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KONGSBERG
INTEGRATED TACTICAL SYSTEMS
THE PROVIDER OF INTEGRATED C4I SOLUTIONS

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EXTREME PERFORMANCE FOR EXTREME CONDITIONS

THE PROVIDER OF INTEGRATED C4I SOLUTIONS

Kongsberg Integrated Tactical Systems (KITS), headquartered in Bellport, NY, is a wholly owned subsidiary of Kongsberg Gruppen ASA, and a business unit of Kongsberg Protech Systems (KPS). KONGSBERG (www.kongsberg.com) is an international, knowledge-based group that supplies high-technology systems and solutions to customers in the oil and gas industry, the merchant marine, and the defense and aerospace industries.

KITS' engineering and operations teams specialize in providing platform-based C4ISR tactical software and ruggedized Commercial-Off-The-Shelf (COTS) hardware solutions to worldwide defense and civil responder communities.

The product suite includes extremely rugged computers and servers, sunlight readable displays and smart displays, networking components, power conditioning systems, platform monitoring and control systems, and software applications and integration frameworks.

These components have been battlefield tested in the most extreme mission environments, and are built for the most demanding maritime and combat vehicle requirements, complying with exacting MIL standards for environmental stress and EMI.

Continuous product development based on user feedback, new standards and evolving technologies ensures these solutions meet the critical requirements of military customers in today's dynamic environments. All products are designed, manufactured and tested in the USA.

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CORTEX|C4I SYSTEM SOLUTION

CORTEX|C4I is a complete ground and maritime platform solution that ties GFE, subsystems and sensors together using an open architecture and a common operator interface for each control position. This standards-based system provides the infrastructure, hardware components and software applications that enable operators to control mission-critical subsystems from a single workstation.

The system software uses Data Distribution Service (DDS) middleware* from Kongsberg Gallium to provide a distributed architecture, and flexible and open integration framework. This integration capability includes communications, managing and monitoring vehicle systems, target hand-off, viewing camera and UAV feeds, interacting with Battle Management Software (BMS) and recording mission data.

The CORTEX|C4I Human-Machine Interface (HMI) software fuses subsystem data into a flexible format that allows for the customization of views and system controls, tailored to each platform and work station. It provides an intuitive graphic user interface for every operator, allowing access to map, GPS and radar data, live and recorded video, Pan-Tilt-Zoom controls, Local Geopositional SA, vehicle health (CAN Bus) monitoring, tactical radio controls, BMS interfaces and data fusion services.

* Data Distribution Service (DDS) Application Programming Interface (API) managed by Object Management Group (OMG)

"With DDS, components can be added, upgraded, or replaced as a routine part of a program's evolution and maturation. Integration is much simpler. DDS offers broad interoperability. It connects with enterprise technologies like Web Services, with other protocols, and between vendors of DDS. It fosters net-centricity and eliminates the need for custom bridging and integration solutions."

Source: DoD 2011 Executive Brief on DDS

FEATURES:

- Standards-Based, Open-Architecture Data and Video Distribution Systems
  - Implements a DDS API Managed by OMG
  - Promotes Interoperability between Disparate Subsystems
  - Utilizes Open Standard Codecs to Digitize & Distribute Video
  - Enables Efficient Data & Video Sharing between Platforms via Local Wireless Networks
- Flexible, Intuitive, Standard-Based Graphical User Interface
  - Access to Fused, Mission-Critical Data Ensuring Enhanced Situational Awareness
  - Customized, Role-Based Work Station Views
  - Operator-Configurable Alerts & Warnings
- Platform & Sensor Agnostic System Solution
- Rugged, SWaP-Efficient Components
- Tactical Redundancy to Avoid Single Points of Failure
- Scalable & Upgradeable

