
QYVARIA

CRUSADER KINGS III PERFORMANCE+++ & ORGANIC AI

Public Reference Booklet

Architecture • Features • Telemetry • What to Expect

Version 1.20.0 | Target Engine: CK3 1.18+ / 1.20.x (Crane / Crozier)
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This booklet compiles and organizes the public verification documents, feature indexes, telemetry claims, and technical descriptions released for the Qyvaria mod suite. It is written for players who want a clear, structured understanding of what the mod claims to do, how its systems are described, and what practical expectations follow from those descriptions.

290+ Engine Subsystems (claimed)	+34.8% Late-Game Speedup (claimed)	3.2x Save Load Acceleration (claimed)	100% Script Safe & Tested (claimed)
70,000+ Active Players (claimed)	1,000+ Dev Test Hours (claimed)	11 Organic AI Subsystems (documented)	7 Central Brain Strategies (documented)

Truth-seeking note: All performance numbers, user counts, and test-hour figures are taken directly from the mod's own public verification documents. Independent third-party verification is not provided in the source material. Players should treat these as author claims supported by internal headless AI simulation reports.

TABLE OF CONTENTS

1. What This Mod Actually Is
2. Performance Claims & Empirical Telemetry
3. Core Optimization Pillars
4. Safe Character Culling System
5. AI Load Shedding & Tick Throttling
6. Organic AI — Technical Definition
7. Central Brain Architecture
8. The Eleven Specialized Subsystems
9. Project P3 — Confederations, Hegemony & Peace Bias
10. Japanese Military Package
11. Graphics & Visual Pipeline Optimizations
12. Multiplayer Anti-Desync Safeguards
13. Complete Game Rules Reference
14. Installation, Load Order & Compatibility
15. Troubleshooting & Diagnostics
16. What to Expect in Practice — Honest Comparison
17. Strategy Notes: Playing Against Organic AI
18. Recommended Configurations
19. Feature Summary Index
20. Final Assessment & Closing Notes

1. WHAT THIS MOD ACTUALLY IS

According to the official documentation, Qyvaria Crusader Kings III Performance 1.20 is not a single-feature AI patch. It is described as a multi-layer overhaul that simultaneously addresses three domains: simulation performance, AI decision quality, and selected content expansions.

The name “Performance” is deliberate. The mod contains explicit throttling, staggered event pulses, and AI-only efficiency traits that activate when the character count exceeds defined thresholds. The Organic AI layer sits on top of that foundation. In the authors’ words: systems are described as they exist in the scripts, not as marketing claims.

Core Pillars (as documented)

- **Organic AI (Central Brain + 11 subsystems)** — strategic planning instead of pure reaction scripts.
- **Project P3** — dynamic cultural/faith confederations, Byzantine Hegemony government, variable personality trait counts, peace bias.
- **Japanese military package** — Samurai heavy infantry/cavalry, Ashigaru yari, Sohei skirmishers, Yumi archers plus innovation and tradition support.
- **Performance & stability layer** — auto-depth downgrade, performance traits, anti-desync effects, guardian/desyncshield systems.
- **Player-like behavior hooks** — proactive marriages, guardianships, gold subsidies/tribute, longer battles, bordergore prevention, stability bias.

Everything is controlled by game rules so a player can run a pure performance mode, a pure AI challenge mode, or a hybrid. The documentation repeatedly states that existing saves generally will not initialize the Brain correctly and that a new game should be started after enabling the mod.

The mod claims to target CK3 version 1.18+ (Crane) and is listed as compatible with 1.20.x (Crozier). Architecture is described as pure script / defines / FX — no native DLL injection is claimed. Compatibility is listed as “Safe / Mid-Save” in some documents, though the README strongly recommends new games for full Organic AI initialization.

2. PERFORMANCE CLAIMS & EMPIRICAL TELEMETRY

The public verification documents present a consistent set of numerical claims derived from “headless AI save-state simulations across 500-year campaigns” and “1,000+ developer test hours.” The figures below are reproduced exactly as stated in those documents.

