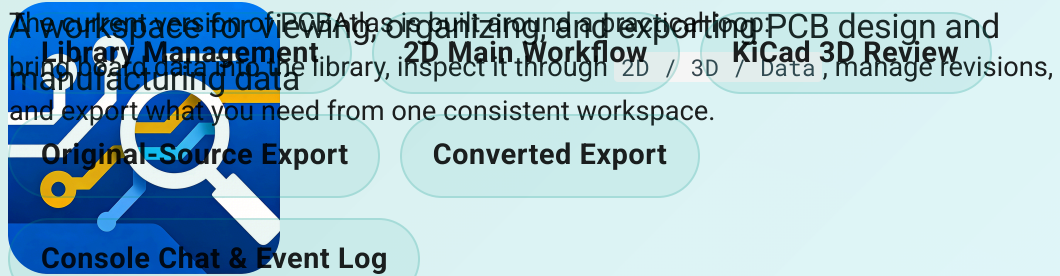


PCBAAtlas User Handbook



Three things worth knowing before you dive in

- Console is not just a log panel. It currently switches between chat and event-log views.
- Export still has to start from 2D, and export access must already be unlocked. If it is still locked, the app opens the purchase center first.
- 3D currently applies only to KiCad `.kicad_pcb`. Non-KiCad documents show a clear unsupported state.

What You Can Do Today

- **Library management:** import design files or manufacturing data and maintain multiple revisions of the same project.
- **2D inspection:** pan, zoom, box-select, inspect object details, and use Workbench to narrow down what matters.

- **3D review:** open `KiCad .kicad_pcb` boards in 3D and inspect overall form and visible board surfaces.
- **Data-page review:** check document, revision, capability, statistics, and runtime summaries in `Data`.
- **Export and sharing:** export `PNG / PDF`, or export the current revision's original source files and converted `DSN / KiCad 8` outputs.
- **Settings and AI:** search settings, change terminology preferences, configure AI providers, and review support and open-source information.

Quick Entry Points

Install and launch

Make sure the app starts cleanly and the library home page is ready.

First launch and import

Walk through first-run samples, import, and opening the workspace end to end.

Five-minute tour

Take the shortest path through the current library, 2D, Workbench, Data, 3D, and export flows.

Library and revisions

Understand how documents, revisions, duplication, SES, pinning, and sharing fit together.

2D Viewer

Inspect objects, open [View Info](#), and prepare exports in the current main working view.

Export and sharing

Understand the difference between capture export, original-source export, and converted export.

Recommended Reading Order

1. [Install and launch](#)
2. [First launch and import](#)
3. [Five-minute tour](#)
4. [Library and revisions](#)
5. [2D Viewer](#)
6. [Workbench](#)
7. [Export and sharing](#)
8. [Settings](#)

How This Handbook Is Organized

- **Quick Start:** first launch, import, and the shortest end-to-end walkthrough.
- **Guides:** task-based pages for the library, viewers, Workbench, export, and settings.
- **Troubleshooting:** the most common issues around import, permissions, and loading.
- **QA Appendix:** practical checklists for test and regression work.

Scope of This Handbook

- It documents the current code-backed user-visible behavior and does not explain internal architecture.
- When platforms differ, the handbook explicitly separates `iOS` and `macOS`.
- The Chinese handbook remains the source of truth, while the English and Japanese home pages are maintained in parallel.

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Install and Launch

Goal

Confirm that the app launches cleanly and lands on the library home page so you can move on to real work.

Supported Platforms

- iOS
- macOS

Intended Audience

- New users launching PCBAAtlas for the first time
- Testers confirming that the app reaches the library successfully

Prerequisites

- PCBAAtlas is installed on the current device
- The app can be launched normally from the system

Steps

1. Launch PCBAAtlas and wait for the library home page to appear.
2. If the library starts empty, confirm that the built-in sample documents are seeded automatically.
3. Check that layout switching, import entry points, and basic home-page interaction all work.

Result

- The app reaches the library home page and is ready for import or document opening.

What You See the First Time

1. The app opens to the **Library** home page instead of jumping straight into a board.
2. If the library is completely empty, the app automatically seeds it with two built-in sample documents: `h730duino` and `BluePhil`.
3. The library supports both card and list layouts, and it exposes entry points for import, help, and batch selection.

Suggested Checks

1. The app launches reliably without repeated error dialogs.
2. The home page responds to clicks, scrolling, and layout switching.
3. You can see the library title and the import entry points.
4. If the library was previously empty, the two sample documents are visible.

Success Criteria

- You can reach the library home page.
- The home page is interactive and lets you continue with import or document opening.
- In an empty-library case, the sample documents appear; in an existing-library case, your existing document list appears.

Platform Differences

- **iOS:** compact layouts are more common, top space is tighter, and panel switching inside the workspace often happens from the bottom tab area.

- **macOS:** both the library and the workspace benefit from wider side-by-side layouts that show more information at once.

Common Questions

What if the app launches to a blank screen?

Quit the app completely and reopen it. If it still cannot reach the library, record any system error prompt and check [Permissions and file access](#).

Is an empty library abnormal?

No. As long as you can import files or see the built-in sample documents, the initial state is normal.

Last Verified

- 2026-04-17

First Launch and Import

Goal

Help you complete a full first-use loop: start in the library, import something, open it, and return to the library again.

Supported Platforms

- iOS
- macOS

Intended Audience

- New users who want to complete their first import loop
- Testers validating import behavior from the library into the workspace

Prerequisites

- PCBAtlas can already launch into the library
- You have either one of the built-in samples or your own design/manufacturing source files ready

Steps

1. Start from the library and choose the design or manufacturing import path that matches your source.
2. If the source is IPC-2581 XML, choose the import intent when prompted.
3. Wait for the library progress banner to complete, then open the resulting document.

4. Confirm that the imported content can be viewed in `2D / Data` and that revisions are updated as expected.

Result

- The source is imported into the library as a new document or a new revision, and the workspace can open it successfully.

Default Content on First Cold Launch

When the library is empty, the app automatically seeds it with two KiCad sample documents that can be opened right away:

- `h730duino`
- `BluePhil`

If you just want to learn the interaction flow, open one of these samples first. If you want to validate your own data, continue with the import flow below.