CORTEX | C4I
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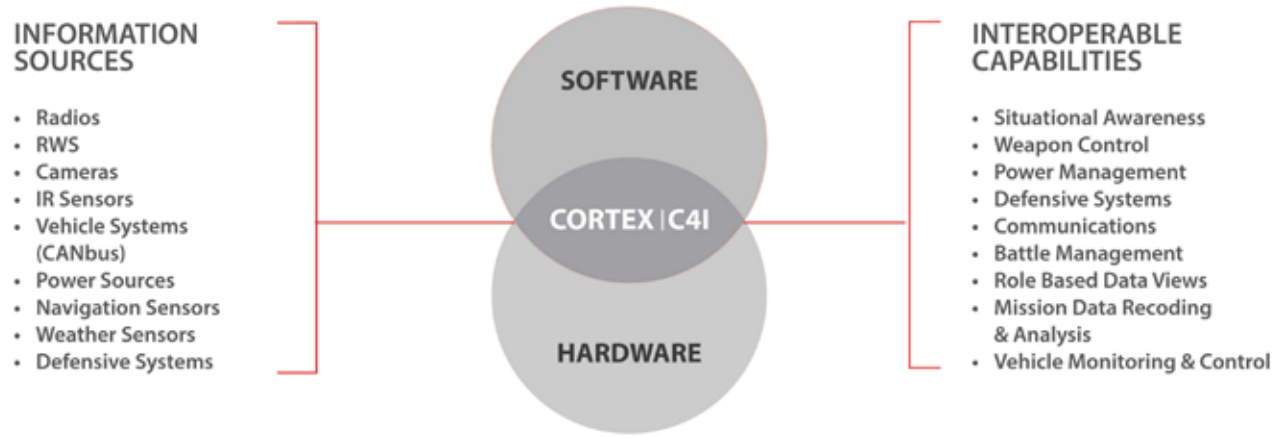
CORTEX | C4I SYSTEM SOLUTION



CORTEX|C4I Components:

The CORTEX|C4I system solution is comprised of a suite of rugged, SWaP-efficient hardware components combined with DDS-based software applications and integration frameworks. The components have been designed to withstand and operate dependably in the harshest battlefield environments. They are rugged, waterproof, and comply with environmental and EMI MIL standards 810G and 461F.

CORTEX|C4I hardware and software solutions can be configured and deployed to meet specific platform requirements, such as the mission profile, available space, and the integration of existing GFE. This modular, scalable feature provides for maximum flexibility across the spectrum of platforms, is cost efficient and ensures operators have the space required for other vital gear.

An example of a SWaP-efficient configuration could utilize the CORTEX Server as the digital backbone and the CORTEX Displays at each work station. The CORTEX Server incorporates an Intel Core i7 processor, with 4 MB L2 Cache Memory, with a serial data server featuring configurable ports, a video server, and a digital video recorder with removable hard drives. It also provides Gigabit Ethernet ports, CAN, NMEA 2000 and general purpose I/O to facilitate connectivity to numerous GFE and COTS systems. The CORTEX Displays, which can also be configured as 'smart displays', feature a touch screen, ergonomic buttons usable with gloved fingers, and an integrated mouse, so the operator can utilize multiple input methods to meet diverse mission requirements.

CORTEX SERVER

The CORTEX Server functions as a high-bandwidth digital backbone that connects disparate tactical ground and maritime platform subsystems to a centralized control system, making them accessible by all crew members. It incorporates the functionality of multiple standalone computing and switching devices into a single, SWAP-efficient component. Its modular design allows the CORTEX Server to be configured and scaled for a wide range of platforms and operational requirements.

This rugged multi-function server incorporates an Intel Core i7 processor, with 4 MB L2 Cache Memory, with a serial data server featuring configurable ports, a video server, and a digital video recorder with removable hard drives. The CORTEX Server also provides Gigabit Ethernet ports, CAN, NMEA 2000 and general purpose I/O to

PRODUCT SPECIFICATIONS

Part Number	60227641-00
Housing	6061-T6 Aluminum Alloy
Dimensions	14.50″W x 7.56″H x 7.50″D
Weight	23.7 lbs (w/o storage media)
Power Requirements	18 – 36 VDC MIL-STD-1275
Power Usage	2.5 Amps @ 24 VDC (60 Watts)
Processor	Intel Core i7 w/ 4 MB L2 Cache Memory
Operating System	Windows XP, Windows 7, Red Hat Linux, VxWorks, others on request
I/O Ports	Five (5) Fully Compliant USB2.0 Ports One (1) CORTEX Display Connection (video, USB, RS232) Thirteen (13) Serial (RS232/422) Ports Eight (8) Gigabit Ethernet Ports Six (6) 10/100 Ethernet Ports Six (6) RS170 Video Inputs Three (3) Discrete Inputs Two (2) J1939 CAN Ports One (1) NMEA 2000 Port
Connectors	Twelve (12) MIL-DTL-38999
RAM	4 GB DDR-3 SDRAM
Storage Media	Dependent on User Requirements
Vibration, Pressure, Temperature, Environmental, Shock Tolerance	MIL-STD-810G
EMI	MIL-STD-461F
Operating Temperature	-40° to 71° C
Humidity	100% Maximum Relative Humidity
Altitude	0 to 30,000′

CORTEX DISPLAYS

The CORTEX Displays meet or exceed the most demanding maritime and combat vehicle requirements for exposed environments. Available in screen sizes of 8.4", 10.4" and 15.0", they are high resolution, extremely rugged, waterproof, and the most sunlight readable displays on the market today.