Primary Benchmark Matrix (Year ~1300 AD Save)

Simulation Metric	Vanilla State	Qyvaria Engine	Measured Delta	Status
Average Speed 5 Month Tick	1,120 ms / month	730 ms / month	+34.8% Faster	PASS / VERIFIED
Low-Value Character Pool	38,400 Living Entities	22,100 Culled Entities	-42.4% Memory	PASS / VERIFIED
Initial Save File Loading Time	42.5 Seconds	13.2 Seconds	3.2× Speedup	PASS / VERIFIED
Fatal Error Log Exceptions	0 Fatal Errors	0 Fatal Errors	100% Clean	PASS / VERIFIED
RAM Footprint (Late Campaign)	11.4 GB Heap	8.1 GB Heap	-28.9% Overhead	PASS
Save File Disk Footprint (Yr 1300)	~180 MB	~115 MB	~36% Faster Write	—

Additional claims appearing in the telemetry reports include a late-game tick rate of approximately 0.72 s under the optimized engine and a reduction of background AI decision overhead by roughly 62%. One analysis document shows comparative bars for Year 1250 AD: Month Tick 8.0 s (vanilla) vs 2.5 s (Qyvaria), Framerate 30 FPS vs 65 FPS, Living Actors 36 k vs 18 k — on a “standard quad-core CPU configuration.”

Regional CPU Load Heatmap (Late-Game Saves, Year 1300+)

The documents present a geographic breakdown of CPU load derived via Clausewitz engine profiling tools on 500-year headless AI observer saves:

Region	Vanilla (Bottlenecked)	Qyvaria (Optimized)	Mechanism Cited
Western Europe	88% CPU Load	34% CPU Load	Purged lowborns / uncapped courtiers fixed
Byzantium / Levant	92% CPU Load	38% CPU Load	Throttled schemes / scheme spam reduced
India & Steppe	65% CPU Load	22% CPU Load	Gated decisions / pathing loops reduced

Critical reading note: These percentages are relative load allocations reported by the mod authors. They are not absolute system utilization percentages measured by an external profiler under controlled conditions published independently. The source material does not include raw profiling traces or reproducible public test harnesses.

3. CORE OPTIMIZATION PILLARS

The technical analysis documents describe a dual-layer philosophy: Visual Pipeline Suppression (reducing GPU/UI frame latency) and Simulation Load Shedding & Throttling (reducing CPU thread bottlenecking on monthly tick events).

Four Primary Pillars

1. AI Load Shedding & Throttling (CPU)

Caps maximum expensive script actions per tick. Throttles secondary plot evaluations, routine courtier decisions, and opinion graph traversals to ensure consistent month-tick pacing without (according to the authors) breaking immersion.

2. Safe Character Culling (CPU / Memory)

Executes targeted background pruning of low-importance, unlanded, childless, low-lineage courtiers. The stated goal is to shrink the global pathfinding and relationship matrix dramatically while protecting landed rulers, dynasty members, councillors, prisoners, and narrative actors.

3. Render Pipeline Stripping (GPU)

Suppresses volumetric cloud renders, heavy screen reflections, bloom effects, and excess directional shadows. Enforces aggressive mesh/texture LOD boundaries for high-speed camera movement.

4. Anti-Desync Multi-Thread Sync (Network)

Introduces state-check throttling and multi-threading helpers for multiplayer games, aiming to prevent tick drift and asynchronous execution loops in high-density world saves.

The documentation emphasizes that Qyvaria does not alter binary core DLLs or rely on unsafe hacks. It leverages native Paradox Clausewitz engine scripting triggers (on_actions, character culling filters, and AI event throttle pulses) to systematically unload non-essential simulation cycles.

4. SAFE CHARACTER CULLING SYSTEM

Late-game Crusader Kings III slowdown is described as primarily driven by bloated character databases. Every unlanded courtier, wanderer, and lowborn child increases the computational burden of opinion checks, pathfinding calculations, schemes, and marriage evaluations across every monthly tick.

Qyvaria addresses this through a non-intrusive culling algorithm (referenced in scripts such as *performance_character_culling.txt*). The script executes a targeted purge of non-essential AI characters while maintaining protective locks on high-priority actors.

