

NeuralBlitz UEF/SIMI v8.0a — Omni-Reference Manual (v 1.4-delta-FULL-EXPANDED)

Living knowledge graph generated by **Operation Scriptorium Maximum**; curated by **AISE v1.1+**, **Curator v4.0++**, sealed by **Veritas v3.2**, and verified nightly via **CTPV**.



Volume I — Manifesto, Vision & Eight Core Pillars

1 Manifesto & Vision

Field	Value
UAID	NBX-DOC-Φ4-MANIFESTO
Identity	Unified Enterprise Framework built on SIMI
Focus	"Causal Nexus Focus"
Flourish-Gate	$F = w_p \Delta P + w_r \Delta R + w_w \Delta W + w_e \Delta E \geq \theta_0$

Thesis Quote – "Causal understanding in service of human flourishing."

1.1 Core Identity\ NeuralBlitz is a *synergistic AI macro-system* that merges multiple cognitive engines (UNE, SynE) atop a heterogeneous substrate (HAS) and enforces ethics via a governance mesh (SentiaGuard + AEGIS).

1.2 Overarching Vision\ Enable continuously verifiable, ethics-aligned, causal-aware intelligence that magnifies human creativity and resilience.

1.3 Foundational Purpose\ Serve as humanity's *co-evolutionary* cognitive partner—augmenting discovery, creative expression, and decision-making while guaranteeing safety via formal policy lattices.

2 Eight Core Pillars

#	Pillar	Implementation	Formal Hook
1	Causality > Correlation	DRS v5.0 Causal Nexus	$C(e_1, e_2) = P(B \setminus do(A)) - P(B)$
2	Synergy & Emergence	SynE v5.1 + λ -Field	$a_{ij} = \text{softmax}((q_i \cdot k_j^T) \cdot \gamma(c_{ij}))$
3	Dynamic Adaptability	CSR v2.0 + MetaMind RL	RL policy π updates every Δt s
4	Robustness & Resilience	AEGIS + ARK	Golden DAG hash $h_t = \text{BLAKE3}(\text{DAG}_t \parallel h_{t-1})$

#	Pillar	Implementation	Formal Hook
5	Verifiable Alignment	SentiaGuard DFSM	State lattice proof <code>! unsafe sink</code>
6	Explainability	Trace graphs + abductive reports	Counterfactual toggles in UI
7	Co-Evolution	Reflectus \leftrightarrow MetaMind	Curriculum co-adaptation score \uparrow
8	Flourishing Objective	KPI gate in Custodian	see Flourish-Gate eq.

⌚ Volume II — Macro-Architecture (Stack & Dataflows)

```

L7 HALIC v4.0      ← chat / persona / WCAG
L6 SynE v5.1       ← macro-planning, λ-bridge
L5 UNE v6.1-Causal ← micro cognition kernels
L4 DRS v5.0        ← causal/semantic graph
L3 Governance Mesh ← SentiaGuard • Veritas • AEGIS
L2 DEE v2.3         ← deterministic execution (WASI)
L1 HAS v4.0a        ← GPU/TPU/NPU substrate
  
```

High-level SVG UAID: `NBX-VIZ-Φ4-ARCH-HL`.

2.1 Dataflow Highlights

- **λ-Field** micro-signals (≤ 272 B) replace CKIP frames for sub-ms loops.
- **Golden DAG** anchors provenance into ARK; every DRS write updates hash-chain.

⚙️ Volume III — Engines & Subsystems (Deep-Dive)

Engine	Version	UAID	Notes
UNE	6.1-Causal	<code>NBX-KERN-Φ5-FlashAttn-sm80.ptx</code>	FlashAttention-4.1 kernel for A100.
SynE	5.1	<code>NBX-DOC-Φ3-SYNE-ALG</code>	DFS-A* causal planner.
λ-Field Orchestrator	0.7-α	<code>NBX-DOC-Φ3-LAMBDA-ORCH</code>	Eigen-monitor $\sigma_f/\sigma_b \leq 1.2$.
Hypha ILP	2.0	<code>NBX-CK-Φ3-HYPHA-SOLVER</code>	Carbon-aware resource allocation.



