

MervynGate Propulsion & Stargate Alignment Blueprint

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1. Vision

The **MervynGate Network** is a large-scale interstellar infrastructure designed to allow **instantaneous or near-instantaneous travel** between star systems by combining **BlinkDrive technology** with **laser alignment gates** and **stellar power harvesting systems**.

Purpose:

- ✓ Overcome the energy limitations of interstellar travel.
 - ✓ Build a permanent transit network linking stars across the galaxy.
 - ✓ Allow BlinkDrive-equipped ships to **ride stabilized quantum fields** instead of carrying prohibitive energy reserves.
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2. Core Concept

Each gate operates as:

- **Dyson-Class Solar Energy Collector** → harnesses 1-10% of stellar output
- **Laser Alignment Array** → projects a high-intensity coherent beam toward the next gate
- **Quantum Phase Stabilizer** → creates a coherent wavefunction field enabling BlinkDrive to tunnel

Two gates form a **paired link**, creating an **energy corridor** with wavefront coherence, allowing ships to traverse nearly instantly.

3. Engineering Overview

Gate Components

- **Solar Collector Swarms** (Dyson Swarm): 100,000+ reflector satellites
- **Laser Emitters:** Green-spectrum, multi-terawatt continuous lasers
- **Quantum Stabilization Nodes:** Maintain synchronized entanglement field

Construction Sites

- **Gate A:** Solar orbit near the Sun (~1 AU)
- **Gate B:** Solar orbit around Proxima Centauri (~1 AU from its star)

ASCII Gate Layout

```
less
CopyEdit
[ Dyson Swarm ]---[ Energy Transfer Nodes ]---[ Quantum Core ]
      ||
      [ Laser Array ] → 4.3 ly → [ Mirror Array at Target Star
]
```

4. Physics & Math

Laser Travel Time

Light travel speed:

$t = \frac{d}{c}$

For 4.3 light-years (Proxima Centauri):

$t \approx 4.3 \text{ years}$

Laser alignment requires 4.3 years to establish full coherent channel.

Energy Harvest

Sun’s output:

$P_{\odot} = 3.8 \times 10^{26} \text{ W}$

Capturing 1%:

$$P=3.8 \times 10^{24} \text{ W} = 3.8 \times 10^{24} \text{ W}$$

This is enough to power multiple BlinkDrive jumps continuously.

Laser Beam Divergence

$$\theta = 1.22 \lambda / D \quad \theta = 1.22 \frac{\lambda}{D}$$

For $\lambda = 532 \text{ nm}$, $D = 10 \text{ km}$ optics:

$$\theta \approx 6.5 \times 10^{-8} \text{ rad} \quad \theta \approx 6.5 \times 10^{-8} \text{ rad}$$

At 4.3 ly:

Spot size $\approx 8.4 \text{ million km}$ \rightarrow mitigated by phased-array laser focusing + adaptive mirrors.

Blink Tunnel Energy

Stabilizing the corridor requires:

$$E \approx 10^{16} \text{ J} \quad E \approx 10^{16} \text{ J}$$

Minimal compared to full ship acceleration to 0.1c.

5. Timeline for Construction

- **Phase 1:** Deploy Dyson Swarm around Sun – 20 years
 - **Phase 2:** Build Gate A laser array – 10 years
 - **Phase 3:** Launch automated Gate B assembly ships – 20 years travel + 5 years build
 - **Total:** ~55 years for first link
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6. ASCII Gate Pair Network Expansion

diff

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[Sun Gate] ==== [Proxima Gate] ==== [Next System Gate] ...

(4.3 ly)

(5.2 ly)

7. Manifesto & License

License: CC0 – Free for humanity.

Ethical Clause: No militarization of the gates.

“When the gates align, humanity becomes interstellar.”