With its small and highly ruggedized design, CMA is an ideal fit for data acquisitions in harsh environments and demanding small space areas. CMA has the smallest size per channel real estate available and offers highly versatile acquisition modules to easily tailor the instrumentation of each specific missile use case.

With the acquisition modules, each channel type can be configured by software on the field. On board processing, recording, hardware customization, GPS localization and built-in transmitter allows an all-in-one-box implementation.

CMA’s offers advanced signal and acquisition conditioning, bus monitoring and also recording and transmission while reducing integration time, cost and risk.

With its OnBoard Processing module CMA can provide pre-processing of data on board and even external system command and control fully programmable by user.

**CMA CORE8**
**CMA CORE16**

Ruggedized Data Acquisition Unit for Missile Testing and Rocket Telemetry

- **Missiles**
- **Rocket Launcher**
- **Sounding Rocket**

**DESIGNED FOR HARSH ENVIRONMENT**
High shocks, high vibration, EMI/EMC, -50/+105, waterproof, lightning

**EASY TO CONFIGURE**
eZ software suite, High Level Configuration

**ULTRA COMPACT AND GENERIC**
Generic analog module, 2x3” / 51x76 mm, from 1 to 16 modules per stack

**MULTI FORMAT OUTPUT STREAM**
PCM Chapter 4, PCM Chapter 7, Low latency video, UDP output

**BEST DATA EVER**
1000 ppm in extreme temperature range

**PROCESS & COMMAND**
Preprocess data and program commands to external systems
## TECHNICAL SPECIFICATIONS

The CMA Core is the basic structure which receives the user modules for your acquisition, reconstruction and topology requirements.

Two core versions allow you to create:
- 1 Central Processing Unit
- 1 Power Supply + 1 Stack Cover (Core 8)
- 2 Power Supplies (Core 16)

### MECHANICAL CHARACTERISTICS

**CMA Core 8**
- Dimensions: \(51 \times 76 \times (58.3 + n \times 11)\) mm; \(n=\{1;8\}\)
- Weight: 905 g typ. (with 3 modules)
- Max. Power: 65 W

**CMA Core16**
- Dimensions: \(51 \times 76 \times (84.6 + n \times 11)\) mm; \(n=\{9;16\}\)
- Weight: 2.1 kg typ. (with 12 modules)
- Max. Power: 130 W

### INTERFACE

- Power Supply: 8 pin circular connector GLENAIR Series 801
- CPU and Application modules: 51 pin crimpable connectors, AWG 24, SOURIAU microComp

### ENVIRONMENTAL CONDITIONS

#### Test Procedure

- **Temperature**
  - Operating: -45°C to +85°C
  - MIL-STD-810G
  - Extended: -50°C to +105°C
  - Storage: -55°C to +105°C
  - MIL-STD-810G (501.5, 502.5)
- **Humidity**
  - Variation: < 10°C/min (-45°C to +85°C)
  - MIL-STD-810G (503.5)
  - MIL-STD-810G (516.6)
- **Altitude**
  - Operating: 70,000 ft
  - MIL-STD-810G (514.6)
- **Vibration, Random**
  - 37 gRMS
  - 20 – 2000 Hz
  - MIL-STD-810F (514.6)
- **Acceleration**
  - 120g
  - MIL-STD-810F (513.5)
- **Shock**
  - 50g / 11ms
  - MIL-STD-810F (513.5)
  - 120g / 2ms
- **ESD**
  - 4kV (contact) / 8kV
- **Power Supply**
  - 18 to 40 VDC 100 us power loss protection
  - MIL-STD-704F (normal and abnormal operation)
  - EMI/EMC (Transient, conducted, or DO-160 inducted perturbation and protection)
  - MIL-STD-461ED

## OPTIONAL MODULES

### Management Modules
- CMA ETH .................................................. Ethernet
- CMA NEX .................................................. Network Extender

### Analog Acquisition Modules
- CMA ANA .................................................. 8 Universal Analog ch.
- CMA ABC .................................................. 8 Quarter/Half Bridge ch.
- CMA CAA .................................................. 4 Piezo-Accelerometer ch.
- CMA HDA .................................................. 16 Single/Diff Analog ch.
- CMA HDH .................................................. 16 High Voltage Analog ch.
- CMA SCN .................................................. 2 Scanner ch.
- CMA THC .................................................. 8 Thermocouple ch.
- CMA VDT .................................................. 4 LVDT/RVDT ch.

### Digital Acquisition Modules
- CMA AFX .................................................. 2 AFDX ch.
- CMA ARC .................................................. 16 ARINC 429 ch.
- CMA CAN .................................................. 4 CAN ch.
- CMA IPX .................................................. 2 Ethernet ch.
- CMA MIL .................................................. 4 MIL-STD-1553 ch.
- CMA RSD .................................................. 4 RS-X-16 Discrete ch.
- CMA RSX .................................................. 4 RS-232/422/485 ch.
- CMA SYN .................................................. 2 Synchronizer/Resolver ch.
- CMA VDA .................................................. 2 Video ch.

### Other Modules
- CMA DBO .................................................. On-board user processing and command
- CMA GPS .................................................. GNSS Receiver
- CMA RCD .................................................. Flash Recorder
- CMA PRO/EXT ....................................... Prototyping/Extension module
- CMA TRS .................................................. 5 S-Transmitter
- CMA DMY .................................................. Dummy/Filling

### CMA NETWORK ARCHITECTURE

- **Global PCM output**
- **Other CMA Cores**
- **Other CMA Cores**

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