Current Import Paths

Create a New Document or Append a Revision

- **Design path:** `DSN`, `KiCad .kicad_pcb`, `IPC-2581 XML`
- **Manufacturing path:** `IPC-2581 XML`, `ODB++` archive/directory inputs, and manufacturing-package directories recognized by the importer

Import That Requires an Existing Document Context

- **SES:** cannot create a standalone new document; it must be launched from an existing document menu after you choose a base revision

Special Behavior for IPC-2581

When you select an `IPC-2581 XML`, the app does not assume whether it should be treated as design-side or manufacturing-side data. Instead, it shows a confirmation dialog so you can choose:

- import as **design data**
- import as **manufacturing data**

Recommended Steps

1. Click an import entry on the library home page.
2. Choose the design or manufacturing path based on the source data in hand.
3. After selecting a file, if it is an `IPC-2581 XML`, choose the import intent.
4. Wait for the import progress banner at the top of the library to advance.
5. When import finishes, a new document card appears, or the revision count of the target document increases.
6. Open the document in the workspace and confirm that `2D / Data` can be viewed normally.

What Feedback You Will See

- The top of the library shows an in-progress banner with a title, stage detail, and percentage.
- If you manually open another document during import, the task still completes, but it does not forcibly switch focus back to the newly imported document.
- If you drop a new board file into the workspace while another document is open, the app first asks whether to replace the current content.

Revision-Related Actions

From the action menu on a document card, you can:

- **append a design revision**
- **append a manufacturing revision**
- **import SES** and choose a historical revision that can serve as the base

That means import is not only for creating new documents. It is also how ongoing revision history is maintained for the same project.

Current Rule for Re-importing the Same Name and Format

When a source comes back with the same document name and the same format, the current implementation treats it as another input round for the same document rather than automatically creating a new top-level card:

- if the newly imported original source is **byte-identical** to the current revision, the app reports that nothing changed and ignores the import
- if the original source is **different**, the app stores it as a new revision under that document and switches to the latest revision
- revision labels are displayed dynamically as `A1 / A2 / ...` based on the document name

Recommendations

- For a first validation pass, start with a single `DSN` or `KiCad` file.
- For manufacturing data, confirm the archive or directory is complete before importing.
- For iterative updates to the same project, prefer appending revisions instead of creating multiple nearly identical documents.

Common Questions

Why can't `SES` be imported like a normal file?

Because `SES` must attach to an existing design revision as its base revision. The current implementation requires you to enter an existing document first and then start `SES` import from that document's menu.

Why does the app ask again after I pick `IPC-2581` ?

Because the same `IPC-2581 XML` may be treated as design-side or manufacturing-side data, and the current implementation asks you to choose explicitly.

Why do the design and manufacturing paths for the same `IPC-2581` sometimes look almost identical after import?

That is normal in the current version. For `IPC-2581`, the main difference today is the library-side import intent and document classification, not an immediately obvious visual difference in the workspace.

- If you choose the design path, the document is managed as design-side material.
- If you choose the manufacturing path, the document is managed as manufacturing-side material.
- That classification affects later management behavior, such as which append path is the default.
- Importing the same `IPC-2581` through both paths usually creates two separate documents instead of auto-merging them.

At the same time, the current display pipeline does not yet express the design-vs-manufacturing distinction very strongly once the file is open, so the visible result can still look quite similar.

Why doesn't the import picker list every manufacturing-package suffix?

The manufacturing path accepts common archives, directories, and general data inputs. The final result depends on what the importer can actually recognize from the selected source.

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- `2026-04-17`

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Five-Minute Tour

Goal

Take the shortest possible path through the app, experience the most important current value, and quickly judge whether this version is ready for day-to-day review and communication.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users who want a quick confidence check before deeper use
- Testers who need a short smoke path through the current UI

Prerequisites

- A sample or real board document is available in the library
- If you want to validate 3D, the sample should be KiCad .kicad_pcb
- If you want to complete export end to end, export access should already be unlocked

Steps

1. Open one document from the library and move through 2D, Data, and, when applicable, 3D.
2. Use Workbench, View Info, and Console once each so the main workspace paths are exercised.

3. Return to `2D` and try one export, or confirm the expected purchase-center redirect when export access is still locked.

Result

- You can quickly confirm whether the current build is usable for routine inspection, navigation, and export-related workflows.

Recommended Samples

- If you want to validate `2D / 3D / Data` together, start with `h730duino` or `BluePhil` from the library.
- If you mainly care about the import path, bring in one of your own `DSN` or `KiCad` files.

Five-Minute Route

1. Open a document from the library.
2. In `2D`, do one pan, one zoom, and one object selection.
3. In `2D`, right-click or long-press a target, choose `View Info`, and confirm that the info card appears and can be copied.
4. Open `Workbench` and confirm the default sections are `Visibility`, `Selection Filter`, and `Objects`.
5. In `Objects`, search for one item and try at least one action from `Locate / Highlight / Isolate / Clear`.
6. Switch to `Data` and confirm that the current document, revision, statistics, and capabilities are visible.
7. If the current document is a `KiCad .kicad_pcb`, switch to `3D` and confirm that the scene finishes loading.
8. Open `Console` and confirm that it can switch between chat and event-log views.
9. Return to `2D` and try one export. If the app opens the purchase center first, that means export access has not been unlocked on this device yet.
10. Go back to the library and reopen the same document.

What You Should Be Able to Confirm

- Navigation between the library and the workspace works normally.
- The 2D, object-info-card, and Workbench paths are all usable.
- The `Data` view provides document and runtime summaries.
- KiCad documents can enter 3D.
- The `Console` panel supports both chat and event-log views.
- The 2D export path works, or in a locked state correctly redirects to the purchase center.

Things Worth Watching

- During import or first open, the viewer may briefly switch to `Data` to show preparation status. This is normal.
- The first 3D load shows explicit stages and percentages instead of silently hanging.
- The export button is only usable in `2D`; it is unavailable in `3D` or `Data`.
- If export access is still locked, tapping export will open the purchase center instead of starting the export right away.

Common Questions

Why do I sometimes see `Data` first when opening a document?

During import or scene preparation, the app may temporarily prioritize the `Data` page and its loading card. Once the first 2D frame is ready, normal browsing resumes.

Do I always need to validate 3D?

No. 3D is only a valid path for `KiCad .kicad_pcb` documents. For other formats, focus on 2D, Data, and export.