CORTEX Display features include a touch screen, ergonomic buttons usable with gloved fingers, and an integrated mouse, so the operator can utilize multiple input methods to meet diverse mission requirements. Specifically designed to adjust to operational lighting requirements, the CORTEX Displays are capable of instantly switching from Day, NVIS or Blackout modes of operation at the touch of a button. Nineteen (19) user-programmable bezel buttons allow for streamlined operation of software applications, reducing the number of keystrokes needed to perform complex, pre-defined operator tasks.

CORTEX Display Features

- Superior Sunlight Readability due to High Contrast Ratio in the Presence of Ambient Light; Significantly Reduces Viewer Fatigue
- Touch Screen
- LED Backlighting with Three Modes : Day/NVIS/Black Out
- Backlit Bezel Keys
- Units Powers On to NVIS Mode, Preventing Accidental Day Mode
- Lock-Out Button Prevents Inadvertent Touch Screen Actions
- Tactile Response Bezel Buttons with Finger Guards
- Built-in Mouse (10.4"or 15.0")
- Video Inputs: VGA, NTSC/PAL, DVI

8.4"

10.4"

15.4"

CORTEX DISPLAY PRODUCT SPECIFICATIONS

Part Numbers	
8.4″	60227601
10.4″	60227602
15.0″	60227603
Housing	Solid Billet 6061-T6 Aluminum Alloy
Dimensions	
8.4″	9.50″W x 7.00″H x 3.30″D
10.4″	12.44″W x 10.28″H x 3.03″D
15.0″	16.08″W x 13.00″H x 3.16″D
Weight	
8.4″	7.75 lbs
10.4″	10.30 lbs
15.0″	14.75 lbs
Power Requirement	18-36 VDC
Power Usage	
8.4″	1.20 amps @24 VDC (28.8W)
10.4″	1.30 amps @24 VDC (31.2W)
15.0″	1.60 amps @24 VDC (38.4 W)
Display Type	AM-LCD Panels with High Efficiency White LED Backlight
Display Colors	16.7 Million Resolution 1024 x 768 (XGA)
Contrast Ratios	
8.4″	500:1
10.4″ 15.0″	600:1
Screen Luminance	
8.4″	800 NITS (CD/m2)
10.4″ 15.0″	800 NITS (CD/m2)
Viewing Angles	
8.4″:	88°/88°/88°/88°
10.4″ 15.0″	80°/80°/80°/80°
Touch Screen Option	Resistive with USB Interface
Bezel Buttons	Nineteen (19) Programmable
	Six (6) Fixed-Function
Ports	One (1) Power Input
	One (1) Data (Multi-Purpose)
Connectors	Three (3) MIL-DTL-38999
Operating Temperature	-33° to 71 °C
Altitude	0 to 15,000′
Humidity	100% Maximum Relative Humidity
Military Specification	
Compliance	Designed to MIL-STD-810G and MIL-STD-461F

Smart Display Configurations

The CORTEX 10.4″ and 15.0″ Displays can also be configured as ‘smart displays’ that feature an on-board processor and additional I/O for applications requiring a single-box display/processor solution. (Product Specifications differ from above.) This configuration features:

- Low-Power (17W) Intel® Core™ i7-3517UE Processor Running at 1.7GHz (Boost Speed of 2.8GHz)
- Low Video Latency
- Two (2) 10/100/1000BaseT Ports
- Four (4) Completely Isolated CAN bus Ports
- Four (4) Asynchronous, Full Duplex RS-232/RS-422 Interfaces Supporting Baud Rates from 1,200bps up to 115,200bps
- Configurable Display Port, HDMI and LVDS Video Inputs
- Power-on and Built-in Test

RUGGED OPERATIONAL COMPUTER

The Rugged Operational Computer (ROC) utilizes an Intel® 2.26 GHz Core™ 2 Duo processor, which features high performance and low power consumption, dissipating only 25 watts in the core computer. The ROC includes two drive bays that accommodate removable 2.5 inch form factor SATA hard drives. This makes the ROC suitable for use with a wide array of solid state drives including COTS hard drives currently available in storage capacities ranging from 80 GB to 250 GB. Additionally, the ROC provides serial, USB, video and G-bit LAN connectivity.

PRODUCT SPECIFICATIONS

Part Number	60227606
Housing	6061 T6 Aluminum Alloy
Dimensions	8.00"W x 5.00"H x 6.40"D
Weight	5.00 lbs.
Power Requirements	18-36 VDC
Power Usage	2.0 amps @ 24 VDC (48.0 W)
Ports	Two (2) connections with two (2) USB ports each
	One (1) GPIO/Power/Audio
	One (1) CORTEX Display connection with:
	- One (1) Video
	- Two (2) USB
	- One (1) RS232 Serial
	One (1) RS232 Serial
	One (1) 1-Gigabit Ethernet
Connectors	Eight (8) MIL-DTL-38999
Operating Temperature	-33˚C TO 71˚C
Environmental	MIL-STD-810G
EMI	MIL-STD-461F
Humidity	100% Maximum Relative Humidity
Altitude	0 to15,000 ft.