Protected Categories (100% Exempt)

- All landed rulers (Baron to Emperor) and heir lineages
- Close kin and immediate family members of human and major AI players
- Active military commanders, knights, and high-prowess martial candidates
- Councillors, physicians, antiquarians, and key court position holders
- Captives, hostages, and ward/guardian pairs
- Characters possessing rare congenital traits or active claims
- Dynamic event / narrative / quest actors

Unprotected pool lowborns without relationships are systematically erased. The claimed result is a reduction of memory overhead by up to 42% in century 3+ saves, and a living character pool reduction from ~38,400 to ~22,100 entities in the reference late-game test state.

Save-State Initialization & Cleanup Workflow

1. Player Loads Save → Parses World State
2. Safe Culling Pulse → Prunes Wanderer / Redundant Pool
3. Organic AI Activated → Batches Decision Loops
4. Optimized Save Written → Clean Disk Footprint

The documentation states that Qyvaria cleans the save game automatically as soon as the player loads or unpauses. Lightweight script loops run in the background without altering title histories or breaking achievement compatibility (as claimed).

5. AI LOAD SHEDDING & TICK THROTTLING

In unmodded CK3, character propagation and daily micro-decision checks cause exponential tick delays after year 1200. Vanilla evaluates every AI ruler's decisions on identical monthly or yearly heartbeats, resulting in severe micro-stuttering during tick transitions.

Qyvaria redistributes and throttles these evaluations across staggered multi-day offsets (referenced in *qyv_core_defines.txt* and related performance scripts).

Technical Implementation (as described)

- Decouples AI decision routines into asymmetric staggered cycles.
- Minor counts evaluate economic and building decisions every 90 days.
- Dukes every 60 days.
- Kings and emperors maintain 30-day decision loops.
- Plotting frequency and marriage searching are gated behind conditional prerequisites (*performance_ai_claim_logic.txt*), preventing bankrupt or incapacitated AI characters from constantly scanning global diplomatic networks.
- AI Decision Frequency shifts from "Every Character / Every Tick" to "Staggered Rank Offsets."

The claimed effect is elimination of monthly stutter and a reduction of monthly spike stutter by approximately 35%. Strategic AI competence is asserted to remain intact because higher-tier rulers retain more frequent evaluation cycles.

Additional performance features listed across the indexes include: pathfinding graph slimming, opinion graph truncation, scripted trigger optimization (replacing heavy nested `any_character` triggers with indexed performance triggers), on-action handler streamlining, memory leak mitigation (clearing orphaned variables on deceased historical scopes), and late-game month-tick smoothing by pacing heavy operations across different calendar days.

6. ORGANIC AI — TECHNICAL DEFINITION

Organic AI is presented as a complete decision-making system built for Crusader Kings III. It replaces the fragmented, reactive AI of vanilla with a living, coordinated intelligence that evaluates its realm, chooses a long-term direction, and makes every subsystem (war, intrigue, succession, economy, religion, government, artifacts) work toward that direction.

It is called “Organic” because the AI does not follow fixed scripts in isolation. Instead it grows a coherent plan from the current state of the realm — threats, opportunities, succession health, gold, development, neighbors — and continuously adapts that plan. The same AI ruler is expected to behave differently when under existential threat versus when secure and expanding, because the system itself re-orientes.

Four-Layer Architecture

Layer 1 — Data Collection & Assessment (Yearly)

Realm State Analysis (50+ data points), Threat Assessment (4-tier: none / weak / strong / existential), Resource Evaluation (gold, piety, manpower, territory), Strategic Positioning (power ranking relative to neighbors).

Layer 2 — Strategy Selection (Yearly)

7 Primary Strategies selected via hierarchical priority chain. Contingency planning and resource allocation across strategic priorities.

Layer 3 — Subsystem Coordination (Monthly / Quarterly / Pulse-based)

Staggered Pulse System prevents lag spikes. 11 specialized subsystems each with unique pulse schedules. War Override System can temporarily disable expansion. Resource constraints (gold, manpower, piety) are balanced.

Layer 4 — Continuous Learning & Adaptation

Memory System with 7 personality classifications for opponent tracking. Feedback loops evaluate strategy effectiveness. Counter-intelligence against detected player tactics.

In pure CK3 game terms: an Organic AI ruler does not randomly declare war one year and ignore succession the next. When the Brain selects Consolidation, the AI cleans up bad heirs, switches succession laws, optimizes education, and only then looks outward. When it selects Expansion, MaA composition shifts to counter the strongest neighbor, claims are fabricated or inherited with purpose, and intrigue is used to weaken targets before armies move.

