

— ECU KNOWLEDGE NAVIGATOR

# XHandbook Technical Brief

Interactive ECU function documentation navigator, KAOM model exploration, and bi-directional A2L calibration linking.

EHANDBOOK Container Support

Interactive KAOM Function Models

Bi-Directional A2L Linking

Native Rust Core · No License Server

# ECU documentation is disconnected from calibration data.

Calibration and test engineers navigate heavy documentation containers isolated from underlying calibration definitions.

## LICENSE OVERHEAD

### Floating License Servers

Legacy documentation tools require corporate floating license servers, blocking off-network dyno and track engineers from opening containers.

## DISCONNECTED DATA

### Manual A2L Lookup

Documentation labels do not resolve to ECU addresses, record layouts, or conversion rules, forcing engineers to manually cross-reference A2L files.

## HEAVY RUNTIME

### Sluggish Desktop Viewers

Legacy container runtimes consume excessive memory and take minutes to index complex multi-container software releases.

# Interactive ECU knowledge navigator.

XHandbook is a lightweight desktop explorer that opens EHANDBOOK containers and bridges documentation directly with A2L calibration objects.

## CONTAINER COMPATIBILITY

### Reads .ehb, .ehbcrypt & .ehbp

Directly parses ZIP-based EHANDBOOK containers, DITA specifications, SQLite metadata databases, and KAOM function models without conversion.

## CALIBRATION BRIDGING

### Instant A2L Resolution

Click any documented label to view its CHARACTERISTIC, MEASUREMENT, or AXIS\_PTS definition, ECU address, conversion formula, and physical limits.

**Local-First & License-Free:** Built with a native Rust core. Operates completely without a license server on Windows, macOS, and Linux.

# Interactive function graphs and global search.

## KAOM FUNCTION GRAPHS

### Automated Graph Layout

- **Interactive Tracing:** Follow signal paths across controller sub-functions from inputs to actuator demands.
- **Model-Doc Crosslinks:** Jump between mathematical model diagrams and descriptive DITA documentation without losing place.
- **Source Provenance:** Multi-container projects maintain clear origin tracking so cross-references always resolve accurately.

## INSTANT GLOBAL SEARCH

### Cross-Container Indexing

- **Unified Querying:** Search across topics, labels, components, and calibration objects in a single query.
- **Find-in-Tab:** Contextual filtering narrows search results within the currently active document tab.
- **Authoring Utility:** Bundled build-ehb tool converts raw A2L files into self-contained documentation containers.

# Validated container and description formats.

| FORMAT TYPE         | EXTENSION   | ENGINEERING CONTENT                                   | VALIDATION REFERENCE               |
|---------------------|-------------|-------------------------------------------------------|------------------------------------|
| Standard Container  | .ehb        | DITA documentation, KAOM models, SQLite metadata      | Publicly available demo containers |
| Encrypted Container | .ehbencrypt | Encrypted proprietary OEM container archives          | Decrypted via customer keys        |
| Partial Container   | .ehbp       | Incremental patch and component documentation updates | Component-level updates            |
| ECU Description     | .a21        | ASAP2 calibration objects for direct label resolution | ASAM MCD-2 MC                      |

# What we do not claim.

Independent positioning without proprietary overreach.

## INDEPENDENT SOFTWARE

### Not Affiliated with ETAS

XHandbook is an independent viewer compatible with open container archives; it is not affiliated with, endorsed by, or sponsored by ETAS GmbH.

## CRYPTOGRAPHIC BOUNDARIES

### Key-Based Decryption

Encrypted containers (.ehbencrypt) require valid customer decryption keys. XHandbook respects cryptographic boundaries and does not bypass encryption.

# How to evaluate XHandbook on your container sets.

## STEP 1

### Open Container Drop

Open an existing .ehb or .ehbp container archive. Verify Table of Contents and KAOM function graph loading speed.

## STEP 2

### Resolve A2L Labels

Pair an A2L file and click documented labels to verify instant popup resolution of memory addresses and conversion rules.

## STEP 3

### Test Air-Gapped Search

Disconnect from corporate networks and execute instant global queries across multi-container projects.

## DESKTOP EVALUATION

### Request an XHandbook Desktop Build

[contact@vehiclelab.in](mailto:contact@vehiclelab.in) · <https://vehiclelab.in/docs/xhandbook-brief>