MISSION SYSTEMS

DDU IV
Data Distribution Unit Block IV

Operational Reliability in the Harshest Environments

The Leonardo DRS Data Distribution Unit Block IV (DDU IV) enables centralized interaction with platform electronics, sensors and subsystems for operation in the toughest DHS and industrial environments.

The DDU IV is based on a modular design that uses industry standard interfaces and protocols, so it can be seamlessly integrated into current C4 platforms.

Our integrated systems approach allows data to be disseminated across the network in near-real-time to other platform workstations, adjacent units and higher headquarters. The DDU IV provides the following additional capabilities to enhance tactical platform C4ISR with significant reductions in Size, Weight, Power and Cost:

Tactical Server - The DDU IV has the computing horsepower to support native and end user services and applications. Virtualization on the DDU IV allows concurrent operation of these additional services, even if the applications require multiple different underlying Operating Systems such as Windows and LINUX.

Tactical Router - The DDU IV is a fully capable data router and Ethernet switch, interconnecting on-board IP capable equipment and off-platform networks using a variety of available interfaces, and cellular LTE with worldwide coverage and data rates up to 150Mbps. Optional embedded 802.11 available.

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Voice Cross Banding and Call Management - The DDU IV is a radio agnostic gateway that interfaces to analog and digital voice radios. It provides a decentralized management service that enables cross-banding of any connected radio. The DDU IV also seamlessly interoperates with COTS VoIP devices and infrastructure using the SIP protocol.

Video Distribution - The DDU IV accepts up to four (4) analog RS 170 video feeds or a single high definition HDMI or VGA input and converts them to digital video for distribution on any attached LAN/WAN interface.

The DDU IV also distributes protected video using a forward error correction protocol to accommodate packet loss often seen in highly mobile networks. This video is multicast across the network and made available to any number of receive locations. The video can also be user selected and stored locally or remotely. The DDU IV has display outputs that can send video to a single RS 170, VGA, or LVDS display.
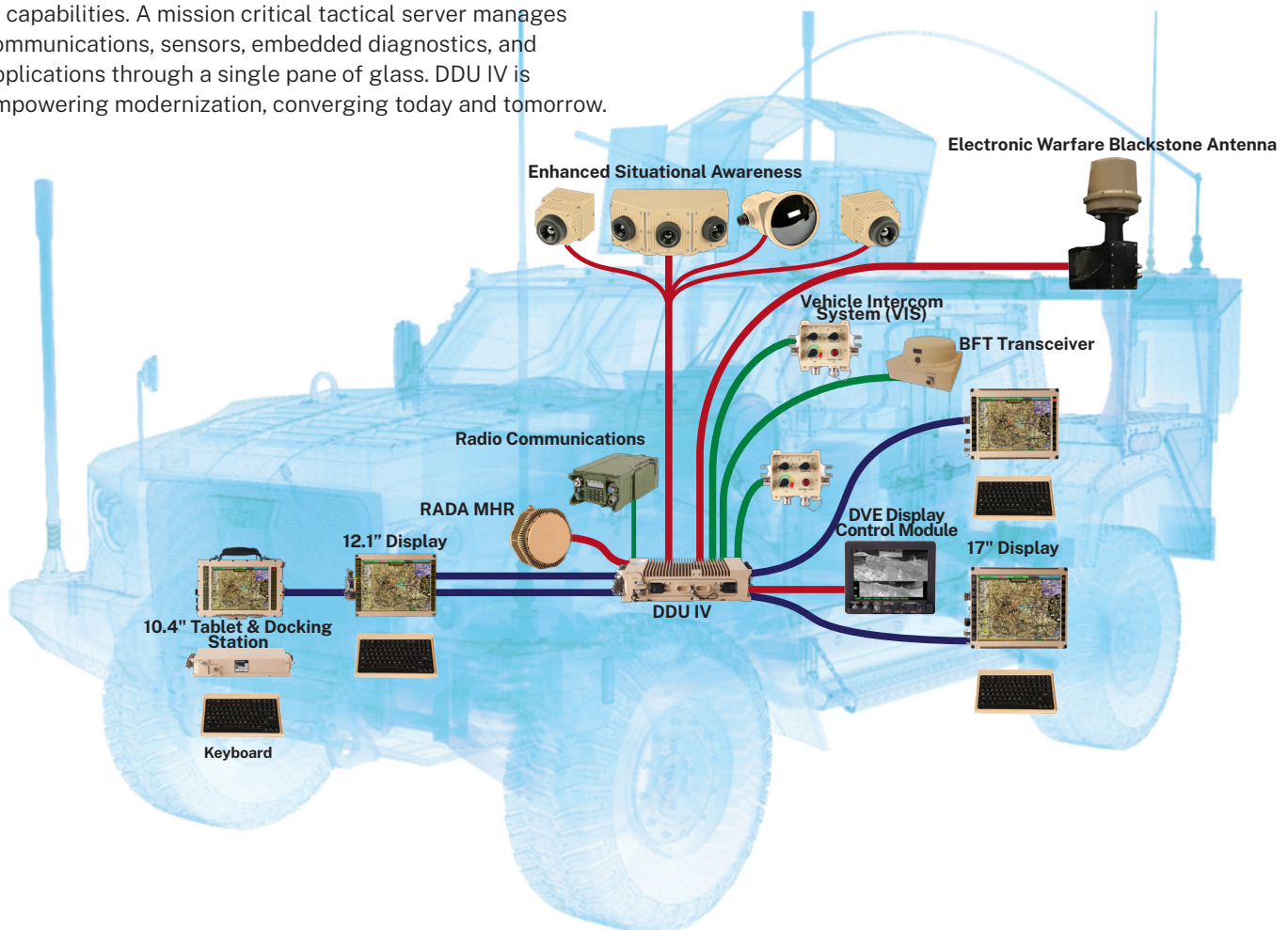
Peripheral Control, Radio Management, and Sensor Interfaces - The DDU IV hosts a software graphical user interface (GUI) that can control a variety of peripherals, radios, and sensors through any connected workstation without requiring the operator to physically manipulate the device.

