

CMA-5000 Integrated Avionics Computer (IAC)

Compact, low weight Avionics Computer, FMS/GPS and Display Management System



The CMA-5000 supports Multi-Function Displays (MFD), Head-Up Display (HUD) systems and mission functions on modern aircraft. A rugged platform with powerful processing capabilities, the system is designed to satisfy civil certification requirements for avionics systems.

Modular platform offers wide choice of functions

- Head-up display processing
- Multi-function display video processing and routing
- Display integrity monitoring
- Weapons delivery processing and aiming
- Primary flight display symbol generation
- Primary navigational display symbol generation
- Engine indication and crew alerting system
- Flight Management System (FMS)
- Global Positioning System (GPS)
- Customer designed software applications
- Digital moving map
- Virtual training systems

FEATURES

- Open architecture – flexible and scalable with third-party cards
- Partitioned system supports civil certification
- Software compliant to RTCA/DO-178B
- Hardware compliant to RTCA/DO-254
- Flexible, powerful display capability
- Video handling supports any page on any MFD
- Flexibility to add/remove capability without affecting existing capability
- Six Sigma design techniques for quality and cost control
- Ruggedized design for EMI and environmental considerations
- Non-volatile memory storage

CMA-5000 Integrated Avionics Computer (IAC) — Specifications

FEATURES

Compact PCI/PMC open architecture
 Multiple processor support
 Solid-state mass memory card

BENEFITS

Enhanced obsolescence management
 Exceptional growth and upgrade capabilities including third-party customer modules
 Separate operational flight programs/applications possible as a result of both hardware and software partitioning
 Map, navigation database, terrain database storage and management (optional)

SPECIFICATIONS FOR STANDARD CONFIGURATION

Two universal carrier cards, one power supply/HUD graphic driver card, one FMS with integral GPS and one spare slot

GENERAL

Size ARINC-600 5MCU, 6.19"W x 7.62"H x 15.04"D (not including mounting tray)
 Weight 24 lb (nominal) configuration dependant
 Power input +28 VDC, max 300 W (operation including HUD driver)
 Chassis cooling Convection and self-contained fans
 Connectors ARINC-600, shell size 3
 Mounting ARINC-600 5MCU tray

MODULAR CHASSIS CARD SPECIFICATIONS

Card assembly 6U, cPCI, with dual PMC sites
 Card cooling Conduction cooled to chassis
 Universal carrier card MPC7447 Power PC, 1.1GHz, 512M RAM, 256M Flash, 8M Boot Flash, 512K NVRAM cPCI environment, dual PCI busses (32bits/66MHz)
 UCC PMC Sites COTS graphics cards (dual channel input/output with capture) RGB, DVI, LVDS formats
 FMS/GPS CMC CMA-4124 GNSSA GPS module daughter card integrated onto custom 6U FMS carrier card

INTERFACE CAPABILITY (IAC external and per hardware partition)

Note: Many ARINC-429 and discrete inputs are shared between assemblies across the backplane

Interface	Qty
ARINC-429 In	42
ARIN-429 Out	22
Discrete In Open/Ground	77
Discrete In Open/28V	17
Discrete In 28V/Ground	1
Discrete Out Open/Ground	61
Discrete Out Open/28V	3
Discrete In RS-422 time mark	2
Analog In	2
Analog Out	11
Ethernet external links	4
Ethernet Internal links	4
MIL-STD-1553B	3
Composite Video In	4
Composite Video Out	3
RGB Video In	1
RGB Video Out	4
RS-232	5
RS-422 in	11
RS-422-Out	8
RS-485	1
HUD Interface	1
CAN BUS (I2C protocol)	1

SOFTWARE

Operating system Green Hills Integrity and RTCA/DO-178B
 HUD graphics driver HUD stroke symbol generation and (optional) raster
 Displays graphics driver OpenGL (standard or certified subset OpenGL)

ENVIRONMENT

RTCA/DO-160E, MIL-STD-704E

EMI/EMC

RTCA/DO-160E

GROWTH CAPABILITY

Single 6U cPCI card slots together with PMC available for growth

HARDWARE DESIGN ASSURANCE

RTCA/DO-254

⁽¹⁾ Please contact CMC Electronics for other possible options

For more information, visit www.cmcelectronics.ca or email us at sales@cmcelectronics.ca



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