Why did tapping export open a purchase page instead?

That is the current expected behavior. When export access has not been unlocked yet, the workspace opens the purchase center first. After unlocking, return to `2D` and export again.

Last Verified

- 2026-04-17

Library and Revisions

Goal

Help you turn loose source files into library documents that can be reopened, extended with new revisions, and shared.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users organizing imported boards into a reusable library
- Testers validating document, revision, and share behavior

Prerequisites

- The app is already open on the library home page
- At least one document is available, or source files are ready to import

Steps

1. Review the document list in grid or list mode and open the action menu for a target document.
2. Use the document-level actions to inspect metadata, append revisions, duplicate, pin, or share as needed.
3. Reopen the document after changes and confirm that revision and metadata updates are reflected in the library.

Result

- Documents remain organized as reusable project entries, and revisions can be maintained without creating unnecessary top-level duplicates.

What the Library Home Page Can Do

- switch between **grid** and **list** layouts
- import new design or manufacturing documents
- enter batch selection and batch deletion
- view each document's thumbnail, format, last-opened time, and revision count
- rename, duplicate, pin, delete, share, or inspect a single document

Relationship Between Documents and Revisions

- **Document**: one project entry in the library
- **Revision**: a historical version under that document
- **Current revision**: the revision currently opened, displayed, and exported

When you append a revision, the app does not create a separate top-level card. Instead, the card's `revisionCount` increases, and you can switch the current revision within the document.

Key Actions in the Document Menu

From each document card menu, you can:

- **append a design revision**
- **append a manufacturing revision**
- **import SES**
- **rename**
- **duplicate**
- **view information**

- **share**
- **pin / unpin**
- **delete**

Special Rules for **SES**

SES is not a general-purpose new-document import path. The current implementation requires you to:

1. open the target document's action menu
2. choose **Import SES**
3. choose a usable base revision from the list

If that document has no eligible base revision, the app shows a status message instead of failing silently.

What the Information Sheet Shows

When you click **Information**, you can inspect:

- document name
- file type
- import time
- last-opened time
- current revision ID
- total revision count
- full revision list

All of this is copyable for testing notes and issue reproduction.

Recommendations

- For ongoing evolution of the same project, prefer **append revision**.
- If you want to preserve an experimental branch, use **duplicate** to create a separate document.
- Pin important documents to reduce the risk of accidental deletion or mis-selection.

- After import completes, open the current revision once to confirm the content, thumbnail, and last-opened time were updated correctly.

Common Questions

Why does one document contain multiple revisions?

Because the current library model is designed around continuous project evolution. Multiple revisions let you track change history within a single project context.

If I open another document while import is still running, will the newly imported document steal focus later?

No. Import continues and completes, but it does not force the UI back to the newly imported document.

Does sharing send the whole document package?

The library share action prepares a share item from the current document's shareable root path. For grouped or directory-based sources, the shared result is based on that source root rather than a text summary alone.

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2D Viewer

Goal

Help you handle the most important day-to-day work in 2D: inspect, select, locate, verify, and prepare exports.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users doing day-to-day board inspection in the workspace
- Testers validating 2D interaction, object info, and export readiness

Prerequisites

- A board document is already open in the workspace
- The viewer has finished its initial preparation and published the first 2D frame

Steps

1. Use 2D to pan, zoom, and select objects in the current board view.
2. Open `View Info` from the context menu and review the object details you need.
3. Adjust visibility or filtering through Workbench, then return to 2D for final confirmation and export preparation.

Result

- 2D serves as the primary working view for precise inspection, object lookup, and export preparation.

2D Is the Main Working View in the Current Version

Inside the workspace, 2D handles most of the high-frequency work:

- pan, zoom, box-select, and point-select
- open `View Info` from the context menu
- work with Workbench for visibility, filtering, and object targeting
- review the current selection, coordinates, or frame metrics in the status bar
- launch every export flow

Supporting Capabilities You Will See

- **Object info card:** opened through `View Info` in the right-click / long-press menu
- **Mini viewer:** when enabled in settings, shows the current viewport against the global scene
- **Crosshair guideline:** when enabled in settings, follows the pointer
- **Status bar:** the left side summarizes the current selection, and the right side shows coordinates or frame metrics

What the Right-Click / Long-Press Menu Can Do

When 2D has a valid pick target, the current context menu can provide:

- `View Info`
- chat-related actions when chat capability is active

Whether or not an object is currently selected, the 2D context menu also supports:

- copy current location

- `Fit All`
- toggle axis visibility
- regenerate thumbnail

Division of Responsibility Across Views

- **2D**: precise inspection, object info review, and export preparation
- **3D**: overall structure review, only valid for the KiCad 3D path
- **Data**: document, revision, statistics, runtime, and diagnostic summaries

How Export Relates to 2D

In the current implementation, export is only available from `2D`:

- the export button is unavailable in `3D` and `Data`
- `PNG / PDF` are capture exports
- board-file export is split into two paths:
 - **Original source export**: returns the original `DSN / KiCad / IPC-2581 / ODB++ / Gerber-Drill` data stored for the current revision
 - **Converted export**: currently keeps `DSN` and `KiCad 8`

Recommendations

- Narrow the visible scope with Workbench first, then use 2D for local confirmation.
- When you need to record an issue, select the target in 2D first and then copy its details from the info card.
- Before exporting, return to 2D and confirm that the visible layers, visibility state, and framing are correct.

Common Questions

Why can't I interact with 2D immediately after opening a document?

During import or render preparation, the app may temporarily show the `Data` view or an import-blocking overlay. Interaction resumes once the first 2D frame is ready.

Why isn't object detail shown in Workbench anymore?

The current design moves object detail into the floating info card in 2D. Workbench now focuses on visibility, filtering, and object browsing.

Why is the export button unavailable?

Because export only starts from `2D`. It is also unavailable if you are currently in `3D` or `Data`, or if another export task is already in progress.

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- `2026-04-17`

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3D Viewer

Goal

Help you understand the valid scope, supported operations, and current limits of the 3D view.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users reviewing the overall 3D structure of KiCad boards
- Testers validating the current KiCad-only 3D path

Prerequisites

- A KiCad `.kicad_pcb` document is already open in the workspace
- The current task really requires 3D rather than 2D-only inspection

Steps

1. Switch to `3D` from the workspace and wait for the staged scene build to finish.
2. Use the 3D camera actions and, if needed, adjust the KiCad-specific 3D options in Workbench.
3. If you find a rendering or asset issue, copy `Scene info` before returning to 2D for deeper inspection.