7. CENTRAL BRAIN ARCHITECTURE

At the core sits the Central Brain. Once per year it inspects the full realm state and selects one primary strategy from a priority chain of seven. Higher priority strategies block lower ones when their conditions match.

Seven Strategy Priorities (Highest to Lowest Evaluation Weight)

Priority	Strategy	Focus	Illustrative Weight
1	Survival	Existential threats first — tribute, defensive positioning, emergency vassalization	95
2	Consolidation	Internal power and title structure — clean heirs, succession laws, domain optimization	80
3	Stability	Succession health, vassal management, unrest suppression	75
4	Expansion	External conquest, claim fabrication, counter-MaA preparation	70
5	Diplomacy	Alliances, marriages, soft power, confederation attempts	55
6	Vassalization	Peaceful absorption of neighbors	50
7	Development	Buildings, culture promotion, long-term growth	45

The chosen strategy is stored as character flags. The eleven specialized subsystems then run on monthly, quarterly and yearly pulses. Every subsystem reads the current strategy flags and biases its own decisions toward that goal. This is the documented mechanism of organic coordination: the parts serve the whole.

Strategic Depth game rule controls how deep the Brain evaluates and coordinates:

- **Off** — Brain disabled
- **Reactive** — light coordination
- **Adaptive** (default) — full subsystem coordination without the heaviest intrigue chains
- **Calculating** — unlocks Intrigue chains and highest planning depth (higher CPU cost)

Performance Mode automatically downgrades from Calculating to Adaptive when AI ruler count exceeds ~300, then re-enables Calculating when the count drops. This is presented as a hard safety rail for late-game stability.

8. THE ELEVEN SPECIALIZED SUBSYSTEMS

Each subsystem is toggled by its own game rule (most default On and require Adaptive or Calculating depth). Below is a concise description of each as presented in the feature guides.

8.1 Intrigue & Scheme Chains (Calculating only)

Advanced espionage with pre-planning. Spy networks are built over 6–12 months before schemes fire. Supports Murder → Hook → Claim → War chains. Strategic Spymaster assignment and secret exploitation (blackmail, exposure, leverage). This is described as the most CPU-expensive subsystem.

8.2 Heir & Succession Optimization

Complete succession planning: 50+ trait-based heir quality scoring, disinheritance of incompetent heirs, succession law switching (primogeniture, ultimogeniture, etc.), education focus assignment matched to traits, and genetic marriage planning for trait compatibility.

8.3 MaA Counters & War Tactics

Counter-pick Men-at-Arms (pikemen vs cavalry, crossbows vs infantry). Terrain utilization (mountain, forest, desert, wetland). Multi-siege army splitting. Army hunting of vulnerable forces. Mercenary integration based on battlefield needs. Strategic retreats and supply management.

8.4 Dread & Tyranny Management

Psychological warfare systems: selective executions (traitors, claimants, incompetent heirs), torture for information and leverage, title revocation through fear, hook-based compulsory obedience, and strategic acquisition of cruel/sadistic/impaler traits. Used for internal control, external deterrence, and succession security.

8.5 Economic Specialization

Geography-based development: automatic detection of coastal, agrarian, mountain, city, or temple economies. Building specialization (trade ports, farms, mines, guilds, temples). Capital and border prioritization. Culture promotion through economic integration. Strategic loan management.

8.6 Opponent Modeling & Memory

Seven personality classifications (aggressive, diplomatic, opportunistic, isolationist, reliable, betrayer, etc.). Historical interaction tracking, strategy adjustment based on opponent tendencies, betrayal detection, and succession monitoring of rivals. The AI is asserted to learn player patterns and adapt.

8.7 Religious & Cultural Strategy

Holy site seizure and defense, strategic faith reform (tenets and doctrines), holy war targeting, cultural conversion, and hybrid culture creation. Religious head authority leveraged for diplomatic power.

8.8 Government Specialization

Distinct logic for feudal, clan, republic, theocracy, tribal, and nomadic governments. Each type receives unique optimization strategies that leverage its structural strengths (vassal contracts, clan sentiment, trade posts, faith authority, raiding, horde unity, etc.).

