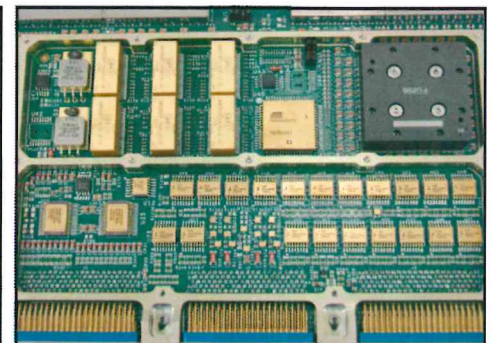
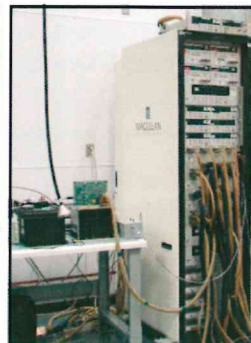
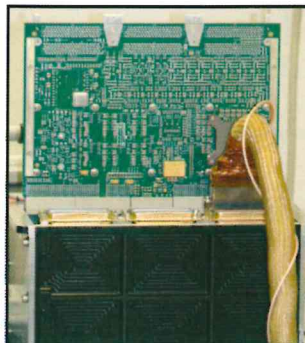
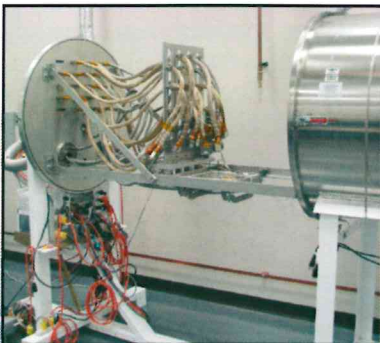


# MAC-200 CONTROL AND DATA HANDLING UNIT



- The MAC-200 Control and Data Handling (C&DH) Unit provides
- Spacecraft control processing
  - Command decoding
  - Command processing
  - Telemetry encoding
  - Data handling
  - Mass data storage

HERITAGE • RELIABLE • COLD SPARING



## OVERVIEW

The MAC-200 C&DH is a compact PCI based computer system coupled with a powerful and unique suite of Magellan-manufactured peripheral cards that interface with digital and analog signals within the spacecraft subsystems and sensors. A C&DH unit consists of a processor card, data handling card, power supply card, and an I/O card. Additional interface cards can be added to meet unique mission interface requirements. The MAC-200 C&DH is an evolution of the successful MAC-100 C&DH flown on the SCISAT-1 mission, which was launched in 2003, and operates to this day.

A C&DH subsystem is comprised of two C&DH units, one operating with the spacecraft sensors and actuators, and one as a cold spare. The C&DH units are specifically designed to allow the input and output signals of each C&DH unit to be in parallel with each other for cold sparing capability. Each C&DH unit has a unit manager that is continuously powered from the Essential bus (ESS bus) and monitors system health. If a fault should occur the unit manager initiates an autonomous, nonrecursive C&DH unit switchover.

### CARD COMPLEMENT

#### Power Supply Card:

Converts raw bus voltage to regulated levels

#### CPU Card:

Variety of processor options

#### Data Handling Card:

High speed input ports to bus, mass storage

#### Input / Output Card:

Analog and Digital I/Os, ADC and DAC functions

#### Data Handling Unit Card:

High speed input ports to payload, mass storage

### MODES

The C&DH subsystem has three operating modes:

**Normal:** One C&DH active (Essential and Non-Essential Bus), one in lower power (Essential Bus)

**Low Power:** Both C&DH on Essential Bus only. Power one-tenth of normal consumption.

**Diagnostic:** Both C&DH powered

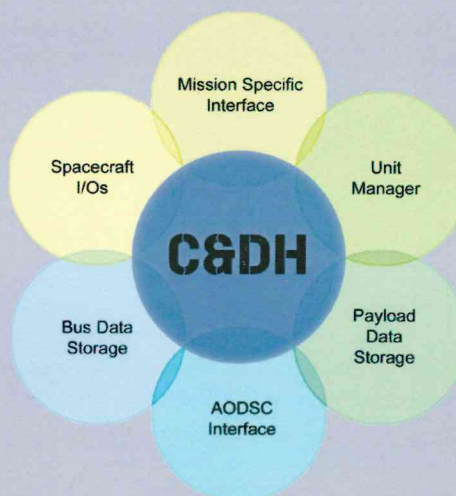
### HERITAGE

Selected for use on the following missions:

- CASSIOPE
- Three units for the RADARSAT Constellation Mission (RCM)

### TYPICAL PROPERTIES

Parameter	Dual String
Power Handling	34W
Mass	10kg
Dimensions	274 x 229 x 211 mm



*C&DH Functionality Overview*

## ABOUT MAGELLAN AEROSPACE

Magellan Aerospace is a global enterprise providing integrated products and services to the aerospace industry worldwide. Magellan designs, engineers, and manufactures aeroengine and aerostructure assemblies and components for aerospace markets, advanced products for military and space markets, and complementary specialty products. Magellan Aerospace is a public company whose shares trade on the Toronto Stock Exchange (TSX: MAL), with operating units throughout Canada, the United States, the United Kingdom, Poland, and India.

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