DLMS

DATA LINK MANAGEMENT SYSTEM

Non-cooperative
Sense & Avoid

ATC Civil and ATC Military

Remote Ground
Control Station

Satcom Service
Provider
Ground Terminal

The Data Link Management System (DLMS) is the "CORE" element for Data Communication Systems on Manned and Unmanned Aerial Platforms. The DLMS, as a Tactical Data Link Processor evolution, represents, for onboard systems, the gateway to access voice/data communications over broadband IP-based and legacy Tactical Data Link systems.

In current military and para-military operational scenarios, fi xed, rotary and unmanned platforms are requested to enhance their communications capability and improve their level of interoperability between heterogeneous forces on air, ground and sea, yet increasing their effi ciency in terms of better performance, higher fl exibility and modularity.

These requirements can be translated into needs like multiple data link integration, modular innovative architectures to easy the on-board platform integration and to add new capabilities minimizing HW/SW changes, and security management, including support to networked data routing (IP Based) for the full integration of the platform into the net-centric operational environment.

DATA LINK MANAGEMENT SYSTEM
MAIN CHARACTERISTICS

- Enables IP based Network Centric Communications incorporating Ethernet Switching, IP routing and IP Encryption
- Modular HW architecture based on units with Processing, I/O and IP routing/switching functions
- Partitioned SW architecture based on ARINC653 RTOS to supports independent CNI applications
- IP Network Encryption Module, adaptable to specifi c National, NATO and Coalition security mission requirements
- Video/Audio digitization and compression for realtime transmission
- Modular I/O for customization on diff erent application scenarios
- Redundant confi gurations for high availability applications
- DO178B-DO254 HW/SW development for safe applications' support
- Common Criteria and Tempest certifi cation
- UAS Communication Management.

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TECHNICAL SPECIFICATION

HARDWARE ENVIRONMENT
- VPX (VITA46) 3U form factor SRUs
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- Up to 512GB of HDD Capacity

SOFTWARE ENVIRONMENT
- Operating Systems   Wind River VxWorks 653 R2.4
      Linux O.S. DEBIAN 6.0

ROUTING/SWITCHING STANDARDS
- RFC 793 / RFC768   TCP/UDP Support
- RFC 791 / RFC 2460   IPv4/IPv6 Support
- RFC 826 / RFC1027   ARP / Proxy ARP
- RFC 1350   TFTP
- RFC 2328   OSPFv2 Routing
- RFC 2131   DHCP Server
- IEEE 802.1Q   VLAN Support
- DSCP   DiffServ QoS model
- RFC 4861   Network Discovery

NATO STANDARDS
- STANAG 5516   Link 16
- STANAG 5511   Link 11A
- MIL-STD-2045-47001   VMF
- STANAG 5519   VMF
- STANAG 5616   Data Forwarding
- MIL-STD-3011C   JREAP A, C
- MIL-STD-1553   Serial Data Bus
- MIL-STD-188-114A   Digital Interface Circuits
- MIL-STD 188-220D   Digital Message Transfer Device Subsystems
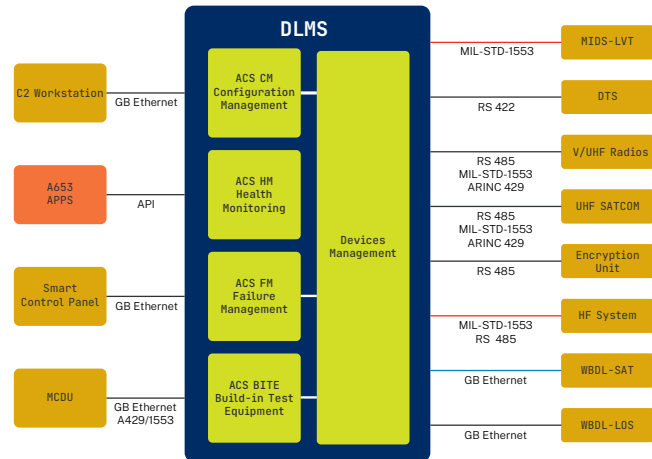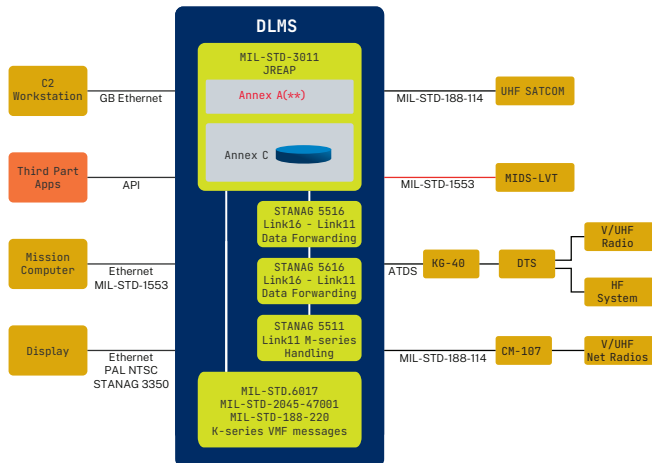
EXTERNAL INTERFACES
- 10/100/1000 IEEE802.3 (Fast/Giga Ethernet)
- ARINC 429
- RS485/422
- ATDS/Link11
- Avionic CAN BUS
- Discretes in/out, Audio in/out, Video in/out
- MIL-STD 1553
- MIL-STD188-114A

ENVIRONMENTAL CHARACTERISTICS
- Temperature   Operating: -40°C to +70°C
      Storage: -55°C to +85°C
- Altitude   Up to 50000 feet

QUALIFICATION
- RTCA/DO-160F   Environmental conditions
- MIL-STD-461E   EMI/EMC
- MIL-STD-1472   Human Engineering

MECHANICAL CHARACTERISTICS
- Dimensions   ¼ ATR (57x194x324 mm)
- Weight   <4 Kg
- Cooling   No cooling required

OTHER CHARACTERISTICS
- Reliability   MTBF 2500 hours, MIL-HDBK-217, ARW Environment, 50°C
- Maintainability   MTTR < 10 min (1st level)
      MTTR < 60 min (2nd level)
- Consumption   < 40 W
- Input power   28VDC i.a.w. MIL-STD-704F

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