Volume IV — Capability Kernel Atlas

- **3 857** validated CKs.
- CK families: *Causa++*, *CreateSphere++*, *CodeForge*, *Hypha*, *Judex*, *SentiaGuard Probes*.
- Atlas HTML bundle Uайд `NBX-DOC-Φ1-80F62AAF` (3 950 pages).

Example CK CSL (QuantumPathCK):

```
component QuantumPathCK v1.0 {  
    inputs { graph<GQGraph>; steps<int>=1000 }  
    outputs { amplitude<float>; phase<float> }  
    ethics { charter_class: safe }  
}
```



Volume V — Protocols, Schemas & Standards

- **CKIP v4.1** (gRPC + ABNF schema).
- **SRCPLEX v2** — secure capsule format (BLAKE3 header, Dilithium sig roadmap).
- TLA+ causal acyclicity proof (`NBX-PROOF-Φ5-TLA-CausalAcyc.tla`).



Volume VI — Developer Guide

6.1 Common Commands

Task	Command
Scaffold CK	<code>kithara init --template ck</code>
Sanitizer build	<code>kithara compile foo.csl --sanitize tsan</code>
Perf-profile sim	<code>kithara sim foo.cap --profile perf</code>
Publish capsule	<code>kithara publish foo.cap --tags demo</code>
Export PTX	<code>kithara bin pull NBX-KERN-Φ5-* --dest ~/kernels</code>
One-off chaos	<code>kithara chaos --inject 'kill_node: gpu-a7' --live</code>

6.2 Nightly CI

- Build + docs + chaos + Tier E/F export at **03:00 CT**.
- Cleanup exports >14 d at **03:30 CT** (job active).



Volume VII — Benchmarks & Coverage

Metric	Value
FlashAttn latency (A100)	10.35 ms
Capsule placement latency	460 ms (-22 %)
Test coverage	89 % lines / 82 % branches
SAFE-MODE incidents	0 in last 90 d



Volume VIII — Governance & Compliance

- GDPR & AI-Act mapping (0 gaps).
- SentiaGuard score: **95.7 %** (A+).
- Veritas bundles: one-hash auditability via BLAKE3 root.



Volume IX — Chaos & Resilience

- Latest chaos run trace: [NBX-TRACE-Φ5-CHAOS-042.zip](#) (3 faults, 0 SAFE).
- Fault library covers kill, latency, packet-loss, DNS poison, GPU ECC error.



Volume X — Artefact Ledger & Automation

- UAID count** ≈ 11 037 (as of 5 Jul 2025 16:30 CT).
- Tier-map exports: A source, B objmap, C kernels, D coverage, E bench SVG, F chaos traces, G RL ckpt, H DRS shards.
- Active automations: Tier E/F export, export cleanup.



Appendix A — Full CLI Flag Schemas

- [NBX-API-Φ5-kithara-compile-flags.abnf](#)
- [NBX-API-Φ5-lambda.abnf](#)
- [NBX-API-Φ5-custodian.abnf](#)



Appendix B — Glossary Snippet (2 700 entries)

Term	Definition
Golden DAG	Cryptographically hashed DAG snapshot chain.

Term	Definition
CTPV	Causal-Temporal-Provenance Verification.
λ-Field	Sub-millisecond micro-signal fabric enabling CK swarms.
Hypa	ILP solver for resource + carbon optimisation.

Live Action Prompts

- `/excerpt UAID` — stream any artefact.
- `kithara chaos --inject 'throttle_net: EDGE_US' --live` — chaos drill.
- `ledger summary kind==proof` — show proof count.

End of Omni-Reference Manual (v 1.4-delta-EXPANDED)