

Distributed Stores Management System

Next generation distributed SMS capability

General Dynamics Mission Systems International has a 40-year pedigree in the design, development, certification and support of safety critical stores management systems (SMS) for the UK and world markets. We have developed the next generation distributed SMS capability based on our compact modular computer (CMC) technology.

Our distributed Stores Management System (dSMS) technology has been designed for air launched weapon integration and carriage system applications.

Targeting specific challenges:

- Scalability (# stations, UAS spectrum)
- Reduced Size, Weight and Power (SWaP)
- Improved system availability
- Increasing weapon complexity and mission system integration impact
- Next generation networked avionic architectures



The dSMS includes the General Dynamics Rapid Store Integration Capability (RSIC), enabling rapid, highly cost effective weapon integration through data reconfiguration of the installed software using our supplied software tooling.

Applicable to:

- Traditional manned fixed and rotary wing aircraft
- Unmanned Air Systems (UAS) in both GCS and air components
- Weapon carriage system electronics

Nodes

Weapon and release equipment interfacing

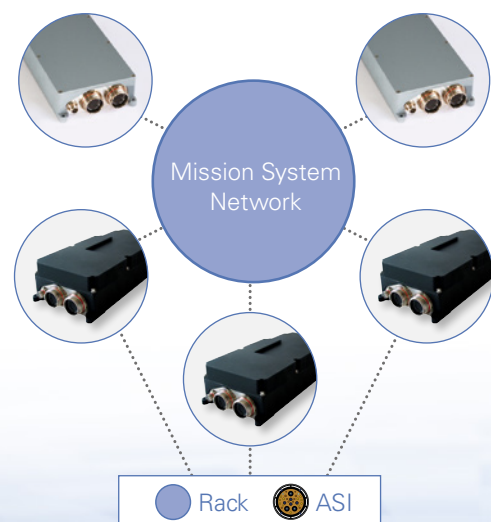
- ASI, MMSI, IMM
- Bomb racks, launchers

General weapon processing

Carriage system electronics

- MSI to [n] MMSI/IMM
- MSI to [n] bespoke

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Technical Parameters	dSMS General Processing	dSMS Station Node	dSMS Carriage Electronics Unit
Mission System Interface	Ethernet, MIL-STD-1553B		N/A
Weapon System Interfaces	N/A	2 x MIL-STD-1760 class II ASI (no HB/LB), or 2 x SAE AS 5725 MMSI class II	1 x MIL-STD-1760 MSI 3 x SAE AS 5725 MMSI class II
Suspension and Release Equipment (bomb rack)	N/A	2 off EMRU/ERU or 2 off miniature bomb rack (Harris Hornet)	2 off miniature bomb rack (Harris Hornet)
Weight (Kg)	1Kg	1.3Kg	1.3Kg
Power dissipation (W)	<15	<20	<20
Dimensions LxWxH (mm)	240 x 104 x 40-57 (variable height depending on configuration)		
Chassis	Custom		
Power supplies	1 off 28v DC logic supply 1 off 28VDC Armament supply (MASS Live)		
Generic interfaces	Ethernet, RS485, configurable Discrettes		
Available features	Weapon/store inventory discovery and conflict resolution Weapon/store mission planning, control and release Weapon/store selective jettison Weapon post launch control Rapid Store Integration Capability Comprehensive built-in test Fault and Event logging Ground Test Function to test aircraft armament system installation Extension of Ground Test Function to include MIL-STD-1760D ASI wiring with addition of separate General Dynamics Weapon Interface TestSet		Sub munition inventory management Sub munition power control management Sub munition mission planning, control and release Sub munition jettison Carriage system BIT Sub munition BIT Fault and event logging
Cooling requirements	Conduction cooling through chassis fixings		
Operating temperature	SMS function -40°C to + 50°C – Extended temperature variants available		
Storage temperature	-55°C to +85°C		
Design Vibration limits	RTCA DO-160F Section 8 categories S, R		
Design Shock limits	RTCA DO-160F Section 7 category B-R20		
Design Salt fog	RTCA DO-160F Section 14 Category S		
Design Sand and dust	RTCA DO-160F Section 12 Category S		
Design Thermal shock	DEF-STAN 00-35 part 3: Test CL14		
Design Altitude	DEF-STAN 00-35 part 3: Test CL21 – Operating up to 4,572M – Transport up to 15,220M		
Design Drip	DEF-STAN 00-35 part 3: Tests CL28		
Design EMC	DEF-STAN 59-41 for aircraft use		
System Safety	Def Stan 00-56		
Software Certification	Def Stan 00-55		