Result

- You can confirm whether the KiCad board's 3D scene loads, or whether a clear unsupported/issue state is shown instead.

Current 3D Scope

3D Viewer currently works only for **KiCad board files**:

- supported: *.kicad_pcb
- unsupported: DSN, ODB++, SES, and other manufacturing-package style inputs

If the currently open source is not KiCad, 3D shows a clear unsupported message instead of an empty scene.

What Happens After Entering 3D

1. The app starts building the 3D scene.
2. You see staged loading feedback such as Prepare / Metadata / Scene / Meshes .
3. When the scene is ready, the app automatically fits a suitable camera view to the board bounds.

Current Supported Operations

- switch to Top / Bottom / Isometric
- Fit
- copy Scene info

These actions are available from the context menu and directly update the current 3D camera state.

Workbench Integration

When you are in 3D and the current document is KiCad, the Visibility area in Workbench adds an extra 3D section that lets you control:

- **Board Surface:** show top surface only, or let all currently visible layers contribute to the board surface
- **Show proxy bodies:** show fallback proxy geometry when a real component model cannot be rendered

Recommendations

- Use 3D for overall orientation, then return to 2D for precise review and export.
- If you notice issue counts in 3D, copy `Scene info` first so you have a diagnostic snapshot to share.
- 3D is good for shape, layer, and spatial understanding; it is not the final export view in the current version.

Common Questions

Why does 3D say it only supports KiCad?

Because the current 3D scene loader first checks whether the source path ends with `.kicad_pcb`. If not, it enters the unsupported state directly.

Why do some components look simplified in 3D?

Those are usually proxy bodies. The current implementation can fall back to simplified geometry when a renderable component model is missing, and you can toggle that in Workbench's 3D section.

Can I export directly from 3D?

No. Export does not start from 3D in the current implementation. Return to 2D first.

Last Verified

- `2026-04-17`

Workbench

Goal

Help you use one side-panel area for visibility control, selection filtering, object browsing, and local focusing.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users who need visibility control, filtering, and object targeting
- Testers validating Workbench behavior across 2D and KiCad 3D paths

Prerequisites

- A board document is already open in the workspace
- Workbench is visible and the runtime scene is available

Steps

1. Start with `Visibility` to narrow the visible scope of the board.
2. Use `Selection Filter` to restrict what can be picked.
3. Use `Objects` to search, select, and apply actions such as `Locate`, `Highlight`, `Isolate`, or `Clear`.

Result

- Workbench helps you reduce visual noise, find the right target quickly, and drive focus actions without taking over object-detail display.

Current Workbench Structure

By default, Workbench contains three main sections:

1. Visibility
2. Selection Filter
3. Objects

Their default states are:

- Visibility expanded
- Selection Filter collapsed
- Objects expanded

What Visibility Can Do

- switch display presets
- change the stackup viewing mode
- show or hide layer groups, individual layers, semantic columns, and technical layers
- toggle Rat / Board Boundary / Place Boundary / Assembly Outline / Net Labels
- edit layer colors or reset them to defaults

When you are in 3D and the current document is KiCad, this area also shows an extra 3D section for:

- Board Surface
- Show proxy bodies

What Selection Filter Can Do

- switch quickly to All / None / Default
- limit which object categories are pickable
- show Pick Candidates when track/segment disambiguation is needed

The default filter keeps the most common surface targets and routed copper objects available, which fits most everyday browsing.

What Objects Can Do

Objects is the most direct object browser in the current version. You can:

- switch between facets
- type text to filter objects
- select a target from the result list
- apply actions to the current selection

Current facets include:

- Nets
- Layers
- Via Definitions
- Rule Classes

Available actions depend on the selected object type. Common ones include:

- Locate
- Highlight
- Isolate
- Clear

Current Responsibility Boundary

Workbench is responsible for:

- visibility
- filtering
- search
- focus / highlight / isolate actions

Workbench no longer owns:

- object-detail presentation

Object detail is now shown through the `View Info` card in 2D.

Recommendations

- Tune `Visibility` first, then `Selection Filter`, and then use `Objects` search for the best hit rate.
- If you cannot find a target, first check whether visibility or selection filtering is too strict.
- When recording an issue, use Workbench to narrow the target, then return to 2D for the actual detail and copying step.

Common Questions

Why is there no object-detail panel here anymore?

The current design moves the detail card back into 2D so Workbench can stay focused on filtering and targeting.

Why is `Isolate` sometimes disabled?

Because it only applies to some object types. Certain layer or via-definition targets can be isolated, while nets, tracks, and vias may not support that action.

Why do I see extra visibility controls while in 3D?

Because Workbench exposes additional 3D display options when the `3D + KiCad` condition is satisfied.

Last Verified

- 2026-04-17

Export and Share

Goal

Help you turn the current 2D view or the current board into something you can deliver, share, or continue processing elsewhere.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users exporting board views or board-file outputs for delivery and sharing
- Testers validating capture export, original-source export, and converted export behavior

Prerequisites

- A managed board document is already open in 2D
- If full export is expected, export access should already be unlocked
- If export access is still locked, treat purchase-center redirect as the expected pre-export behavior

Steps

1. Return to 2D and confirm the current visibility state, framing, and export target.
2. Choose the export format and destination that match the task.

3. Complete the export and open the result, or confirm that the purchase-center redirect appears when export access is still locked.

Result

- The current board view or board data is delivered through the appropriate capture, original-source, or converted export path.

Currently Supported Export Formats

Capture exports

- PNG
- PDF

Original-source exports

- DSN
- KiCad
- IPC-2581
- ODB++
- Gerber/Drill

This path returns the original source files or source-file set stored with the current revision:

- single-file formats are returned as the original file, without regeneration
- multi-file formats are returned as a ZIP, with the original paths and bytes preserved

Converted exports

- DSN
- KiCad 8

Current Export Preconditions

- export can only be started from **2D Viewer**
- a board file must already be open
- export access must already be unlocked on the current device or account; otherwise the purchase center opens first
- a new export request is blocked while another export is in flight

Export Scope

PNG / PDF

You can choose:

- Viewport
- Fit All

DSN / KiCad 8

These are converted exports. They are not screenshots, and they are not simply returning the original source files. The app exports the whole board and does not expose a viewport-based partial scope here.