NETWORK ATTACHED STORAGE HARD DRIVE

The Network Attached Storage Hard Drive (NASHD) incorporates two removable 2.5" SATA hot-swappable solid-state hard drives.The data interface is an Ethernet port. The drives reside on the LAN as shared devices and can be made available to all nodes.The use of solid-state drive media is highly recommended in harsh environments. While there are no external controls on the NASHD, access to the removable hard drives is achieved through an access door on the back of the unit.
Applications: Video over Ethernet Recording, Map Data Storage and Distribution and Mission Data Recording

PRODUCT SPECIFICATIONS

Part Number	60227620
Housing	6061 T6 Aluminum Alloy
Dimensions	8.00"W x 4.25"H x 5.44"D
Weight	4.30 lbs
Power Requirements	24 VDC IAW MIL-STD-1275D
Power Usuage	0.8 Amps @ 24 VDC (20 W)
Ports	One (1) 10/100/1000BASE-T
Connectors	Two (2) MIL-SPEC-D38999
Storage Media	Two (2) 2.5" Form Factor SATA Solid-State Drives
Operating Temperature	-20˚C TO 70˚C
Environmental	MIL-STD-810F
EMI	MIL-STD-461E
Humidity	100% Maximum Relative Humidity
Altitude	0' to 15,000'

4-PORT NETWORK VIDEO SERVER

The 4-Port Network Video Server transforms traditional analog video into high quality digital video, then distributes it via Ethernet across a LAN, WAN or the Internet. The Network Video Server uses a standard web browser interface to access up to four real-time video sources which can be displayed individually or simultaneously. This device can also capture single video frames and record full motion video.

Applications: Video Surveillance, Video Distribution over Ethernet, Mission Recording and Situational Awareness; for use in Open Vehicles, Maritime Vessels, Artillery Pieces, or ATV's

PRODUCT SPECIFICATIONS

Part Number	60227610
Housing	Solid Billet 6061-T6 Aluminum Alloy
Dimensions	8.06"W x 2.00"H x 7.15"D
Weight	2.53 lbs
Voltage Input	9-36 VDC
Power Usage	0.7 Amps @ 12 VDC (8 Watts)
Video Formats	NTSC, PAL
Video Frame Rates	NTSC: 30FPS, PAL: 25FPS
Video Compression	Motion – JPEG, MPEG - 4
Video Resolution	NTSC: 704 x 480, PAL: 768 x 576
Host Computer Requirements	Pentium III 500 MHZ (or equivalent),128 MB RAM
Ports	Four (4) Video, One 10/100BASE-T Ethernet
Connectors	MIL-DTL-38999
Operating Temperature	0 ° to 50 ° C
Waterproof	Submersible (One (1) Meter for One (1) Hour)
Humidity	100% Maximum Relative Humidity
Altitude	0 to 10,000'

6-PORT ETHERNET SWITCH

This lightweight, rugged Ethernet Switch features six (6) dual-speed (10/100 Mbps) auto-negotiating ports with MIL-DTL-38999 Series III External Connectors (Sealed, Positive Locking, Cable Grounding). Internal voltage regulation supports wide input voltage range, transient power surge protection, reverse polarity protection and EMI suppression.

PRODUCT SPECIFICATIONS

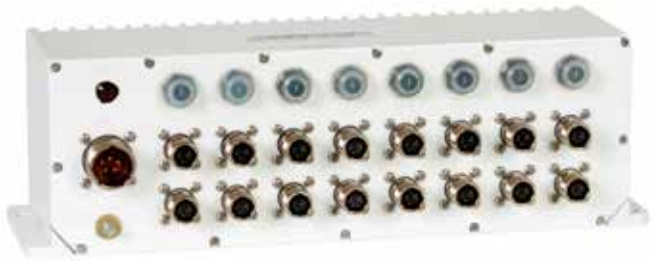
Part Number	60227600
Housing	Solid Billet 6061-T6 Aluminum Alloy
Dimensions	9.04"W x 2.04"H x 4.14"D
Weight	"2.17 lbs "
Voltage Input	18-36 VDC
Power Usage	0.27 Amps @ 24 VDC (6.5 Watts)
Packet Forwarding	Up to 2048 MAC Addresses (Auto-Learning)
Operating Mode	Full or Half-Duplex
Ports	Six (6) 10/100BASE-T Ethernet (Auto-Sensing/Auto-Negotiating)
Connectors	MIL-DTL-38999
Operating Temperature	-40 to 70C
Waterproof	Submersible (One (1) Meter for One (1) Hour)
Humidity	100% Maximum Relative Humidity (RH)
Altitude	0 to 15,000'

8-PORT ETHERNET SWITCH

The 8-Port Ethernet switch features 10/100 BASE-T Ethernet ports, which are auto-sensing/auto-negotiating in order to automatically determine data traffic speed and operating mode (full or half-duplex). Rugged and light weight, it can be mounted in any orientation and requires no configuration or setup.