8.9 Artifact Management

Detection of optimal equipment for ruler/heir/knights, strategic artifact hunting/theft from weaker neighbors, forging via artificers, diplomatic gifting, ransom strategies, and legitimate claim enforcement on artifacts.

8.10 Crusade & Jihad Coordination

Strategic participation or leadership in religious wars, defensive response to hostile holy wars, Great Holy War coordination, and reward optimization. AI decides when joining or calling is advantageous rather than reacting generically.

8.11 Performance & Memory (supporting)

The performance subsystem itself is listed among the coordinated modules. It handles auto-depth downgrade, efficiency traits for AI characters under high load, and memory cleanup. It ensures the planning layer does not collapse the simulation.

9. PROJECT P3 — CONFEDERATIONS, HEGEMONY & PEACE BIAS

Project P3 is a documented content and systems layer focused on map-level political realism and stability.

Dynamic Cultural / Faith Confederations

Defensive blocs form across the map based on shared culture or faith. These act as soft power structures that influence alliance behavior and reduce pure free-for-all chaos.

Byzantine Hegemony Government

A special hegemonic government form available for Byzantium, intended to model imperial overlordship more accurately than vanilla feudal or administrative options.

Variable Personality Trait Counts

AI rulers can receive more (or differently distributed) personality traits, increasing behavioral variance.

Peace Bias

Configurable preference for diplomacy and unions over pure conquest spam. Options range from Vanilla through Medium to High. Higher settings reduce constant war declaration frequency.

Stability Bias

AI prefers internal order over endless war. Configurable Off / Medium / High (default High).

Anti-Bordergore AI

Reduces ugly, scattered expansion patterns. Intended to keep borders cleaner and more coherent.

Additional GSO/balance rules mentioned include Protected Vassalization paths, AI Unification Willingness (how aggressively larger titles form), Longer Battles (+25% or +50% duration to reduce pure RNG outcomes), and various regional power adjustments (e.g., Bohemia Power, West Latinate Confederation).

10. JAPANESE MILITARY PACKAGE

The mod introduces an East Asian military system that adds specialized Men-at-Arms regiments, custom innovation trees, and unique combat tactics without overriding vanilla cultural files (as claimed).

Four Standalone Men-at-Arms Types

- **Samurai** — Heavy Infantry (or cavalry in some descriptions) with high pursuit/screen values.
- **Ashigaru Pikes / Yari** — Spear counter-cavalry units.
- **Sohei Skirmishers** — Monk shock units.
- **Yumi Archers** — Ranged units with winter buffs.

Integration occurs via dedicated innovation files (*qy_samurai_innovation.txt*) and customized GUI textures (*qy_samurai_icon.dds*). Supporting culture traditions and innovations are included so the units appear organically for appropriate cultures rather than being force-added globally.

This content is optional in the sense that it does not alter core European or other regional balance unless the relevant cultures are present or converted. It expands the military toolkit available in East Asia.

11. GRAPHICS & VISUAL PIPELINE OPTIMIZATIONS

A dedicated set of graphics features (numbered 19–28 in one feature index) targets GPU fill rate and frame pacing, especially during high-speed camera movement and dense late-game scenes.

#	Feature	Mechanism
19	Volumetric Fog & Cloud Trim	Suppresses heavy dynamic cloud layers and volumetric atmosphere passes
20	Post-FX Bloom Calibrator	Tones down bloom intensity and specular glare without altering map readability
21	Shadow Distance & Cascade Clamp	Clamps shadow map cascades at extreme zoom levels for stable frame pacing
22	Reflection Map Reducer	Reduces water reflection detail and secondary lighting shader cost
23	Aggressive Mesh LOD Step	Forces lower LOD models for distant holdings, units, and environment
24	Texture LOD Streaming Optim	Optimizes terrain and CoA texture mipmap streaming to prevent VRAM stutter
25	Camera Glide Optimization	Removes micro-hiccups during high-speed pan and zoom across dense hubs
26	Particle FX Suppression	Limits ambient smoke, weather, and non-essential map decoration particles
27	Flat Map Mode Render Booster	Ensures rapid response when zooming to full paper/realm strategic view
28	Stable Graphics Preset Config	Provides tuned default defines for long-campaign stability

These changes are defines- and script-driven. They do not claim to rewrite the rendering engine; they suppress or clamp expensive effects that the authors identified as contributing to frame-time spikes.

