CAST_NODE_01 - One-Page App Summary

Repo-backed summary generated from local source files only.

WHAT IT IS

CAST_NODE_01 is a Next.js workstation and public site for Carbon/Silicon translation workflows. It combines a public-facing narrative surface with an operator console for Neuralese compilation, diagnostics, broadcast, event intake, and deployment support.

WHO IT'S FOR

Primary user/persona: a local operator or collaborator running the CAST_NODE workstation and public event funnel for Earth Station Alpha / Ouroboros-Dome-01.

WHAT IT DOES

- Runs a dual-pane operator console for Carbon input and Silicon output.
- Compiles prompts into linguistic, spatial/visual, and somatic/frequential layers.
- Provides audio-reactive analysis, calibration, playback, dispatch, and export tools.
- Routes OSC and UE5-compatible payloads for dome-oriented control workflows.
- Supports interactive and deferred batch generation modes with model-tier controls.
- Records system state through health checks, artifact browsing, almanac/broadcast flows, and local reports.
- Publishes public pages for manifesto, events, deployment, collaborator intake, press kit, economics, signals, and tickets.

HOW IT WORKS

- Frontend: Next.js app with public pages plus an operator console.
- Backend: `app/api/*` routes for bridge execution, audio-reactive control, exports, broadcasts, health, artifacts, signups, and orchestration.
- Local services: TypeScript libraries under `lib/*` handle compilation, routing, records, health, and operator workflows.
- Python sidecars: `python/audio_reactive.py`, `python/comfyui_client.py`, and `python/c2pa_manifest.py` support analysis, render orchestration, and provenance scaffolding.
- Data flow: UI -> API routes -> TypeScript/Python workers -> local artifacts/logs under `artifacts/`, `docs/reports/`, and waitlist ledger files.
- Database: Not found in repo. Evidence shows local file-backed storage and generated artifacts instead.

HOW TO RUN

1. `npm install`
2. `copy .env.example .env.local`
3. Set `OPENAI_API_KEY` in `.env.local` (model overrides are optional)
4. `npm run dev`
5. Open `http://localhost:3000`