PRODUCT SPECIFICATIONS

Part Number	60227611
Housing	Solid Billet 6061-T6 Aluminum Alloy
Dimensions	8.1"W x 3.75"H x 2.44"D
Weight	2.30 lbs.
Power Requirements	24 VDC
Power Usage	0.15 Amps @24 VDC (3.60Watts)
Ports	One (1) Power Eight (8) 10/100BASE-T
Packet Forwarding	Up to 2048 Mac Addresses
Operating Mode	Full or Half-Duplex
Connectors	Nine (9) MIL-DTL-38999
Operating Temperature	-20 to 70C
Altitude	0 to 10,000'
Humidity	100% Maximum Relative Humidity
Military Specification Compliance	Designed to MIL-STD-810F and MIL-STD-461E



16-PORT POWERED ETHERNET SWITCH

The 16-Port Powered Ethernet Switch uses auto-sensing/ auto-negotiating (10/100 Mbps) ports and is operationally ready at installation. Servers, computers or peripheral components are quickly and easily added to or removed from the network, maximizing operational time. Eight (8) powered Ethernet ports (J2-J9) are provided, allowing peripheral components to be energized, with 24V+/-.5V and 1 Amp circuit breakers for each port.

PRODUCT SPECIFICATIONS

Part Number	60227605
Housing	6061 T6 Aluminum Alloy
Dimensions	13.44" W x 4.15" H x 3.75" D
Weight	5.30 lbs
Power Requirements	18–36 VDC
Power Usage	0.3 to 9.0 amps depending on load
Ports	Sixteen (16) 10/100BASE-T
	Auto-Sensing/Auto-Negotiating LAN Ports
Packet Forwarding	Up to 4K MAC Addresses (Auto-Learning)
Operating Mode	Full or Half-Duplex
Connectors	Seventeen (17) MIL-DTL-38999
Operating Temperature	-34˚C to 70˚C
Environmental	MIL-STD-810G
EMI	MIL-STD-461F
Humidity	100% Maximum Relative Humidity
Altitude	0' to 15,000'

16-PORT ETHERNET SWITCH

The 16-Port Ethernet Switch is a computer networking product designed for deployment in harsh environments. The ports are auto-sensing/auto-negotiating, Fast Ethernet 10/100BASE-T. The 16-Port Ethernet Switch is fully compliant with IEEE802.3 and IEEE802.3u with a shared 1Mb memory-based switch fabric with true non-blocking switch performance. The switch possesses a high performance lookup engine for up to 8K MAC addresses with automatic learning and aging.

PRODUCT SPECIFICATIONS

Part Number	60227609
Housing	6061 T6 Aluminum Alloy
Dimensions	13.44"W x 3.00"H x 5.75"D
Weight	4.50 lbs.
Power Requirements	18–36 VDC
Power Usage	0.3 amps @ 24 VDC (8.0 Watts)
Ports	Sixteen (16) 10/100BASE-T
	Auto-Sensing/Auto- Negotiating LAN Ports
Packet Forwarding	Up to 8K MAC Addresses (Auto-Learning)
Operating Mode	Full or Half-Duplex
Connectors	Seventeen (17) MIL-DTL-38999
Operating Temperature	-20˚C to 70˚C
Environmental	MIL-STD-810F
EMI	MIL-STD-461E
Humidity	100% Maximum Relative Humidity
Altitude	0' to 10,000'

14-PORT MANAGED ETHERNET SWITCH

The 14-Port Managed Ethernet Switch is a COTS networking product that has been designed for deployment in harsh environments. It provides twelve (12) Fast Ethernet and two (2) Gigabit Ethernet ports. The switch features extensive SNMP network management tools and is fully configurable using the device manager web interface or a terminal emulation program (i.e. HyperTerminal) via the serial console port.

