Supported browsers and operating systems
- 09.x — Troubleshooting: connectivity and device issues

Tip: Before committing to a permanent mount, position the screen temporarily using a stack of books or a camera tripod to find the height and angle that works for your specific counter layout and working posture. Spending five minutes at the temporary position during a fitting confirms the position is practical before any holes are drilled or clamps are tightened.

8.2.3 Using Spectre Cloud on a tablet at the drill press

Using Spectre Cloud on a tablet at the drill press

> 8.2.3 hardware

A tablet at the drill press is one of the most practical ways to use Spectre Cloud in a pro shop workflow — the spec sheet is visible exactly where the drilling happens, measurements can be checked without walking back to the counter, and any last-minute adjustments are a tap away rather than a trip across the shop. This page covers how to set up and use Spectre Cloud effectively on a tablet at the drill press, including the practical habits that make the workflow smooth and the pitfalls that catch operators out.

□□ Why a Tablet at the Press Makes Sense

The traditional alternative to a tablet at the press is a printed spec sheet — functional, but static. A printed sheet cannot be updated if a last-minute adjustment is needed, cannot display the 3D Layout view for a final visual check, and does not record any changes made at the press back into the bowler's history. A tablet running Spectre Cloud gives you all of that while keeping the drilling record live and editable up to the moment the first hole is cut.

- □ The spec sheet is always the current version — any update made at the counter syncs to the press tablet instantly.

- Last-minute adjustments can be made directly on the tablet and saved to the bowler's record without needing to return to the counter.
- The 3D Layout view is available for a final visual check of pin and MB placement before drilling begins.
- The Oval Calculator output — V/H values, angle, cut size — is displayed clearly without relying on handwritten transcription from a counter screen to a paper sheet.
- After drilling, notes about the session can be added to the spec sheet or Arsenal entry directly from the press.

Recommended Tablet Specifications for Press Use

Any tablet that meets Spectre Cloud's minimum requirements (8" screen, supported browser, internet connection) works at the press. The following specifications make the experience noticeably more practical in a workshop environment:

Specification	Recommended	Why it matters at the press
Screen size	10"–12" in landscape orientation	Large enough to display the full spec sheet without excessive scrolling; small enough to mount without obstructing the work area
Screen type	Matte finish or anti-glare	Workshop lighting creates significant glare on glossy screens; matte finish maintains readability without brightness adjustments
Case	Rugged or workshop-rated case	Drill dust, coverstock particles, and occasional knocks are unavoidable in a working press environment
Screen protector	Matte tempered glass	Protects against abrasion from fine particles; matte finish reduces glare simultaneously
Battery	Full charge at start of day; charging cable nearby	A tablet that dies mid-drilling session forces a return to paper; keep a charger within reach of the mount
Connectivity	Wi-Fi with strong signal at press location	Spectre Cloud requires an active connection; confirm signal strength at the press before relying on it

□□ Setting Up the Tablet at the Press

1. **Mount the tablet** using an adjustable arm or bench clamp — see section 8.2.2 for mounting guidance specific to the press environment.
2. **Position the screen** at shoulder height or slightly below, angled toward your eye level at normal operating posture. The screen should be readable without moving toward it or tilting your head significantly.
3. **Confirm Wi-Fi connectivity** at the mount position before relying on it in a live session. If the signal is weak at the press, consider a Wi-Fi extender or a wired ethernet adapter for the tablet if the device supports it.
4. **Log into Spectre Cloud** on the tablet and keep the session active — most browsers will maintain the session across a working day without requiring re-login, but confirm this on your specific device and browser combination.
5. **Set the browser to full screen** (F11 on most desktop browsers; the full-screen option in the browser menu on tablets) to maximise the working area on the spec sheet display.
6. **Confirm brightness** is set for the workshop light level — higher than you would use at home, typically 70–100% in a well-lit workshop.