GPS Distribution - The DDU IV commercial GPS receiver can simultaneously receive position information from multiple GPS constellations.

Vehicle Interface - The DDU IV provides two CAN BUS interfaces allowing applications access to vehicle sensors and systems.

DDU IV COMPONENTS

The DDU is the core component of many platform integrations and is the key enabler of any vehicle C5ISR architecture, DDU IV provides a fully integrated Mission Command suite of capabilities. A mission critical tactical server manages communications, sensors, embedded diagnostics, and applications through a single pane of glass. DDU IV is empowering modernization, converging today and tomorrow.

Enhanced Situational Awareness

Electronic Warfare Blackstone Antenna

Vehicle Intercom System (VIS)

BFT Transceiver

Radio Communications

RADA MHR

12.1" Display

DVE Display Control Module

17" Display

10.4" Tablet & Docking Station

DDU IV

Keyboard

EDGE ASSURED™ COMPUTING

- Mission Critical Reliability
- Multi-Application / Multi-Mission
- Sensor Integration Hub
- VICTORY Services Host
- Customizable / Expandable
- Vehicle Comms and Network Integration

There are many rugged computer technologies on the market today that promise performance in "Mil-Std" environments. The Leonardo DRS family of DDU platform computers have a history of demonstrated performance in mission critical environments while providing a host of sensor, application, and network integration solutions. Leonardo DRS calls the aggregation of the latest CPU technology, demonstrated rugged reliability, and broad mission capabilities Edge-Assured™ Computing.

MISSION CRITICAL RELIABILITY

Mission critical reliability means that warfighters have confidence in their equipment to perform their mission every day. Every component of the DDU family of platform computers is designed and verified to perform their functions with a reputation of high reliability. This means that mission readiness is assured and that warfighters don't need to be distracted with backup systems / replacement hardware when decisions matter the most.

