GhostCore Tactical Weapon System Integration

This document details the integrated tactical subsystems of the GhostCore Reactor platform for offensive and defensive operation under AI control. The GhostCore system merges energy generation, heat management, and spatial defense within a single modular architecture.

Each category of weapon system is powered or enabled by different reactor components, and their operational logic can be dynamically assigned to the onboard AI.

1. Directed Energy Weapons

- Photon Lasers (visible/infrared):
  Utilizes focused TPV output directed through optical arrays to deliver high-intensity, continuous or pulsed beam damage to precise targets.

- EMP Bursts (Already Functional):
  Generated by magnetic collapse of the molten lead coil in the reactor's heat loop, delivering ship-wide electromagnetic disruption.

- Microwave Beams:
  Reactor-fed waveguides produce high-energy microwave bursts for disabling electronic systems and sensor suites on enemy craft.

2. Kinetic Enhancement

- Magnetic Rail Cannons:

Electromagnetic launch platforms powered directly by reactor surge capacitors for kinetic projectiles at extreme velocity.

- Molten Lead Projectiles:

Superheated lead slugs launched via MHD acceleration for devastating thermal impact and armor penetration.

- Mass Drivers:

Low-atmosphere or orbital mass ejection systems for asteroid redirection or long-range bombardment. Reactor enables self-contained capacitive charging.

3. Plasma / Radiation Weapons

- Plasma Vent Lance:

Controlled venting of reactor heat via molten lead for short-range plasma blade attacks-used in emergency or point-blank scenarios.

- Radiation Denial Field:

Reactor "bleed-off" releases high-energy emissions in all directions to disable or deter proximity-based threats and incoming drones.

4. Hardened Defense Systems

- EMP Reflection Field:

The magnetic torus around the lead loop can be inverted to reflect or disperse incoming EMPs by

reshaping the magnetic topology.

- Adaptive Radiation Shield:

Smart shielding arrays modulate thickness and reflection based on external energy signatures, automatically adjusting for solar flares or radiation threats.

- Ghost Cloaking:

Electromagnetic field modulation scrambles or bends outgoing EM signatures, effectively cloaking the vessel from standard radar, lidar, or IR tracking systems.

Each system is tied into the AI ship core with support for dynamic threat-based switching, cooldown tracking, and tactical energy redistribution. GhostCore operates not just as a reactor-but as a battlefield force multiplier.