

D-JHMCS

DIGITAL JOINT HELMET MOUNTED CUEING SYSTEM



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Low cost system—lower cost than the legacy JHMCS

Performance equivalent to JHMCS
with significant growth capabilities

Significantly reduced LCC and simplification of
JHMCS—cathode ray tube image source and
high voltage removed and replaced with low
cost, hi-reliability pilot-friendly, low voltage HVI
and connectors

Low risk system—system is already in full scale
development and will be qualified by mid-2015

Full backwards compatibility to aircraft Group A and
MMC software interfaces—Full plug and play system
to JHMCS equipped platforms



D-JHMCS Combines Standard
NVGs with Glide-On Module



Designed specifically for existing JHMCS operators. It yields enhanced performance at a substantially reduced Life Cycle Cost (LCC), and is the most comfortable Helmet Mounted Display due to its improved center of gravity.

D-JHMCS is easy to install. It is a fully backward compatible system that replaces the legacy JHMCS helmet and Helmet Vehicle Interface with lighter head borne, cable and connection elements. The system connects to existing JHMCS Group A, uses the current JHMCS Group B Electronics Unit and Magnetic Transmitter Unit and eliminates the JHMCS Cockpit Unit. Installation of the D-JHMCS in JHMCS provisioned aircraft does not require any aircraft hardware or software update—it is a full plug and play system.

DJHMCS

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FUNCTION	CHARACTERISTICS	PERFORMANCE
Day Display	Image Source Type	OLED Flat Panel Display – Monochrome AMLCD – Color
	Image source Resolution	1280x1024
	Color	Monochrome green or color
	Projection	Day: Monocular, Off-The-Visor projected to the right eye
	Display FOV	Day: 20° circular
	Display Resolution	80 cy/mm @ on axis for exit pupil of 5mm, @ center exit pupil
	Contrast Ratio	1:250
	Exit Pupil	On axis – 15 mm diameter circular Off axis – 12 mm diameter circular
	Eye Relief	>50 mm
	Visor Type	Tinted with optical, structural, and coating requirements meeting MIL-V-43511 and MIL-C-83409
	Display Focus	Image focused at Infinity, +0, -1/6 Diopter
	Control	Brightness & Video Brightness & Contrast Control
Night Display Module	Image Source Type	OLED Flat Panel Display
	Image Source Resolution	800x600
	Color	Color RGB
	Projection	Overlaid on NVG imagery
	Display FOV	20° circular
	Visor Type	Step-In-Visor for facial protection
Tracker	Degrees of Freedom	6 (Position and orientation)
	Accuracy	6mrad RMS – JHMCS performance
	Field of Regard	full sphere
System Latency		Same as JHMCS
Debriefing	Concept	External color scenery, HMD Symbolology Overlay, sent monochrome to aircraft DVR (color – requires SW update)
Helmet Properties	Aircrew Protection	HGU-55/P per MIL-DTL-87174
	Helmet Fit	Zeta-Liner Type fitting
Safety	Ejection	Up to 600KEAS
Size & Weight	Helmet (head born)	Lightest Available: 1.9 Kg, 4.2 Lbs (day); 2.1 Kg, 4.6 Lbs (night)
A/C Data Interfaces		Baseline- no change to JHMCS Growth- Additional video in for helmet display (to be connected to CU plug)
A/C Integration	Tracker Integration	Same as JHMCS
	Installation	JHMCS Group A harness New pilot HVI
S/W	Architecture	Same as JHMCS
Modularity		In flight Display Module replacement capability
Reliability and Maintainability	JHMCS II/m A/C Integrated	> 3,000 hours
	MTTR	Less than 30 minutes
	Day Display Module	> 8,000 hours
	Night Display Module	> 8,400 hours
	Helmet Shell and Backpack	> 39,000 hours