EHDC Components Overview

- **Power Control**: Allows operator control to reset power to components in the event of a detected Single Event Upset (SEU) and controls standby mode (camera & encoder turned off).
- **Status Telemetry**: Monitors temperature, pressure, and currents.
- **Watchdog Timer**: Ensures system reliability by resetting the system in case of a malfunction.
- **Control Camera Zoom Lens Function**: Manages the zoom lens of the camera.
- **Video Encoder**: Uses the AVN443HD Encoder from Visionary Solutions Incorporated (VSI), which provides HD H.264 encoding with a bit rate range of 5-20 Mbps, nominally set to 8 Mbps.
- **Power Supply**: The primary power supply is 120 VDC, which is converted to 24 VDC. A secondary board provides separate power supplies for each component1.
- **Heaters**: Thermostat-controlled heaters are used to maintain optimal operating temperatures.

Compatibility with ISS

- **Power Sharing**: The EHDC shares power with the Luminaire heater power, utilizing 120 VDC directly from the input power.
- **Control and Communication**: The EHDC is controlled from the Mission Control Center (MCC) and uses Commercial Off-the-Shelf (COTS) hardware.
- **Installation**: The EHDC can be installed either during an Internal Spacewalk (IVA) or an Extravehicular Activity (EVA).
- **Video Output**: Provides standard HD video (720P60) and uses H.264 compression with MPEG2 transport stream.
- **Wireless Communication**: Conforms to EWC wireless Ethernet-based communications (802.11n, 5.2 GHz) and is WiFi compatible through the ISS Joint Station LAN (JSL).