PRODUCT SPECIFICATIONS

Part Number	60227627
Housing	6061 T6 Aluminum Alloy
Dimensions	11.88" W x 3.00" H x 7.00" D
Weight	5.90 lbs.
Power Requirements	18–32 VDC (24 VDC Nominal)
Power Usage	0.8 amps @ 24 VDC (19.2 Watts)
Ports	Twelve (12) 10/100BASE-T
	Two (2) 10/100/1000BASE-T
	One (1) Serial Console
Packet Forwarding	13.6 GBPS Switching Fabric
	6.4 GBPS Forwarding Bandwidth (Maximum)
	4.8 MPPS Wire Speed Rate
	Up to 8K MAC Addresses
Memory	8 MB Memory Architecture (All Ports)
	32 MB SDRAM
	6 MB Flash Memory
Operating Mode	Full or Half-Duplex
Connectors	Sixteen (16) MIL-DTL-38999
Operating Temperature	-40˚C to 55 ˚C
Environmental	MIL-STD-810F
EMI	MIL-STD-461E
Humidity	100% Maximum Relative Humidity
Altitude	0' to 15,000'

SYSTEM INTEGRATION HUB

The rugged System Integration Hub (SIH) and Mini SIH vehicular networking components form the backbone for integrating disparate sensors and systems on a maritime or ground combat platform. They can be easily integrated with other networking and computing products to meet a wide variety of operational requirements.

The SIH combines the functions of a 12-port 10/100BASE-T Ethernet switch, a 12-port RS-232/RS-422 serial hub, and a 4-port video server. Each Ethernet port is auto-sensing and auto-negotiating. The serial ports may be available to all network nodes as virtual com ports. The four video inputs will accept NTSC or PAL composite signals. Using a common Ethernet bus, the SIH is designed to be the system backbone for integration of sensor data, video, and communication systems data and control.

Applications:
Sensor Integration, Video Distribution, Radio Management and Data Sharing

PRODUCT SPECIFICATIONS

Part Number	60227607
Housing	Solid Billet 6061-T6 Aluminum Alloy
Dimensions	11 .00"W x 3.01"H x 7.15"D
Weight	5.85 lbs
Power Requirements	18-36 VDC
Power Usage	0.8Amps @ 24 VDC (19.2 Watts)
Ports	Ten (10), 10/100BASE-T Ethernet
	One(1), Dual Ethernet Port
	Ten (10), Configurable RS 232 Serial
	Two (2), Configurable RS 422 Serial
	Four(4) , Video Ports
Connectors	Twenty-Eight (28)MIL-DTL- 38999
Operating Temperature	-33° to 71 ° C
Humidity	100% Maximum Relative Humidity
Altitude	0' to 15,000'
Military Specification Compliance	Qualified to MIL-STD-810

MINI SYSTEM INTEGRATION HUB

The Mini System Integration Hub (Mini-SIH) provides functionality similar to the SIH, but in a smaller package. The Mini-SIH supports the functions of a 6-port 10/100BASE-T Ethernet switch, an 8-port RS-232 serial hub, and a 2-port video server.

PRODUCT SPECIFICATIONS

Part Number:	60227619
Housing	6061 T6 Aluminum Alloy
Dimensions	8.00"W x 4.25"H x 5.44"D
Weight	4.75 lbs.
Power Requirements	24 VDC
Power Usage	1 Amp @ 24 VDC (24 W)
Ports	One (1) Power
	Six (6) 10/100BASE-T
	Eight (8), Configurable RS-232 Serials
	Two (2), Configurable Video Inputs
Connectors	Seven (7) MIL-DTL-38999, Two (2) NTSC Video
Operating Temperature	-20˚C to 70˚C
Environmental	MIL-STD-810F
EMI	MIL-STD-461E
Humidity	100% Maximum Relative Humidity
Altitude	0' to 15,000'

INTELLIGENT POWER DISTRIBUTION MODULE

The Intelligent Power Distribution Module (iPDM) is driven by vehicle power with each output channel individually protected. It can be independently controlled either locally, using panel-mounted circuit breakers, or remotely over Ethernet networks. The iPDM provides five MIL-STD-1275D compliant, conditioned output power channels and one configurable unconditioned output power channel, each independently controlled. Each of the conditioned output power channels is capable of delivering up to 6.5 amps at 24 volts. The unconditioned output power channel is configurable as a single 50 amp channel at 24 volts, a dual 40 amp/20 amp channel, or three 20 amp channels.

The iPDM also incorporates an embedded control and data acquisition capability, which allows for individual channel control and real-time monitoring of channel voltage and current; available as network distributed data. When connected to an Ethernet network, full access to data and channel control is enabled. As a distinct IP-addressable module, the iPDM supports smart spare logistics through cable-based address determination.