Original-source exports

Original-source exports also do not use viewport scope:

- if the current revision is already stored in that format, the app returns the original source first
- for example, if the current revision is `KiCad .kicad_pcb`, exporting `KiCad` returns the original KiCad file
- if the current revision is `DSN`, exporting `DSN` returns the original DSN file
- if the current revision is a multi-file manufacturing package, export returns a `ZIP` containing the original source set

Platform Differences

iOS

- PNG: export to Files / Other Apps / Photos
- PDF / original source / DSN / KiCad 8: export to Files / Other Apps

Notes:

- Photos is only available for PNG
- Other Apps uses the system share sheet

macOS

- all formats export only to Files
- the app shows a save dialog so you can choose the destination path
- if you have not chosen a save location yet, confirming export opens the save dialog before the export really starts
- the save dialog prefills a default file name; the current suggested location is ~/Documents

File Naming

The default file name uses the current source name with an `_export` suffix:

- `board_export.png`
- `board_export.pdf`
- `board_export.dsn`
- `board_export.kicad_pcb`

If you are using original-source export:

- single-file exports prefer the original file name
- multi-file exports prefer the current document name and produce a `.zip`

Recommended Workflow

1. return to 2D
2. if export access is still locked, complete the purchase or restore flow first
3. adjust visibility, framing, and zoom
4. choose the format and destination

5. open the result immediately after export and verify it

Common Questions

Why can't I export from 3D or Data?

Because the current implementation only allows export to start from 2D.

Why did export open the purchase center first?

Because export is currently gated behind a separate export unlock. The workspace checks access both before opening the export configurator and before actually starting export. If access is still locked, it redirects to the purchase center.

Why do image exports and board-file exports offer different options?

Because PNG / PDF are viewport captures, while board-file export is now split into two paths:

- **Original source export:** returns the original files stored in the current revision
- **Converted export:** generates a new target format from the current workspace content

Why can an image go to Photos on iOS, but PDF cannot?

Because the current implementation only wires the Photos destination to PNG.

Last Verified

- 2026-04-17

Settings

Goal

Help you find adjustable options quickly and understand how the current settings page is organized.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users adjusting app behavior, terminology, and provider configuration
- Testers validating settings organization, search, and reset flows

Prerequisites

- The workspace is open and the `Settings` panel is available
- You know which category or behavior you want to inspect or change

Steps

1. Open `Settings` and navigate to the relevant top-level category.
2. Use search or drill down into the specific group or entry you need.
3. Apply the change, then return to the relevant app surface to confirm the result.

Result

- The required configuration can be found and adjusted without leaving the current workspace flow.

Current Settings Categories

The settings page currently has six top-level categories:

- General
- Viewer
- PCB Display
- AI
- Support PCBAtlas
- About & Reset

What Each Category Covers

General

- appearance mode
- terminology profile
- log level
- language guidance entry

Viewer

- 2D viewer interaction, helper overlays, performance, and status-bar preferences
- for example, whether guidelines, the mini viewer, or status feedback are shown

PCB Display

- display styles and palette settings directly tied to board presentation
- including the layer palette plus board boundary, track, via, pad, and related appearance groups

AI

- provider configuration
- API keys
- model lists
- provider-specific parameters
- routing models and outbound policy

Support PCBAtlas

- one-time support purchase entry
- the current export-unlock purchase item
- restore purchases

About & Reset

- version and about information
- open-source licenses
- per-section reset
- full reset

Important Capabilities on the Current Settings Page

- **Search:** supports searching by display name, description, category, and some terminology aliases
- **Language page:** entered from General, but mainly explains how the app follows system language settings
- **Open-source license page:** entered from About & Reset
- **Reset confirmation:** both section reset and full reset require confirmation first
- **Full-row interaction:** category rows and drill-down rows are clickable across the whole row, not just on the text or icon

Terminology Profile

The current version keeps the terminology profile switch, with these available styles:

- `generic`
- `kicad`
- `allegro`
- `altium`

This setting affects:

- UI wording
- settings search
- some terminology alias presentation

It does not affect:

- import results
- internal data structures
- the document content itself

Real-World Limits of AI Settings

The AI category supports configuration for multiple providers, but whether they are actually usable depends on:

- whether you supplied a valid API key
- whether the provider is reachable
- whether the current device and network environment allow the request to succeed

What the Language Page Really Does

The language page is closer to an explanation page than a full in-app switcher. It tells you to change the app display language at the system level:

- on `iOS`, that usually means the system App Language setting
- on `macOS`, that usually means the system language or app-language preference path
- after changing it, you may need to relaunch the app before the UI fully reflects the change

Recommendations

- Change only a few key items at a time so the source of any visible difference stays clear.
- If you mainly want a better reading experience, start with `General` and `Viewer` .
- If you mainly want to tune colors and board visuals, start with `PCB Display` .
- If you need to restore default behavior, prefer resetting one section before doing a full reset.

Common Questions

Why do some settings only become obvious after I return to the viewer?

Because many settings affect viewer behavior or display parameters directly, so you only see the difference in the relevant scene.

Can settings search match EDA terminology aliases?

Yes. The current search does not only match entry names; it also includes some terminology aliases used across different EDA tools.

Can reset happen without a warning?

No. Reset actions always go through a confirmation dialog first.

Why is there no “switch to English/Japanese now” button on the language page?

Because the current implementation does not provide an in-app instant language switch. The language page mainly explains the system-side path and restart expectation.

Last Verified

- `2026-04-17`

Import Failures

Goal

Help you quickly decide whether the current failure is an unsupported input, an import-path mismatch, or a proactive runtime protection stop.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users whose import path did not behave as expected
- Testers triaging import failures, ignored imports, or degraded import outcomes

Prerequisites

- You have a specific import case, message, or reproduction path to inspect
- If possible, keep the source file and the exact import path that triggered the issue

Steps

1. Identify whether the failure happened before file selection, after file selection, or after entering the workspace.
2. Check which import path was used and whether the source should be supported there.
3. Compare the observed behavior against the failure patterns below, including unchanged re-imports and partial DSN degradation warnings.

