MLIU-550

Multi Link Interface Unit

MLIU-550 is a Tactical Data Link Processor supporting all Tactical Data Links required by the G-550 CAEW surveillance aircraft. MLIU-550 allows participation to major Tactical Data Link networks in a small form avionic computer.

THE SYSTEM

MLIU-550 task is to interface the onboard aircraft mission system with the Tactical Data Link terminals, taking care of the tactical communications channels control.

It provides a standard and reusable interface to manage the Tactical Data Links, able to allow the data forwarding or concurrent operations among the tactical data links.

MAIN FEATURES

The MLIU-550 features Link 11A, Link 16, J-REAP and VMF, guaranteeing high level of interoperability among various types of platform such as aircraft, ground based and maritime based, command posts.

MLIU is basically multilink-oriented. Its architecture allows either single-link or multi-link operation, featuring a normalised data link database.

External data link interfaces configured into the MLIU-550 independently scan the Track's Database both on a periodic and on-demand basis to generate the appropriate messages for output.

Data received over a configured data link external interface is validated for errors and processed for automatic link responses (Reporting Responsibility shifts, ID conflicts processing, command processing, etc.).

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The normalised data link database provides also a common interface to the Host Tactical Data System designed in support of Host Application Requirements.
Control and status, surveillance and raw data message are translated into a common format and output over a LAN to the host tactical system.

This architecture allows an easy addition of future National or Standard Tactical Data Links.

MLIU-550 embeds a VMF Improved Data Modem module.

SUPPORTED DATA LINKS

- Link 16
- Link 11A
- VMF (Variable Message Format) (embedded modem)
- JREAP (Joint Range Extension Application Protocol).

EXTERNAL INTERFACES

- MIL-STD-1553B (two)
- Ethernet (three)
- RS-232C
- ATDS
- MIL-STD-188-220.

TECHNICAL SPECIFICATION

Software Environment
Programming Language	C++
Operating System	Green Hills Integrity
Computer platform	Multi-processor

NATO Standards
STANAG 5516	Link 16
STANAG 5511	Link 11
MIL-STD-2045-47001	VMF
STANAG 5519	VMF
STANAG 5616	Data Forwarding
MIL-STD-3011C	JREAP

Qualification
MIL-STD-810G	Environmental conditions
RTCA/DO-160F	Environmental conditions
MIL-STD-461E	EMC
MIL-STD-1472	Human Engineering
BS 3G 100	Combustibility

Environmental Characteristics
Temperature Operating	-15°C to +55°C
Storage	-55°C to +85°C
Altitude	Up to 15000 feet

Mechanichal Characteristics
Dimensions (3/8 ATR Short)	Width 90.4 ± 0.76mm
Height	194mm max
Depth	320.5 ± 1mm
Weight	< 6Kg
Cooling	No cooling required
Mounting	Hard mounted

Other Characteristics
Reliability	MTBF > 13000hours
Maintainability	MTTR < 20min (1st level)
MTTR	< 100min (2nd level)
Testability	92.38% (1 SRU)
	100% (2 SRU)
Consumption	< 50W
Input power	28VDC i.a.w. MIL-STD-704F.

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