



SELEX GALILEO

A Finmeccanica Company



AMMS - AIRCRAFT AND MISSION MANAGEMENT SYSTEM

The AMMS is a powerful computing system designed to provide processing features to rotary wing aircraft, mainly:

- Navigation & Flight Management,
- Cockpit Displays Management,
- Aircraft Plants Management.

The System is composed by:

- Two AMMCs Units (the Computer Core)
- Two Data Transfer Units
- A Control Panel

The AMMS provides the capabilities to acquire, process and manage information and aircraft plant data from EFIS/ EICAS, relevant CNI equipment and AFCS, in a reliable, high performance environment.

The AMMS is based upon a core consisting of two identical computers (AMMC, Aircraft and Mission Management Computers), synchronised and concurrently performing the same operations in a master/hot-standby architecture, which allows, in case of failure of the Master, a totally automatic reconfiguration for the all system functionalities, therefore resulting into an high mission availability.

KEY FEATURES

- Redundant LRI configuration;
- Power PC G4 MCS-E 500Mhz processor;
- Easy add on of additional processor module and I/O;
- I/O configuration for different aircraft;
- COTS RTOS based on I-178B by Green Hills;
- Dedicated equipment software and ADA development environment for application;
- Digital maps: symbol generation & vectorial layers;
- Synthetic voice generator;
- Redundant MIL-STD 1553B I/F operates as BC/BM/RT;
- High communication throughput (Ethernet 10/100 baseT, MIL-STD-1553b, ARINC 429, ARINC 739, RS485 HDLC);
- AFDX Copper/Optical I/F compliant with ARINC664;
- High data storage capability (up to 8GB);
- Civil specification compliance: RTCA/DO-160D, RTCA/DO-254, RTCA/DO178B.

FUNCTIONALITIES

Flight Management System (FMS)

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

Data Control and Equipment Management/Preset

Mission Equipment
Communication/Identification Equipment
Navigation Sensors

Aircraft Systems Interfacing, Data Acquisition, Status monitoring and Alert generation

Engines - Rotors and Transmission - Hydraulics - Electrical - Fuel
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Helicopter plants Health and Usage Monitoring and Maintenance (HUMS)

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

Display Management for EICAS and Navigation information

Digital Map and Symbol Generation for tactical symbol capability

Helicopter Data Upload/Download - Navigation Data - COMMS Data - Map Data - Mission Data - HUMS Data - Maintenance Data



Control Panel

Control Panel provides the crew with current system status information and allows manual mastership selection.

Data Transfer Units (DTU)

The Data Data Transfer Units, connected to AMMCs via Fast Ethernet interface, allow data download and upload on PCMCIA Type II media (up to 8 GB).

TECHNICAL SPECIFICATIONS

AMMC is a 1 ATR size housing, with integrated power supply and up to 13 MCS standard boards.

Processor G4 MCS-E Power PC 500 MHz, 256 MB RAM, 96 MB Flash, 2 MB cache, with a 2 MB NOVRAM.

Synthetic Voice Generator

Digital Map Generator: G4 MCS-E with graphic mezzanine for map generation functionality

Interfaces

2 MIL-STD-1553 BUS I/F BC/BM/RT
20 TX ARINC 429 and 34 RX ARINC 429 channels
4 TX and 4 RX ARINC 429 Non-Time-Framed channels
250 Discrete Input Signals
17 Discrete Output Signals
6 AC Analogue High Level
54 DC Analogue Input
17 Accelerometers sensors
Magnetic Pick-Up
STANAG 3350 RGB Video output
Synthetic Voice Generator

Technical Features (AMMC)

Size:	1 ATR Short
Weight:	15.2 Kg (bi-processor)
Power requirements:	115 VAC @ 400 Hz
Power consumption:	180 W
Cooling:	Forced air cooling (ARINC 600)
MTBF:	2500 operating hours



The AMMS is the Mission Management System for the AgustaWestland EH101 helicopter