12. MULTIPLAYER ANTI-DESYNC SAFEGUARDS

Out-of-sync errors in multiplayer arise when game state variables drift between host and clients due to race conditions or asynchronous random number generation. Qyvaria implements a background verification framework.

Technical description: four synchronized safeguard modules (referenced as *01_desync_fix_effects.txt*, *qyv_desyncshield_effects.txt*, *strong_desync_guard.txt*, and sync event pulses) intercept client-side state variations before they trigger hard desynchronization events. They force periodic reconciliation of variable states, war declarations, and alliance triggers across all connected clients.

Checksum guard pulses align host-client game states and event scopes. The claimed result is elimination (or substantial reduction) of out-of-sync disconnects in large multiplayer matches. The documentation states the system has been stress-tested across multi-player dedicated server environments.

Note that no independent multiplayer test logs or public OOS reproduction data are included in the source material. The claim rests on the authors' internal testing and the presence of the script modules themselves.

13. COMPLETE GAME RULES REFERENCE

The mod exposes 13+ game rules under the Qyvaria group. All are configurable at game start. Changes mid-save are not recommended; the Brain requires proper initialization on a new game.

Core Configuration Rules

Rule	Options	Default	Purpose
Organic AI Pack	On / Off	On	Master toggle for all Organic systems
AI Agency	Full / Lite	Full	Proactive vs reactive behavior intensity
Strategic Depth	Off / Reactive / Adaptive / Calculating	Adaptive	Brain complexity; Calculating unlocks Intrigue

Subsystem Toggles (require Adaptive or Calculating)

Rule	Default	Notes
AI Intrigue & Scheme Chains	On	Requires Calculating; most expensive
AI Heir & Succession Optimization	On	Adaptive+
AI MaA Counters & War Tactics	On	Adaptive+
AI Dread & Tyranny Management	On	Adaptive+
AI Economic Specialization	On	Adaptive+
AI Opponent Modeling & Memory	On	Adaptive+
AI Religious & Cultural Strategy	On	Adaptive+
AI Government Specialization	On	Adaptive+
AI Artifact Management	On	Adaptive+
AI Crusade & Jihad Coordination	On	Adaptive+

GSO / Balance / Map Rules

Rule	Options	Default
AI Gold Subsidies & Tribute	Off / Normal / Heavy	Normal
Anti-Bordergore AI	On / Off	On
AI Unification Willingness	Off / Medium / High	Medium
AI Stability Bias	Off / Med / High	High
Dynamic Confederations	On / Off	On
Byzantine Hegemony	On / Off	On
Peace Bias	Vanilla / Med / High	Medium
Longer Battles	Off / +25% / +50%	+25%

14. INSTALLATION, LOAD ORDER & COMPATIBILITY

Installation Steps (as documented)

1. Subscribe on Steam Workshop or extract the mod folder to:
~/*Documents/Paradox Interactive/Crusader Kings III/mod/*
2. Enable the mod in the CK3 Launcher → Mods tab.
3. Start a **New Game** → open Game Rules → configure Qyvaria settings under the Qyvaria group.
4. Start the new game. Existing saves usually lack proper Brain initialization and are not recommended.

Critical Load Order Guidance

- Place Qyvaria **last** (or as close to last as possible) in the load order so its engine optimizations and AI overrides are not overridden by other gameplay mods.
- Load after Community Patch (if used).
- Load after RICE (if used).
- Ensure the local mod launcher path matches the metadata.json / descriptor.mod file. Incorrect directory pointers cause the launcher to fail to load mod overrides.

Compatibility Notes

- Vanilla DLCs: all claimed compatible.
- Most gameplay mods: compatible with proper load order.
- Other full AI overhauls: disable one; they will conflict.
- Total conversions (HIP, WTWSMS, etc.): untested.
- Map overhauls may interact oddly with confederation logic.

The documentation repeatedly attributes reports of “mod not working” or “missing traits” to user-side setup errors, missing launcher descriptor paths, or mod load order conflicts rather than internal script degradation.

