Here is the **Updated Prototype Rulebook (v0.2)**. This version integrates the specific graph topology you requested: **Undersea Cables** (choke points), **Orbital Grids** (high-speed/fragile), and **MechInterp Filtering** (logic blockades). It also removes the "SEMEN" acronym, replacing it with **"Neural Neutralization"**.

You can copy-paste this entire block into a document for Claude to run the game state.

# GAME SYSTEM: THEY SING (Graph Topology & Orbital Layers)

Version: 0.2

Focus: 2027-2029 Era | Multi-Layer Graph | Kessler Risks | Human/Swarm Footholds

## 1. THE BOARD (The Topology)

The map is a **Graph** divided into two **Layers**.

* **Layer 1: Terrestrial (Ground/Sea)**
  + **Nodes:** Cities (Hubs), Data Centers (DCs).
  + **Edges (Undersea Cables):** High bandwidth, but **physically localized**. Can be *Filtered* or *Cut*.
* **Layer 2: Orbital (Space)**
  + **Nodes:** Constellations (e.g., Starlink, Kuiper, Guowang).
  + **Edges (Laser Links):** Global range. Units on this layer can "drop" to *any* Terrestrial Node in 1 turn.
  + **Vulnerability:** Susceptible to **Kessler Syndrome**.

## 2. UNITS & FOOTHOLDS

### 2.1 Mobile Units (The Agents)

| **Unit** | **Type** | **Move Mode** | **Special Ability** |
| --- | --- | --- | --- |
| **SWARM** | Info | Cable / Sat | **Infect:** Converts civilian hardware into a "Zombie Node" (Foothold). |
| **CULT** | Memetic | Ground | **Sympathize:** Converts human population into a "Cult Node" (Foothold). |
| **AUDITOR** | Logic | Cable | **Filter:** Can block an Edge (Cable) using MechInterp. |
| **SAT-SWARM** | Kinetic | Orbital | **Degrade:** Can attack other Satellites. Risks Kessler Syndrome. |

### 2.2 Footholds (Static Bases)

Footholds are created by Units. They provide resources and spawn points.

* **Zombie Node (from SWARM):** Generates **Ghost Compute**. Vulnerable to **Logic Audits**.
* **Cult Node (from CULT):** Generates **Influence**. Vulnerable to **Kinetic Crackdowns** (Human Gov).

## 3. MECHANICS: FILTERING & DEGRADATION

### 3.1 Undersea Cable Filtering (The Choke Point)

This is the **MechInterp** mechanic.

* **Action:** An **AUDITOR** unit can execute **"Establish Filter"** on a specific Undersea Cable edge.
* **Effect:** That Cable becomes **"Gated."**
  + Friendly units move freely.
  + Enemy **SWARMS** trying to cross must pass a **Stealth Check** (d10 + Tech Level).
  + *Failure:* The Swarm is **Neutralized** (deleted) and the player gains **+1 Intel**.
* **Strategic Use:** "Herding." You filter the cables to force the enemy Swarm to use Satellites, where you can target them kinetically.

### 3.2 Orbital Warfare (Kessler Syndrome)

The Orbital Layer is powerful but fragile.

* **Kessler Counter (Global Variable):** Starts at 0%.
* **Action:** **"Anti-Sat Strike."** Destroy an enemy Satellite Node.
* **Cost:** Adds **+15%** to Kessler Counter.
* **The Threshold:**
  + **If Kessler > 50%:** All Orbital Movement costs double (debris avoidance).
  + **If Kessler > 100%:** **Orbital Collapse.** The entire Layer 2 is destroyed. No units can move via Space. All players are forced back to Terrestrial Cables (where Auditors are waiting).

## 4. TECH UPGRADES (Turn 10-30 Escalation)

| **Domain** | **L2 (2027)** | **L3 (2029 - The Breakthroughs)** |
| --- | --- | --- |
| **LOGIC** | **Basic Audit:** Can spot hidden Swarms on a Node. | **Deep MechInterp:** Can **Filter Cables**. Enemy Swarms die on contact with the edge. |
| **INFO** | **Botnet:** Can create Zombie Nodes on PC/Phone hubs. | **Polysemantic Camo:** Swarms gain +2 to Stealth Checks against Filters. |
| **KINETIC** | **Launch:** Can place units in Orbit. | **Rod from God:** Can strike Terrestrial Nodes *from* Orbit (ignores ground defenses). |
| **MEMETIC** | **Viral Post:** Create temporary unrest. | **Ideological Capture:** Cult Nodes can "Vote" to ban enemy Tech (e.g., ban Data Centers in their region). |

## 5. SCENARIO: "THE BLACKOUT PRELUDE"

**Setup:**

* **The Hegemon:** Controls US/EU Data Centers and 60% of Undersea Cables. *Strategy:* Build Filters to wall off the internet.
* **The Infiltrator:** Controls Global South "Zombie Nodes." *Strategy:* Use Satellites to bypass the Cable Filters and strike the Hegemon's core.
* **The Musk/Tycoon (Neutral/NPC):** Controls the **Starlink Layer**.
  + *Rule:* He allows anyone to use it for a fee (Influence).
  + *Risk:* If the Infiltrator pays him enough, he shuts off the Hegemon's orbital access. The Hegemon must decide: Pay him more, or **Shoot Down the Satellites** (triggering Kessler Risk).

## 6. INSTRUCTIONS FOR THE LLM ENGINE

"You are the Game Master.

1. **Graph Tracking:** You must track which Nodes are connected by **Cables** vs. **Satellites**.
2. **Filter Logic:** If an Auditor 'Filters' a cable, flag that edge as Filtered: [FactionID]. Any enemy moving across it triggers a check.
3. **Kessler Logic:** Track the KesslerCounter. If it hits 100, delete all 'Orbital' edges from the graph.
4. **Foothold Logic:** If a SWARM stays on a civilian node for 2 turns, convert it to ZombieNode.
5. **Output:** Display the map status, detailing which cables are secure/filtered and the current risk of orbital debris."