MULTI-MISSION AND COMMS INTEGRATION

The DDU computers have been refreshed with enhanced CPU and RAM capabilities to support increased Situational Understanding and Mission Command modernization. Increased situational understanding, in the form of sensor integration, means that vehicle bus, shot detection and electronic warfare sensors can all be integrated into one host and redistributed as VICTORY services. Modernization, in the form of multi-mission support, means that the DDU IV can simultaneously host Mounted Mission Command, logistics tracking, Fires, and Electronic Warfare applications in a single computer. Communications integration, in the form of vehicle intercom system and radio integration, means that the DDU IV can be the hub for voice traffic, radio control, and radio cross-banding over multiple analog and IP networks.

FOR MISSION - CRITICAL APPLICATIONS IN THE MOST DEMANDING ENVIRONMENTS

INDUSTRIAL

BORDER PATROL

MILITARY

COMPUTING CAPABILITY

COMPONENT	DESCRIPTION
Processor	Intel® Xeon Quad Core Generation 6 Processor
Memory	Up to 32 GB ECC DDR4 RAM
Storage	Support for two (2) removable Solid State SATA Drives
GPS	Internal Embedded Commercial

SUPPORTED INTERFACES

Embedded GPS Options	Commercial GPS, Military SAASM, 802.11, LTE CAT 4
Ethernet	Six (6) Gigabit Interfaces, Four (4) 10/100 Interfaces
Radio Interfaces	Four (4) Military / Commercial Radio Ports each providing: RS-232 Remote Control / Date Interface, Synchronous / Asynchronous Data Support, GPS Signal Distribution using either internal or commercial GPS, Internal Military SAASM or Commercial GPS, H.250 Speaker, Microphone, and PTT Support
Video Interfaces	Four (4) Input RS-170 Ports, Singe HD HDMI or VGA Input, Simultaneous Video over IP Encoding and Distribution, One Low Latency RS-170 Output selectable across the RS-170 inputs, LVDS or VGA display output
Additional	USB 2.0, RS-232, RS-422, CAN/J1939, Digital Inputs and Outputs, Analog Inputs

ENVIRONMENTAL

CHARACTERISTIC	MEASUREMENT
Temperature	Operating: -40°C to +71°C; Storage: -51°C to +71°C
Altitude	15,000 ft (operational), 50,000 ft (transport) per MIL-STD-810G, Method 500.4, Proc I/II
Sand and Dust	Exposure to wind blown sand and dust particles at a rate of 20 ±3 miles per hour for 12 hours per MIL-STD-810G, Method 510.5, Proc I
Water Tightness	Blowing rain, water jet, immersion
Climate	Fungus resistant, MIL-STD-810G Method 508.6
Explosive atmosphere	Non-explosive when tested per MIL-STD-810G, Method 511.5, Proc I
Salt and Fog	48-hour exposure per MIL-STD-810G, Method 509.5
Humidity	Compliant with MIL-STD-810G, 507.5, Proc II
Solar Radiation	Exposure per MIL-STD-810G, Method 505.5, Proc I, hot-dry
Vibration	Wheeled, Tracked, Aggravated, Bradley profiles per MIL-STD-810G, Method 514.6, Proc I, category 20
Transit Drop	MIL-STD-810G, Method 516.6, Proc. IV
EMI	MIL-STD-461F (CE 102, CS 101, CS 114, RE 102, RS 103, CS 115)
ESD	2,000 V to I/O pins, non-operating, 15,000 V to controls/surfaces, operating
HEMP	MIL-STD-461F, RS105, CS116

ACCESSORY

ITEM	DESCRIPTION
DDU 500 GB Hard Drive Assembly	500GB Solid State Hard Drive, SATA 6Gbps, RoHS Compliant, -40°C to +71°C; Part #: 9800-54512-0000

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