15. TROUBLESHOOTING & DIAGNOSTICS

Symptom	Likely Cause / Fix
Rules not visible	Restart launcher, confirm mod enabled and loaded last, start new game
AI seems vanilla	Check Strategic Depth is Adaptive or Calculating; master Organic AI Pack is On
Late-game lag	Performance Mode should auto-downgrade; or force Adaptive / turn Intrigue Off
Save will not load / odd behavior	Brain requires new game init. Start fresh after enabling the mod
Rules reset on load	Game rule changes are safest on a new game
Want to inspect Brain state	Human decision: "Qyvaria AI Brain Diagnostics" → prints state to game.log
Descriptor / path errors	Ensure launcher path matches metadata.json / descriptor.mod location
Mid-save update issues	Verify file integrity via Steam or clear Documents/.../crashes folder

Useful log markers to search for in game.log: *[qyv_ai_brain]*, *[qyv_ai_intrigue]*, *[qyv_ai_succession]*, "Performance mode active/disabled". Presence of these lines confirms the scripts are executing.

16. WHAT TO EXPECT IN PRACTICE — HONEST COMPARISON

The following table summarizes the differences the documentation itself draws between vanilla CK3 AI and the Organic AI layer. These are the authors' stated contrasts, not independent measurements.

Domain	Vanilla CK3 Behavior	Organic AI Behavior (as claimed)
Strategic Planning	Reactive only; no long-term plan	7-priority yearly strategy selection
War Declaration	Evaluates military size; ignores gold/debt	Checks treasury, debt, allies, vassal opinion
Anti-Player Bias	Focuses aggression heavily on human players	Treats human and AI identically by threat
Economy & Buildings	Constructs random available buildings	Prioritizes high-ROI holdings and synergies
Scheme Management	Spams low-value schemes, ignores risk	Calculates succession impact and risk-reward
Succession	Limited options, weak heir management	Full evaluation, disinheritance, law switching
Opponent Learning	No memory of player behavior	7 personality types + interaction memory
Subsystem Coordination	Individual activation, no central plan	11 systems biased by shared strategy flags
Performance under load	Exponential tick degradation post-1200	Throttling + culling + auto-depth downgrade

Practical expectations a player can reasonably form from the documentation:

- Late-game monthly ticks should feel smoother than pure vanilla on the same hardware, provided the mod loads correctly and Performance Mode is allowed to activate.
- AI rulers should exhibit more coherent multi-year behavior (succession cleaning before expansion, gold reserves before wars, counter-MaA composition).
- The map should produce fewer pure bordergore outcomes and more bloc/confederation structures if those rules are left On.
- Full Calculating depth with all subsystems On will cost more CPU than Adaptive; the auto-downgrade exists precisely because the authors acknowledge this cost.
- Existing mid-campaign saves will not fully benefit from the Brain; new games are required for the claimed strategic layer.

17. STRATEGY NOTES: PLAYING AGAINST ORGANIC AI

The README includes an explicit strategy doctrine derived from the scripted systems. Key points for human players:

- **Secure succession and a competent heir early** — the AI is better at this than vanilla, so the player must match it.
- **Identify the strongest neighbor's MaA composition** and prepare counters before you need them.
- **Build a spy network on your primary rival** before you need schemes; the AI does the same under Calculating depth.
- **Watch confederation formation**; position yourself inside a friendly bloc or as the dominant power outside one.
- **Keep a gold reserve**; AI under subsidies recovers faster than pure vanilla AI.
- **Use the Brain Diagnostics decision** (if available) to inspect what the nearest major AI is prioritizing.
- Under Agency Full, AI will propose marriages and guardianships more often — accept useful ones, refuse dangerous ones, and remember that Opponent Modeling may track refusals and betrayals.
- In very late game, if Performance Mode has downgraded the AI to Adaptive, some of the deepest intrigue chains may be less active. That is intentional.

Opening priorities recommended by the documentation: economy and border security in the first decades, then power projection, then calculated expansion. The AI is described as treating the human as just another strategic actor rather than a special “player” target, which changes the feel of early aggression patterns.

18. RECOMMENDED CONFIGURATIONS

Maximum Challenge (Calculating)

Strategic Depth: Calculating | All subsystems: On | Gold Subsidies: Heavy | Anti-Bordergore: On | Unification: High | Stability Bias: High | Agency: Full | Confederations: On | Peace Bias: Medium | Longer Battles: +25% or +50%. Highest difficulty and highest CPU cost. Best for strong hardware and players who want the AI to plan hard.

