

CH-53K avionics management system

A COCKPIT  
TO EMPOWER  
THE KING OF LIFT

Taking mission management  
capabilities to new levels



**Collins Aerospace**



## DIGITAL FLIGHT AND MISSION MANAGEMENT FOR THE **NEW LEADER IN HEAVY-LIFT**

The CH-53K King Stallion is setting new standards in capability, performance and reliability for the heavy-lift mission. In its cockpit, our CH-53K avionics management system delivers a new level of flight and mission avionics management capabilities that complement the unique potential of this aircraft.

Whether the mission is combat troop insertion, a ship-to-shore cargo resupply mission or an extended range deployment transiting civil and military airspace domains, you can count on our avionics management system to perform. It provides pilots with extensive situational awareness capabilities that help ensure safe and efficient mission execution. With avionics optimized for vertical heavy-lift operations, your forces gain a decisive airborne maneuver advantage.

Using our proven Modular Open System Architecture technologies to enable cost-effective system upgrade and capability enhancements, the CH-53K's avionics management system will affordably keep pace with your ever-changing global mission needs. Our extensive use of open standard technologies, such as fully partitioned software, ARINC 653 RTOS, high integrity Ethernet, and 3U cPCI and OpenVPX processor modules has repeatedly proven effective in reducing total life-cycle sustainment costs.

Our advanced avionics management system seamlessly incorporates the CH-53K's unique aircraft systems, while effectively integrating multiple communications, navigation and mission sensor subsystems through its flexible user interface. The result: Crews can fly their missions with lower workload, greater operational effectiveness and enhanced safety.

Our avionics management system's capabilities include:

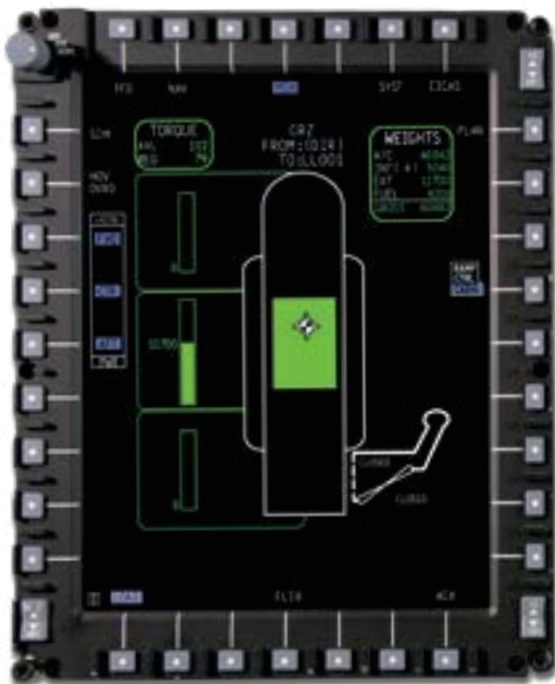
- Flexible cockpit displays, optimized to provide enhanced situational awareness
- Embedded cognitive decision aids to reduce pilot workload
- Tactical displays optimized for cargo lift, heavy assault and multi-mission roles
- Advanced hover symbology for brownout/reduced-visibility situations
- Digital mapping, with integrated tactical situational awareness symbology displays
- Redundant, highly fault-tolerant hardware and software designs

## AN EVER-CHANGING BATTLESPACE REQUIRES FLEXIBLE AVIONICS

Whether the mission involves providing humanitarian support using civil airspace or operating within today's irregular battlespace, allowing the pilot to focus on the mission is often the difference between success and failure. The CH-53K avionics management system reduces the pilot's workload and allows this critically needed focus by providing:

- An advanced flight management system, with certified Required Navigation Performance – Area Navigation and tactical navigation capabilities
- Data management for engines, transmissions, fuel and integrated advisory displays
- Aircraft performance management
- Radio, communications and crypto equipment management
- Centralized management of mission sensors
- Overall system status management

Its flexible, Modular Open Systems Architecture also enables CH-53K avionics management system to easily accommodate future enhancements, such as tactical synthetic vision and degraded visual environment (DVE) sensors, cognitive decision aids and weather avoidance systems.



## MATCHING CAPABILITIES WITH PERFORMANCE

Component highlights of the CH-53K avionics management system include:

### MFD-268C6 MULTIFUNCTION DISPLAY



- Fully interchangeable, 6 in. by 8 in. active-matrix liquid-crystal displays (AMLCDs)
- High-resolution SMPTE 292 digital video interfaces
- Multi-video channel display capabilities
- Full NVIS compatibility
- No over component cooling for high reliability in harsh environments

### CDU-7000E CONTROL DISPLAY UNIT



- Provides easy, centralized management of displays, radios, navigation and communications
- Fully ruggedized for military rotary-wing applications
- Dual MIL-STD-1553B data buses
- ARINC 739 compatible

### IPC-8310 INTEGRATED PROCESSING COMPUTER



- Ruggedized design, proven in the harshest military environments
- Internal 3-D graphics generation capabilities
- Internal general-purpose processing capabilities
- Includes provisions for system expansion
- High-resolution SMPTE-292 digital video outputs
- High-integrity and commercial Ethernet connectivity

### DTU-7100 DATA TRANSFER UNIT



- Compact, digital mass-memory storage unit
- Provides access to worldwide navigation databases as well as mission-specific data
- Access and transfer map and mission planning data files via industry-standard compact memory cards



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Flexible service solutions you can count on. From initial delivery and throughout your aircraft life cycle, we are here with comprehensive service and support solutions. Our worldwide support network offers life-cycle support solutions from options including performance-based maintenance and repairs, engineered solutions, spares, training and simulation solutions; all backed by the best turnaround times in the industry. Collins Aerospace delivers reliable solutions, anywhere, anytime – every time.

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