

AHHS-AP SYSTEM

Altitude Hold, Hover Stabilization & Auto Pilot



FROM HOVER COUPLER TO FULL AUTO PILOT

The Altitude Hold, Hover Stabilization & Auto Pilot (AHHS-AP) System provides a low-cost solution for reduced pilot workload, increased flight safety, improved operational capability, and situational awareness particularly during low visibility conditions.

The AHHS-AP provides hands-free cyclic and collective control for cruise, automatic approach, low-altitude hover operations, precision hover and drift control, automatic descend to land, and automatic go-around. AHHS-AP delivers precise control capabilities that allow aircrews to safely operate in environments that would otherwise be impossible, such as brownout/whiteout conditions, over-water hover operations, and tight landing zones. AHHS-AP integrates with the aircraft's existing flight control systems and is capable of interfacing with a myriad of on-board sensor inputs including barometric and radar altimeters, navigation and flight management systems, embedded GPS/INS, accelerometers, gyros, and data bus architectures.

Leonardo DRS has over 25 years of experience in development, integration, production and sustainment of AHHS systems, with proven performance around the globe. The result is an efficient, cost-effective solution that significantly enhances flight safety and operational capabilities, making it the after-market flight control enhancement system of choice on special operations and combat rescue helicopters.



AHHS-AP SYSTEM

HIGHLIGHTS

- World's only proven off-the-shelf capability available today
- A combat proven DVE mitigation system since 1992 with special operations and rescue forces worldwide
- Provides cost-effective automated flight control capability that can standardize UH-60 fleet flight performance and training with the UH-60M
- Enhances performance by enabling aircraft to function in expanded operational envelopes
- Modular bolt-on design
- No structural or flight control modifications required
- Can be fielded as a stand-alone federated system or integrated into a digital avionics configuration
- Integrates with existing flight control/trim systems and adds collective control/trim
- Full 4-axis autopilot when coupled to a flight management system
- Qualified to MIL-STD-810E and MIL-STD-461D

DEPLOYED AHHS SYSTEMS

Also known as Improved-AHHS (I-AHHS), the 5th Generation AHHS system is fielded on USAF HH-60G PAVE HAWK and Israeli Air Force UH-60 fleets. Previously fielded aircraft generations include the USAF MH-53M PAVE LOW and MH-60G, and still operating on Israeli special operations CH-53, and the Republic of Korea Air Force HH-60P Search and Rescue (SAR) helicopters.



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CRITICAL COMPONENTS

SYSTEMS ELECTRONIC UNIT

Monitors AHHS system and aircraft sensor health, receives sensor input, performs AHHS flight control algorithm and out puts flight control command signals.

Dimensions	3.75 W x 7.69 H x 16.00 D inches (9.53 W x 19.53 H x 40.64 D cm)
Weight	9 lbs. (4.08 kg)
Interfaces	MIL-STD-1553, AIRNIC 429/575, USB, RS-232, RS-422, Digital Outputs, Analog Outputs
Power	28 VDC, <2.5 Amp

AHHS CONTROL PANEL

Aircrew system interface panel providing mode selection / indications, failure indications, and status reporting provides O-Level maintenance and troubleshooting.

Dimensions	5.75 W x 4.50 H x 4.73 D inches (14.61 W x 11.43 H x 12.01 D cm)
Weight	3 lbs. (1.36 kg)
Interfaces	RS-422
Power	28 VDC, <1 AMP

GLARE SHIELD INDICATOR

Cockpit indicators providing system status of modes, cyclic / collective engagement condition and alerts.

Dimensions	3.91 W x 1.50 H x 2.50 D inches (9.93 W x 3.81 H x 6.35 D cm)
Weight	0.3 lbs. (0.14 kg)

COLLECTIVE SERVO

Installed in H-60 helicopter applications (as required) provides collective control for AHHS altitude control modes provides collective trim capability during non-AHHS flight modes. Power and control provided via SEU.

Dimensions	5.22 W x 5.73 H x 10.62 D inches (13.26 W x 14.68 H x 26.97 D cm)
Weight	13 lbs. (5.90 kg)

Airborne & Intelligence Systems

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