4. Record the exact message and source context before retrying.

Result

- You can narrow the issue down to unsupported input, path mismatch, protective stop, unchanged re-import, or a local degradation case.

Look at These Three Things First

1. Did the failure happen **before file selection**, **after file selection**, or **after entering the workspace**?
2. Did the app show a clear error message?
3. Was the action a **new import**, **append revision**, or **SES**?

Most Common Failure Types Right Now

1. Unsupported input type

Typical signs:

- the app directly says the extension is unsupported
- the flow stops after you pick the file

Suggested actions:

- first confirm whether you used the design or manufacturing path
- then confirm whether the input belongs to the currently supported set

2. Wrong `IPC-2581` import intent

Typical signs:

- the file can be selected, but the resulting import behavior is not what you expected

Suggested actions:

- import it again

- reselect whether it should be treated as design-side or manufacturing-side data

3. Incorrect SES usage

Typical signs:

- trying to import SES as if it were a normal new document
- or the current document has no usable base revision

Suggested actions:

- open the target document menu
- start from Import SES
- select a valid base revision first

4. Large IPC-2581 blocked by preflight

The current implementation includes memory preflight protection for very large IPC-2581 XML inputs:

- it estimates peak usage based on file size, physical memory, and platform type
- if the risk is clearly above the safe budget, the app stops before opening

This is intended to avoid OS-level termination caused by memory exhaustion.

5. Another import task is already running

Only one PCB import task is allowed at a time in the current implementation. If a previous import has not completed yet, the next import request is rejected with a status message.

6. Same-name, same-format input is judged as unchanged

The current implementation compares original source bytes when you re-import a source with the same document name and the same format:

- if the newly imported original source is identical to the current revision, the app reports that the import was ignored because nothing changed
- this is not treated as a failure; it is how duplicate revisions are avoided
- if you expected a new revision, confirm that the file contents really changed

7. DSN local geometry degradation after a successful import

Typical signs:

- import ultimately succeeds and the document opens
- but the developer log or console shows warnings such as `skipping display object variant ... no valid contours could be extracted`

What it means:

- the importer could not extract a valid contour for a small number of display variants, so those local variants were skipped and the rest of the board continued importing
- this behavior is meant to avoid failing or crashing the whole board import, and it usually affects only local rendering rather than the entire document

Suggested actions:

- first confirm whether the affected area is still usable for the task you care about
- if the missing geometry matters, record the warning text, the original `DSN`, and the reproduction steps for follow-up investigation

KiCad-Specific Note

Even if a KiCad board imports successfully in 2D terms, missing or unreadable project-local 3D assets may still surface as issues later in 3D or diagnostics. That does not always block 2D opening, but it can reduce 3D completeness.

What to Record

- platform and device
- import path type: design / manufacturing / SES
- original file type and size
- the original error text
- whether it reproduces consistently
- whether another import task was already running

Common Questions

Why can some manufacturing inputs be imported even though they are folders?

Because the manufacturing path accepts directory-style inputs. Whether import succeeds depends on whether the importer can recognize the directory as a supported manufacturing package.

Why is there no new card in the library after a failed import?

That usually means the failure happened before document creation, such as unsupported input, preflight rejection, or importer detection failure.

Why didn't I get a new revision after importing the same file name a second time?

If the app says the import was ignored because nothing changed, that means the newly imported original source is identical to the current revision. The current implementation skips it instead of creating a duplicate revision.

It worked on the second try. Should I still record it?

Yes. Intermittent failures still matter for stability evaluation.

Last Verified

- 2026-04-17

Permissions and File Access

Goal

Help you distinguish between application logic problems and system file-access restrictions.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users blocked by file visibility or destination-access problems
- Testers separating permission issues from app-logic failures

Prerequisites

- A concrete import, export, or drag-and-drop path has already failed or behaved unexpectedly
- You can retry the same path and observe whether the system shows a permission prompt

Steps

1. Retry the same path and watch for system permission prompts.
2. Confirm that the source or destination location is actually accessible to the app.
3. Check whether the failure matches a platform-specific rule such as PNG -> Photos on iOS.
4. Record the exact error text and the rough location involved.

Result

- You can tell whether the problem comes from system access restrictions or from a different application-level issue.

Most Common Permission Scenarios

- the file picker cannot see the target data
- the system refuses access after a file is selected
- export fails when writing to the destination
- saving to Photos fails on iOS
- drag and drop is blocked by the system

Recommended Troubleshooting Order

1. Check whether the system showed a permission prompt.
2. Confirm the target data is stored in a location the app can access.
3. On iOS, remember that the Photos destination only applies to `PNG`.
4. On macOS, verify that the save-panel destination is writable.
5. Retry the exact same path and confirm whether the problem reproduces.

A Few Implementation Facts That Matter

- If the user cancels file picking intentionally, the app does not treat it as an error alert.
- Drag-and-drop import depends on the system providing a valid `fileURL`; without permission, the app cannot resolve one.
- On iOS, exporting to `Photos` is a distinct path and is not the same as a normal `Files` export.

What to Record

- platform and system version

- rough destination location
- whether the system showed a permission prompt
- whether the failure happened during import, export, or drag and drop
- the exact error text

Common Questions

The file exists. Why can't the picker see it?

Most of the time, this is caused by system access-scope restrictions rather than the app being unaware of the file. Move the file to a more directly accessible location and try again.

If export fails, does that always mean export is broken?

No. A destination that is not writable, missing permissions, or a mismatch between format and destination can also cause export failure.

Why does saving to Photos only support PNG?

Because the current implementation only wires the Photos path to `PNG`.

Last Verified

- `2026-04-17`

Performance and Loading

Goal

Help you decide whether the app is still progressing normally or is actually stuck.

Supported Platforms

- iOS
- macOS

Intended Audience

- Users waiting on import or scene preparation and unsure whether the app is still progressing
- Testers triaging loading stalls, apparent hangs, or perceived performance regressions

Prerequisites

- A document is currently importing, opening, or building a 3D scene
- You can still observe the visible progress state, stage text, or UI responsiveness

Steps

1. Check whether the stage text, percentage, or loading card is still changing.
2. Confirm whether the UI still responds to basic interaction.
3. Record the exact stage and how long the app remains there before deciding that it is stuck.
4. Compare the behavior against the known normal-wait and suspicious-stall patterns below.

