

Architecture Roadmap

Version: 1.5.0 Date: 2025-12-20 Active Release Target: 0.136.1-Beta

1. Executive Summary

Current Status: HYBRID ARCHITECTURE (Stabilization In Progress). The project has successfully deployed the Hotfix (TECH-001) and restored report generation. The Session Manifest (ARCH-002) architecture has been partially deployed: the QSO Dashboard (`qso_dashboard`) is fully modernized and reading from `manifest.json`, but the Multiplier Dashboard (`multiplier_dashboard`) currently relies on legacy filesystem scanning. Immediate priority is completing the migration of the Multiplier Dashboard to the Manifest architecture.

2. Active Development Tracks

Track A: Reporting Engine Modernization (Visualization)

- **Goal:** Eliminate Matplotlib, standardize branding (3-Line Titles), and enforce "Smart Scoping".
- **Status:**
 - Phase 1: Presentation Layer** (Branding/Footers) - *Completed*.
 - Phase 1.1: Smart Scoping** (Redundancy Logic) - *Completed*.
 - Phase 1.5: Standardization (Plotly)** - *Completed*. (Hotfix Applied).
 - Phase 2: Stabilization & Manifest** - *IN PROGRESS*.
 - * **Hotfix:** Centralize filename logic. *Completed*.
 - * **Manifest (Infrastructure):** `manifest_manager.py` implemented. *Completed*.
 - * **Manifest (QSO Dash):** Migrated to Manifest. *Completed*.
 - * **Manifest (Mult Dash):** Migration Pending. *IMMEDIATE PRIORITY*.
 - Phase 3: Text Report Standardization** - *Pending*.
 - Phase 4: Chart Migration** (Butterfly/Propagation) - *Pending*.
 - Phase 5: Animation Migration** (WRTC HTML) - *Pending*.

Track B: Web Dashboard (Architecture)

- **Goal:** Robust, stateless file handling.
- **Status:**
 - Identity Agnostic Uploads** - *Completed*.
 - Public Log Archive Fetcher** - *Completed*.
 - **Artifact Discovery** - *HYBRID*.

- * QSO Dashboard: Robust (Manifest-based).
 - * Multiplier Dashboard: Fragile (Legacy `os.listdir`).
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3. Feature Backlog & Technical Debt

| ID | Priority | Component | Description |
|----------|----------|-------------------------|---|
| TECH-001 | Critical | <code>plot_*.py</code> | Fix NameError Crash. Restore <code>is_single_band</code> logic via utility. |
| ARCH-002 | High | <code>views.py</code> | Session Manifest. Replace <code>os.walk</code> with deterministic JSON manifest. |
| DEBT-003 | Medium | <code>*.py</code> | Matplotlib Removal. Port final static charts to Plotly. |
| FEAT-004 | Low | <code>animations</code> | WRTC HTML Animation. Replace MP4/FFmpeg dependency. |