□□ Drill Press Workflow With a Tablet

With the tablet mounted and Spectre Cloud open, the drilling workflow using a live spec sheet runs as follows:

1. At the counter, complete the spec sheet fully and run the Oval Calculator. Confirm all values before moving to the press.
2. At the press, open the bowler's spec sheet on the tablet — it syncs automatically from the counter session. Confirm the displayed values match what was finalised at the counter.
3. Read the full spec sheet from top to bottom before picking up a drill bit — the same pre-drill review discipline applies regardless of whether you are working from a printed sheet or a live display.
4. Work through the holes in your preferred order, checking each measurement field on the tablet before setting the corresponding value on the press.
5. If a last-minute adjustment is needed — a pitch value, a hole size, an oval cut — update it on the tablet first, save the spec sheet, then proceed. Do not make undocumented adjustments at the press.

6. After drilling, add any relevant notes to the spec sheet or Arsenal entry directly on the tablet while the details are fresh.

□□ **Note:** If you make changes to the spec sheet at the press, those changes sync back to the counter and any other logged-in devices immediately. A colleague at the counter will see the updated spec sheet in real time — useful in multi-staff shops where the counter and press are operated by different people.

□ Keeping the Tablet Clean and Functional at the Press

A tablet at the drill press accumulates workshop debris faster than any other device in the shop. A few practical habits keep it functional and legible across a full working day:

- □ **Wipe the screen** with a dry microfibre cloth between bowlers — a light film of drill dust builds up quickly and reduces readability before it becomes visibly dirty.
- □ **Keep the charging port covered** when not charging — a port protector on the case prevents drill dust from accumulating in the connector.
- □ **Do not touch the screen with hands that have coverstock residue or cutting compound on them** — these substances are harder to clean from a screen than drill dust and can leave a permanent haze on unprotected glass.
- □ **Position the tablet to the side** of the drilling zone rather than directly above it — this is the single most effective way to reduce debris accumulation on the screen.
- □ Do not use liquid cleaners directly on the screen — spray onto the cloth first, not onto the tablet.

⚠ When Connectivity Drops at the Press

If the tablet loses its internet connection mid-session, Spectre Cloud's behaviour depends on what you are doing at the moment the connection drops:

- □ **A spec sheet already open and loaded** remains visible and readable — you can continue drilling from the displayed values even without a connection.
- □ **Changes made while offline** may not save immediately — confirm connectivity is restored and the spec sheet has saved before navigating away.
- □ **Loading a new spec sheet or navigating to a different bowler** requires a connection — if the connection drops before you have opened the spec sheet at the press,

you will need to restore connectivity or fall back to a printed copy.
- **As a contingency**, print the spec sheet at the counter before moving to the press on any session where connectivity at the press is unreliable — the printed copy serves as a backup if the tablet loses connection at a critical moment.

⚠ **Verify with Spectre team:** Confirm whether Spectre Cloud has any offline caching behaviour that allows recently viewed spec sheets to remain accessible without an active connection, and update the connectivity drop guidance above if so.

Multi-Staff Shops — Counter and Press on Separate Devices

In shops where one staff member handles the fitting at the counter and another does the drilling at the press, a tablet at the press running on a separate login allows both to work simultaneously from the same live spec sheet:

- The counter operator creates and finalises the spec sheet on the counter device.
- The driller opens the same spec sheet on the press tablet — the latest saved version is always available.
- If the counter operator makes a last-minute change, it appears on the press tablet as soon as the change is saved — no need to walk a paper update to the press.
- Each staff member logs in with their own user credentials — the press tablet does not need to share the counter login.
- Do not leave the press tablet logged into the account owner's credentials — use an individual staff user account for the press device so the account owner's credentials are not exposed in the workshop environment.

Related Sections

- 8.2.1 — Recommended monitor setup for the pro shop counter
- 8.2.2 — Monitor arm installation overview
- 8.1.5 — Managing staff access and user accounts
- 01.3 — Minimum requirements and supported devices
- 01.4 — Supported browsers and operating systems
- 09.x — Troubleshooting: connectivity and device issues

Tip: The first time you use a tablet at the press in a live session, run through a complete drilling using a practice ball rather than a customer's equipment. The workflow of checking the tablet, setting the press, checking again, and drilling becomes second nature quickly — but the first session always surfaces a positioning or brightness adjustment that is much less stressful to discover on a scrap ball than on a customer's new equipment.