Result

- You can distinguish between normal staged progress, a protective stop, and a likely real loading problem.

Common Waiting Stages in the Current Version

Import to 2D preparation

- the top of the library shows an import banner
- the workspace may temporarily switch to `Data`
- the 2D viewer may remain blocked until the first projected frame is published

3D scene construction

3D shows explicit stage and progress text, such as:

- `Prepare`
- `Metadata`
- `Scene`
- `Meshes`

How to Tell That Progress Is Still Normal

Focus on these signals:

1. the progress number or stage text is changing
2. the UI still responds to basic interaction
3. the import banner or 3D loading card keeps updating

If all three are true, the app is usually still progressing normally.

When to Suspect an Actual Problem

- the app remains on the same stage for a long time with no text change
- the UI becomes unresponsive
- the same input repeatedly stalls at the same point on the same device
- the behavior only appears in this version and not in previous stable ones

A Few Current Implementation Facts

- During import, the viewer may automatically switch to `Data` ; this is a normal transition and does not mean opening failed.
- 3D only applies to KiCad. If the source is not KiCad, an unsupported message is not a performance problem.
- If a huge `IPC-2581` input is blocked by preflight, that is a protective stop, not a loading slowdown.

What to Record

- device and platform
- input type and size
- which stage the app stops at
- how long it stays there
- whether the UI still responds
- whether the issue only appears in one view

Common Questions

If it waits for a long time, does that always mean something is wrong?

No. Large boards, first-time 3D scene construction, and manufacturing-package recognition can all produce noticeable wait time. What matters is whether the state is still advancing.

Why is it important to record the exact stage?

Because the current implementation already breaks import and 3D loading into explicit stages.
Recording the stage makes reproduction and diagnosis much faster.

Last Verified

- 2026-04-17

Glossary

Goal

Help you align quickly with the concepts that appear most often in this handbook.

Common Terms

Library

The home entry that manages all documents.

Document

One project unit in the library, usually representing one maintained board project.

Revision

One historical version under a document.

Current Revision

The revision currently opened, displayed, and exported.

Base Revision

The existing design revision that an `SES` import attaches to.

2D

The main working view in the current version, responsible for inspection, object info, and export.

3D

The 3D view, currently only supported for KiCad board files.

Data

A summary page for document, revision, statistics, capability, runtime, and diagnostic information.

Workbench

The side-panel area used for visibility, filtering, search, and object actions.

Selection Filter

The control that decides which object types are pickable.

Objects

The Workbench section used to browse and search objects by facet.

Proxy Body

Fallback geometry used when a real 3D component model cannot be rendered.

Terminology Profile

The settings switch that changes UI terminology style only. It affects wording and search, not underlying data.

Manufacturing Package

A directory- or archive-style manufacturing input handled by the manufacturing import path.

Export

Outputting the current 2D view as an image or PDF, or exporting the current revision's original source files and converted board files.

Common Questions

Why does the handbook distinguish between “document” and “revision”?

Because the library model is “one document for one project context, many revisions for its evolution.” That structure is better for ongoing maintenance and traceability.

What is the difference between Data and Workbench ?

Data shows summaries and statistics. Workbench is used for filtering, search, and actions.

Smoke Test

Goal

Use the shortest set of steps to validate the main path from the library to the workspace, viewer, and export.

Recommended Minimum Samples

- start with the built-in `h730duino` or `BluePhil`
- if you also want to validate import, add one of your own `DSN` or `KiCad` files

Minimum Smoke Path

1. Launch the app and enter the library.
2. Confirm the library home page is interactive.
3. Open a document and enter the workspace.
4. In `2D`, complete one pan, one zoom, and one object selection.
5. Right-click or long-press an object and open `View Info`.
6. Open `Workbench` and perform one visibility or object-search action.
7. Switch to `Data` and confirm the summary page appears.
8. If the current document is `KiCad .kicad_pcb`, switch to `3D` and wait for loading to complete.
9. Open `Console` and confirm that it can switch between chat and event-log views.
10. Return to `2D` and try one export. If export is still locked, confirm that the purchase center opens first.
11. Go back to the library and reopen the same document.

Pass Criteria

- both the library and workspace are reachable
- 2D and basic Workbench interaction are not blocked
- `Data` can show the current document summary
- 3D works for KiCad samples
- `Console` can switch between chat and event-log views
- 2D export succeeds and can be verified, or in a locked state the purchase center opens correctly

Suggested Notes

- test platform
- sample type
- whether the built-in examples were used
- whether 3D was an applicable path
- failing step and message text

Common Questions

Why include `Data` in the smoke path?

Because the current import and scene-preparation flow uses the `Data` view as part of the real user path.

If the sample is not KiCad, does 3D failure count as a blocker?

No. 3D currently only applies to KiCad. Non-KiCad samples should skip that step.

Format Coverage Matrix

Goal

Help you quickly confirm the real supported scope for current input and output formats.

Import Coverage

Path	New document	Append revision	Notes
DSN	Supported	Supported	Design import path
KiCad .kicad_pcb	Supported	Supported	Supports 2D / Data; 3D is also available
IPC-2581 XML	Supported	Supported	Import asks you to choose design vs manufacturing intent
ODB++ archive / directory	Supported	Supported	Manufacturing import path
Manufacturing-package directory data	Supported	Supported	Final success depends on importer recognition
SES	Not supported	Conditionally supported	Must be launched from an existing document menu with a base revision

View Coverage

View	Applies to	Notes
2D	All open documents	Main working view
Data	All open documents	Used for summaries, statistics, and import-stage transitions
3D	Only KiCad .kicad_pcb	Non-KiCad sources show a clear unsupported message

Export Coverage

Format	Type	iOS	macOS	Notes
PNG	Capture export	Files / Other Apps / Photos	Files	2D only
PDF	Capture export	Files / Other Apps	Files	2D only
DSN	Original-source or converted export	Files / Other Apps	Files	Returns original DSN first when the current revision is already DSN
KiCad	Original-source export	Files / Other Apps	Files	Returns the original .kicad_pcb when the current revision is KiCad
KiCad 8	Converted export	Files / Other Apps	Files	KiCad 6 is no longer offered
IPC-2581 / ODB++ /				

Gerber-

Drill

Original-source
export

Files /
Other Apps

File
s

Multi-file sources are
delivered as a ZIP

Regression Recommendations

- Cover at least one design input and one export format in every regression pass.
- If this round touches 3D, validate with a KiCad sample.
- If this round touches revision management, include one `append revision + switch current revision` path.
- If this round touches manufacturing import, add one directory-based or archive-based input.
- If this round touches original-source export, include one single-file return path and one multi-file ZIP export path.