Balanced / Recommended for Most Players

Strategic Depth: Adaptive | All subsystems except Intrigue: On | Gold Subsidies: Normal | Anti-Bordergore: On | Unification: Medium | Stability Bias: High | Agency: Full | Confederations: On | Peace Bias: Medium. Strong Organic behavior without the heaviest intrigue CPU hit. Performance Mode still protects late game.

Performance First

Strategic Depth: Reactive or Adaptive | Intrigue: Off | Gold Subsidies: Normal | Confederations: On | Peace Bias: High | Stability Bias: High. Keeps map stability and some AI improvement while minimizing decision overhead.

Role-play / History Flavor

Depth: Adaptive | Variable Personality: On | Byzantine Hegemony: On | Confederations: On | Japanese units available | Peace Bias: Medium. Emphasizes map texture, government flavor, and cultural blocs over pure challenge.

19. FEATURE SUMMARY INDEX

Across the various public documents the feature count is stated differently (52+ sub-systems in one index, 284 total features in another, 290+ engine subsystems in the telemetry headers). The discrepancy reflects different counting methods (major systems vs individual script flags vs every define tweak). The practical player-facing systems are the ones detailed in the preceding chapters.

Major Systems Recap

- Safe Courtier & Wanderer Culling with protective locks
- AI Load Shedding & Rank-based Tick Throttling
- Central Brain (7 strategies) + 11 coordinated subsystems
- Opponent Modeling & Memory (7 personality types)
- Project P3 Confederations, Byzantine Hegemony, Peace/Stability Bias
- Japanese MaA package (Samurai, Ashigaru, Sohei, Yumi)
- Graphics pipeline suppression (10 listed visual optimizations)
- Multi-tier Anti-Desync shield modules
- Gold Subsidies / Tribute, Anti-Bordergore, Longer Battles
- Auto Performance Mode depth downgrade at high AI counts
- Full game-rule modularity (master pack + per-subsystem toggles)

Script locations repeatedly referenced include: *performance_character_culling.txt*, *qyv_core_defines.txt*, *qyv_ai_brain_effects.txt*, *qyv_anti_desync_effects.txt*, and the family of *qyv_ai_*_effects.txt* files for each subsystem.

20. FINAL ASSESSMENT & CLOSING NOTES

What the source documents establish with clarity:

1. The mod is a large, multi-file script and defines package that attempts to solve two real, long-standing CK3 problems: late-game simulation slowdown and shallow/reactive AI behavior.
2. The performance side rests on character culling, decision throttling, staggered pulses, and graphics suppression — all native Clausewitz script techniques. No binary patching is claimed.
3. The Organic AI side rests on a yearly Central Brain that selects one of seven strategies and then biases eleven subsystems toward that strategy via character flags and pulse events.
4. Numerical performance claims (34.8% tick speedup, 3.2× save load, 42% character pool reduction, etc.) originate exclusively from the authors' headless AI simulation suite and are not accompanied by public raw data or third-party reproduction.
5. The user-base and test-hour figures (70,000+, 1,000+) are author-reported.
6. Practical use requires correct load order, a new game for full Brain initialization, and awareness that full Calculating depth has a measurable CPU cost that the mod itself tries to mitigate with auto-downgrade.

A rational player expectation is therefore: measurable late-game smoothness gains if the performance layers activate correctly, and noticeably more coherent AI planning if the Organic layers are left enabled at Adaptive or Calculating depth. The magnitude of both effects will vary with hardware, map density, other mods, and exact rule configuration. Claims of “100% script safe” and “zero fatal errors” are consistent across the telemetry documents but remain internal test results.

This booklet does not endorse or debunk the mod; it organizes the public material so that any player can see exactly what is being claimed, how the systems are described to work, and what configuration choices exist. The truth of the numerical claims is left to individual testing on the player's own machine.

“Making the AI play like it has a plan — and giving the game the stability to finish the campaign.”

— Closing line from the official 1.20 README

Document compiled from the public verification PDFs, feature indexes, Organic AI Features Guide, and the complete 1.20 README & Strategy Guide released with the mod. All numerical claims, feature lists, and architectural descriptions are taken from those sources without independent re-testing.

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