PRODUCT SPECIFICATIONS

Part Number	60227608
Housing	6061 T6 Aluminum Alloy
Dimensions	4.25" W X 7.00" H X 10.87" D
Weight	11.50 lbs.
Power Requirements	24 VDC IAW MIL-STD-1275D
Power (Max)	80 amps @ 24 VDC (1920W)
Ports	One (1) Power Input
	Eight (8) Power Output
	One (1) Communications
Connectors	MIL-DTL-38999
Operating Temperature	-33˚C to 71˚C
Environmental	MIL-STD-810F
EMI	MIL-STD-461E
Humidity	100% Maximum Relative Humidity
Altitude	0' to 15,000'

INTELLIGENT UNINTERRUPTABLE POWER SUPPLY

The Intelligent Uninterruptible Power Supply (iUPS) supplies temporary backup power to components sensitive to momentary power outages. The iUPS will prevent inadvertent re-booting of mobile computers during vehicle start-up or intermittent high current events. When used in conjunction with the ROC Computer, the iUPS allows the computer to perform a graceful shutdown of the operating system after a pre-set length of power failure. The iUPS utilizes user-replaceable COTS lithium-ion rechargeable batteries for easy field service.

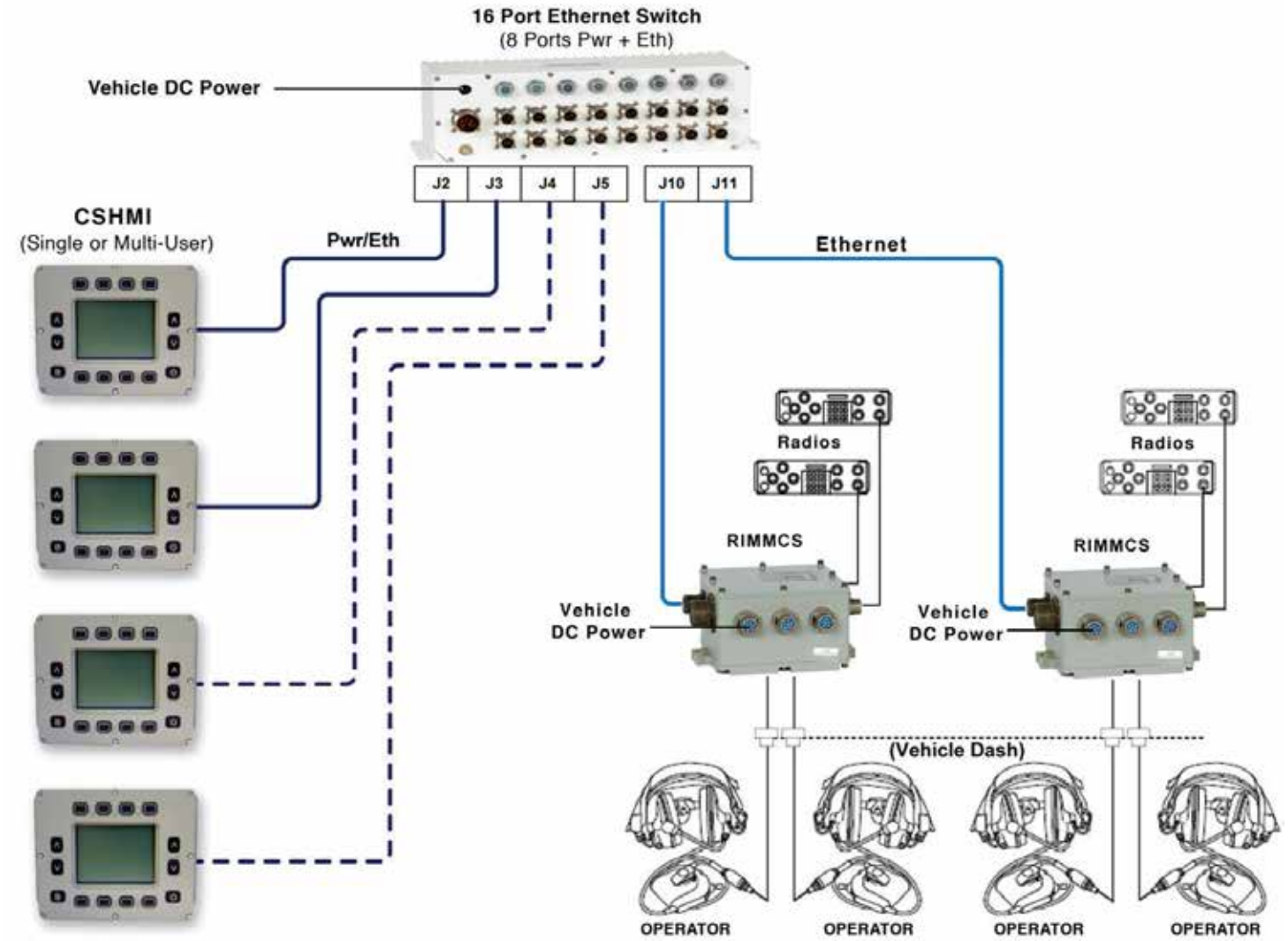
PRODUCT SPECIFICATIONS

Part Number	60227614
Housing	6061 T6 Aluminum Alloy
Dimensions	6.37"W x 2.00"H x 8.09"D
Weight	3.29 lbs.
Power Requirements	24 VDC +/- 2 VDC
Power Usage	4.0 A @ 24 VDC (96W)
Back-up Battery Type	Rechargeable Lithium Ion Battery Pack
Back-up Power Duration	Approximately one (1) hour with a 2.6 A load
Ports	One (1) Power Input
	One (1) Power Output
	One (1) Ethernet
Connectors	Three (3), MIL-DTL-38999
Operating Temperature	-20˚C to 70˚C
Environmental	MIL-STD-810F
EMI	MIL-STD-461E
Humidity	100% Maximum Relative Humidity
Altitude	0' to15,000'

COMBAT MOBILITY INTERCOM SYSTEM

The Combat Mobility Intercom System (CM-ICS) is an innovative intercom system designed for combat mobility platforms operating in harsh ground or maritime environments. Powered by an advanced audio inter-communications engine, The CM-ICS provides high-performance, secure communications capability. Its flexible architecture allows a variety of extensible platform configurations, each with low size, weight and power impact.

The CM-ICS is comprised of the Crew Station Human Machine Interface (CSHMI), used for controlling the system, the Radio Interface Module Master Control Switch (RIMMCS,) an Internet Protocol (IP) based inter¬communications system module, and the 16 Port Powered Ethernet Switch (see page 14). The RIMMCS provides full-duplex audio conferencing among crew members via an intercom as well as the ability to output audio streams to loudspeakers or external interfaces for devices such as recorders.