Regression Checklist

Goal

Provide a regression checklist aligned with the current implementation.

Library

- ✓ The library home page opens correctly
- ✓ In an empty-library case, `h730duino` / `BluePhil` sample documents are visible
- ✓ Grid/list layout switching works
- ✓ A new document can be imported
- ✓ Re-importing the same name and same format with byte-identical original source is ignored with a clear message
- ✓ An existing document can be opened
- ✓ A design or manufacturing revision can be appended
- ✓ Re-importing the same name and same format with changed original source appends a new revision and switches to the latest revision
- ✓ `SES` import can be launched from the document menu
- ✓ Rename, duplicate, pin, delete, share, and view-information actions work from the document menu

Workspace

- ✓ Entry points for `Workbench` / `Console` / `Settings` are available in the workspace
- ✓ Mode switching across `2D` / `3D` / `Data` works
- ✓ The app can enter the `Data` transitional state during import preparation
- ✓ 2D can pan, zoom, and select objects

- ✓ The `View Info` card in 2D can open and copy text
- ✓ `Console` can switch between chat and event-log views
- ✓ `Visibility` is expanded by default in Workbench
- ✓ `Selection Filter` is collapsed by default in Workbench
- ✓ `Objects` can search and apply actions
- ✓ If the sample is KiCad, 3D can finish loading

Export

- ✓ The export button is available in 2D
- ✓ If export access is still locked, tapping export opens the purchase center first
- ✓ After export access is unlocked, the export configurator opens and export completes normally
- ✓ `PNG` or `PDF` succeeds at least once
- ✓ If this round involves board-file exchange, original-source export succeeds at least once
- ✓ If this round involves format conversion, `DSN` or `KiCad 8` converted export succeeds at least once
- ✓ On iOS, if Photos export is part of validation, `PNG -> Photos` succeeds

Stability

- ✓ Import progress text or percentage changes over time
- ✓ 3D loading stage text changes over time
- ✓ Failure cases show clear messages rather than failing silently
- ✓ A non-KiCad sample shows a clear unsupported message when switched to 3D
- ✓ The language page explains system language switching and the possible relaunch requirement

Suggested Note Template

- Regression version:
- Platform:
- Sample:

- Is KiCad:
- Passed items:
- Failed items:
- Notes:

Known Limitations

Goal

Clarify what the current version actually implements and which behaviors are product boundaries rather than regression bugs.

Current Known Limits

1. 3D only supports KiCad board files

- the current 3D loader first checks whether the source is `.kicad_pcb`
- non-KiCad sources show an unsupported message directly

2. Export can only start from 2D

- the export button is unavailable in `3D` and `Data`
- there is no direct 3D image export path in the current version

3. Export is currently gated behind a separate unlock

- if export access has not been unlocked yet, the workspace does not start export directly
- tapping export opens the purchase center first
- after purchase or restore succeeds, export becomes available again

4. `SES` cannot create a standalone new document

- it must be launched from an existing document menu
- a base revision must be chosen first

5. iOS Photos export only supports PNG

- `PDF`, original-source export, and converted export do not go to Photos

6. macOS export only saves to files

- there is no macOS `Other Apps / Photos` export path right now

7. Original-source export depends on the current revision being library-managed

- the original-source export option only appears when the currently open revision is managed by the library
- original-source export does not read directly back from a temporary external path

8. AI capability depends on external provider configuration

- the settings page can configure multiple providers
- actual usability depends on API keys, network access, and provider response

9. The language page is not an in-app instant language switcher

- it mainly explains the system-level language path
- after changing it, the app may need to be relaunched

10. Directory-style manufacturing inputs still depend on importer recognition

- the fact that a source is a folder or archive does not guarantee that it will be recognized as a supported manufacturing input

How to Use This Page

1. Before filing a bug, check whether the case falls inside one of these boundaries.
2. If product behavior conflicts with this page, report it as a documentation-vs-implementation mismatch first.
3. If a limitation is removed in the future, update the handbook and QA pages together.

What Does Not Count as a “Known Limitation”

- reproducible crashes
- blocking failures in a clearly supported path
- regressions from previously stable behavior

Changelog

This page records user-visible updates to the English handbook that are directly aligned with the current implementation.

2026-04-04

- Rewrote the Chinese user handbook and unified page structure and tone.
- Removed outdated descriptions, placeholders, and overly engineering-centric wording.

2026-04-05

- Updated the Workbench explanation to reflect the default order of `Visibility` and `Selection Filter`.
- Added the 2D `View Info` floating-card flow and synced the QA checklist.

2026-04-13

- Realigned the English handbook to the latest Chinese source instead of preserving older wording.
- Documented first-launch sample documents, `IPC-2581` intent selection, and the rule that `SES` must attach to an existing base revision.
- Updated the workspace model to match the current app structure: `2D / 3D / Data views` plus `Workbench / Console / Settings` panels.
- Clarified that 3D currently supports KiCad only.
- Updated settings docs to cover categories, search, language, support purchase, open-source licenses, and reset flows.
- Updated troubleshooting and QA pages so they match the current import, loading, export, and view limitations.

2026-04-16

- Updated the handbook to reflect the current export model: original-source export versus converted export, no user-facing `KiCad 6` path, and `ZIP` delivery for multi-file original sources.
- Added the current export-unlock requirement and the purchase-center redirect behavior to the relevant English pages.
- Updated the `Console` wording so it clearly describes the current chat-and-log dual-view behavior.
- Reworked the settings language-page explanation to match the current system-language-driven behavior more accurately.

2026-04-17

- Added an independent handbook version source in `UserDoc/version.yml`; handbook pages now show the current handbook version and release date in the page header.
- Added aggregated PDF handbooks for `zh / en / ja`, and exposed a current-locale PDF download button at the top of handbook pages. The stable download URLs stay unchanged while the suggested download filename now includes the handbook version.

Version Notes

- The handbook describes only the latest current behavior.
- Older-version wording branches are not maintained.