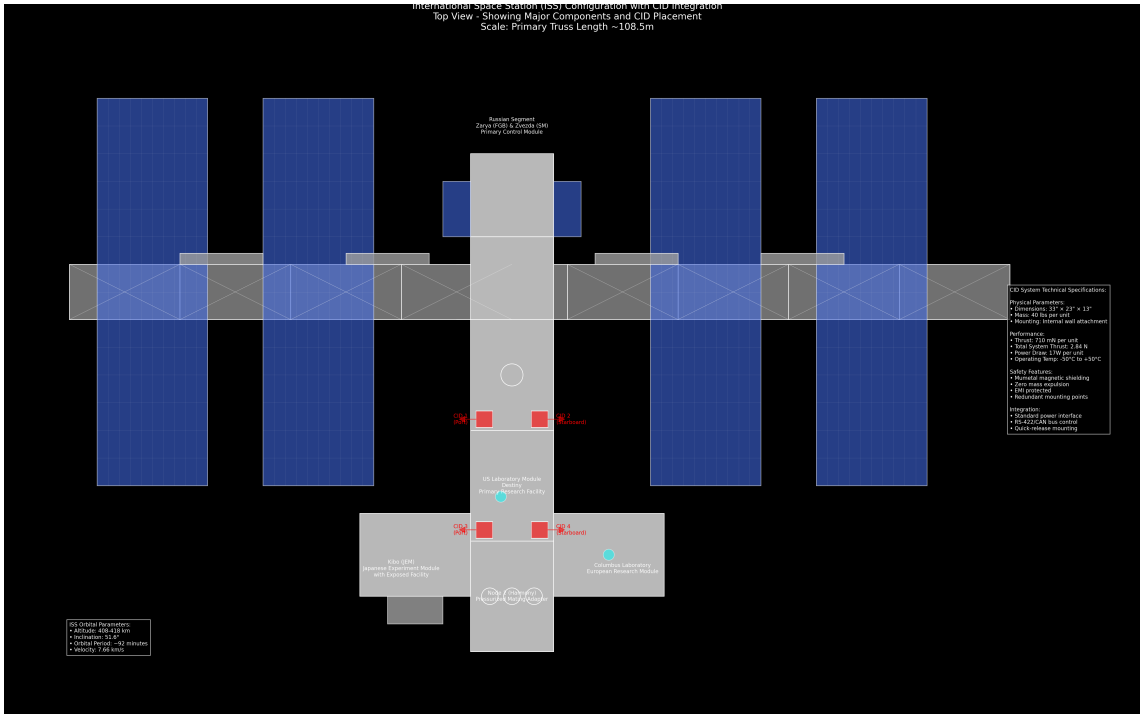
CID ISS Internal Operation Benefits



Internal Operation Advantages

Protected Environment:

- Operates in pressurized, climate-controlled space
- Direct crew access and monitoring
- No exposure to space radiation or debris
- Standard room temperature and pressure

Power and Operation:

- Direct connection to ISS power grid
- Continuous operation capability
- Real-time adjustments by crew
- No specialized space-hardened electronics needed

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Station Keeping:

- Generates continuous thrust without propellant
- Force transfers through ISS structure
- Can replace periodic reboosts
- Multiple units possible in different modules

Cost Benefits:

- Reduces need for propellant delivery
- No spacewalks required
- Minimal specialized hardware
- Easy maintenance access

Scientific Value:

- Real-world validation of propellantless propulsion
- Immediate data collection and analysis
- Long-duration testing possible
- Direct observation of orbital effects

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Implementation Strategy

Phase 1: Initial Setup

- Install single CID unit inside ISS
- Connect to station power grid
- Begin basic operational testing

Phase 2: Performance Validation

- Monitor orbital parameters
- Collect performance data
- Optimize settings with crew feedback

Phase 3: Full Implementation

- Add additional units if needed
- Integrate with station keeping operations
- Reduce dependency on visiting vehicles

Safety and Control:

- Continuous crew monitoring
- Immediate access for adjustments
- Standard safety protocols apply
- No EVA risks

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Future Potential:

- Could become primary station-keeping system
- Technology demonstration for future stations
- Scalable for different mission needs