CREW STATION HUMAN MACHINE INTERFACE 400X

The Crew Station Human Machine Interface 400X (CSHMI-400X) is a highly rugged, waterproof module that is used to control the CM-ICS. Dynamic control of crew member talk and listen functions as well as remote control of radio functions is accomplished through the menu-driven graphic user interface. The 3.9 inch display is designed to provide high sunlight readability and NVIS compatibility. A single cable provides LAN and power connectivity to the networks 16 Port Powered Ethernet Switch.

PRODUCT SPECIFICATIONS

Part Number	ICS-CSHMI-400X
Housing	6061-T6 Aluminum Alloy
Dimension	6.88" W x 2.79" H x 5.63" D
Weight	2.03 lbs
Power Requirements	18-32 VDC
Power Usage	.175 A @ 24 VDC (4.2 W max)
Ports	10/100BASE-T Auto-Negotiating LAN
Connectors	One (1) MIL-DTL-38999
Operating Temperature	-33° to 71° C
Humidity	100% Maximum Relative Humidity
Altitude	0' to 15,000'

RADIO INTERFACE MODULE MASTER CONTROL SWITCH 400

The Radio Interface Module Master Control Switch (RIMMCS-400) is an Internet Protocol (IP) based inter-communications system module providing capabilities for battle command and digital voice communications networks. The RIMMCS-400, which is an embedded Telephonics NetCom-V* crew station, is configured to operate within a scalable CM-ICS dynamic network. It provides full-duplex audio conference among crew members via an intercom as well as the ability to output audio streams to loudspeakers or external interfaces for devices such as recorders.

*NetCom-V is a registered trademark of Telephonics Corporation.

PRODUCT SPECIFICATIONS

Part Number	ICS-RIMMCS-400
Housing	6061-T6 Aluminum Alloy
Dimension	5.40" W x 6.25" H x 3.75" D
Weight	3.50 lbs.
Power Requirements	12-35 VDC
Power Usage	.32A @ 28 VDC (9W max)
Ports	Two (2) 10/100BASE-T Auto-Negotiating LAN
	Two (2) Binaural Headsets
	Six (6) Bidirectional Radio
	Two (2) Receive Only Radio
	One (1) Loudspeaker
Connectors	Five (5) AP-136 (NEXUS)
	Two (2) HD38999 (Amphenol)
Operating Temperature	-40° to 71° C
Altitude	0' to 15,000'
Humidity	100% Maximum Relative Humidity
Military Specification	
Compliance	Qualified to MIL-STD-810G and MIL-STD-461F

WORLD CLASS

- THROUGH PEOPLE TECHNOLOGY & DEDICATION

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