



NEW – AIRCRAFT & MISSION MANAGEMENT COMPUTER

The N-AMMC is a high safety avionics computer platform designed to offer a wide range of capabilities through the use of COTS modules.

Key features include:

- Certified on Civil Rotary Wing platform – EASA Form 1
- Designed in accordance with DO254/DO178B level B compliances
- Low impact on Application SW porting
- Open System Architecture (COTS/MOSA)
- Easy adaptation to different aircraft
- Expected service life greater than 20 years without major redesign.

The N-AMMC is based on a mechanical enclosure with dimensions similar to the 5 MCU (ARINC 600). It hosts main connectors MIL-STD-38999 and supports:

Flight Management System (FMS)

Area Navigation and Tactical Patterns, Navigation Database and Display data, Helicopter and Navigation Performance computation, Horizontal and Vertical Steering commands generation for AFCS.

Data Control and Equipment Management/Preset

Mission Equipment, Communication/Identification Equipment and Navigation Sensors.

Aircraft Systems

Interfacing, Data Acquisition, Status monitoring and Alert generation Engines, Rotors and Transmission, Hydraulics, Electrical and Fuel systems.

Helicopter plants Health and Usage Monitoring and Maintenance (HUMS)

Vibration signal acquisition and processing for Transmission Monitoring, Engines and Structural Health and Usage Monitoring.

Display Management for EICAS and Navigation information and Digital Map and Symbol Generation for tactical symbol capability

Helicopter Data Upload/Download, Navigation, COMMS, Map, Mission and Maintenance Data.

N-AMMC

TECHNICAL SPECIFICATION

N-AMMC PHYSICAL SPECIFICATION

Dimensions	5MCU (319mm x 194mm x 157.7mm)
Weight	9.2Kg (max)
Power requirements	28VDC
Power dissipation	98W
Cooling	Convention cooled, closed enclosure
MTBF	2400 operative hours
Connectors	Up to 9 connectors MIL- STD-38999 and 2 Triax for I553 Avionic-8bus interfacing

PROCESSING AND INPUT/OUTPUT

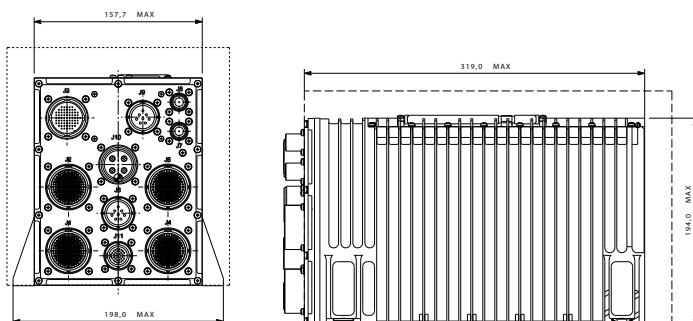
Performance	(CPU board) CPU Speed (frequency): 1GHz; 2,000 DMIPS; 1GB DDR SDRAM
Architecture	Modular Open System Architecture according to VITA 46 (VPX)
System bus	System bus implemented using High speed Serial bus (PCIe)
Processor architecture	Modular architecture based on the PCI and PCIe local buses
CPU	AMCC Processor PPC460EX @ 1Ghz
I/O interfaces	Dual redundant MIL-STD-1553 Interface 2x RS422 serial interfaces 1x RS485 serial interfaces 2x Ethernet 10/100 base T 34/28 Arinc 429/739 I/O 1x USB 2x AFDXTM-ES 184/44 Discrete I/O 60/2 Analogue I/O
Redundancy functionality	Hot-standby mode

SOFTWARE

Application SW	is field loadable by means of Arinc 615 protocol
Equipment SW	in accordance to DO178B level B
Equipment SW (including vibration monitoring SW) and Digital Map SW,	in accordance to DO178B level B
RT Operating System	GHS Integrity 178B
Software factory	ADA, C
Open GL	Safety Critical OpenGL

ENVIRONMENTAL (RTCA DO160G/MIL-STD-810G/MIL-STD-704F)

Temperature	-40°C to +70°C (operating)
Vibration (random)	0.0452g/Hz (1h/axis) Functional 0.0125g/Hz (1h/axis) Endurance
EMC	In accordance with MIL-STD-810 and RTCA/DO-160



Supported Cartographic Data And Map Functions

DIGITAL

Digital map video output	2x DVI
	2x XGA/STANAG ,B,C

RASTER

CADRG	Scale: 1:7K, 1:33K, 1:50k, 1:66K, 1:100K, 1:250k, 1:500k, 1:1M, 1:2M, 1:5M
CIB	1 mt, 5 mt, 10 mt
Arc Standard Raster Product (ASRP)	Scale: 1:250K, 1:500K, 1:1M, 1:5M
GeoTilt	Type: LAT/LONG, UTM, Lambert

VECTOR

Vector Map (VMAP)	Level 0, 1
Digital Aeronautical Flight Information File (DAFIF)	Up to 8
Digital Vertical Obstruction Format (DVOF)	Type 100 char
Shape	ESRI Shapefile
Digital Chart of the World (DCW)	57

MATRIX AND ALGORITHMS

Digital Terrain Elevation Data (DTED)	Level 0, 1, 2
Slope shading	North/west, Southwest, South/Est, North/Est
Elevation banding	Bands user-defined
Dynamic intervisibility	Number of rays and sector user-defined
Clear Line of Sight (CLOS)	According to DTED available
Dynamic threat	According to DTED available
Terrain profile (over flight plan)	According to DTED and flight plan available
Terrain awareness	DTED and DVOF input data

GRID

Universal Transverse Mercator (UTM)	Scale, and grid spacing user-defined
Latitude/longitude	Scale, grid spacing and tick spacing user-defined
Distance	Scale, centre and grid spacing user-defined

GRAPHIC MISSION SYMBOLOGY

Graphic lines/graphic symbols	Up to 2000
Graphic points	Up to 1000
Graphic arcs of circle, ellipses, circles, rectangle, squares, triangle	Up to 400 Up to 200 each symbol

IMAGES

Geo-referenced type	Bmp, jpeg, tiff, ECW
Not geo-referenced type	Bmp, jpeg, tiff, ECW

CARTOGRAPHIC DATABASE GENERATION

Map Preparation Facility (MPF)	SW tool (Microsoft Windows based) used to generate map databases starting from cartographic standard and raw data
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RADAR MAP LAYER

Radar Map Data	Rendering and converting radar spoke data acquired over ethernet interface
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