



BLACK HAWK AIRCREW TRAINER (BAT)

BAT is a highly immersive home-station UH-60M flight training device (FTD), comprised of a state-of-the-art collimated visual system (main display: 200° horiz. x 45° vert., with seven 2-megapixel projectors), a complete UH-60M cockpit, an Instructor Operator Station (IOS), and a vertically expandable container.

CCDC Aviation & Missile Center's Systems Simulation, Software and Integration (S3I) Directorate led an effort to develop a new UH-60 FTD, focused on:

- Designing the simulator's architecture such that any changes in the aircraft can be quickly implemented in the FTD.
- Receiving full government purpose rights for all hardware and software (including source code) designed and developed for the project.
- Leveraging new technologies to enhance immersive qualities and system RAM, when cost effective.

IMPORTANCE TO THE ARMY

The BAT simulator is used to train and keep Army aviators current in the Black Hawk helicopter. Pilots have the ability to train certain tasks for accreditation in the simulator versus the aircraft resulting in a cost savings. BAT allows the capability of configuration to keep pace with the fleet and anticipate the design mods across the life cycle.

The most effective and efficient way to keep the BAT concurrent with the aircraft is an optimal mix of tactical and simulated hardware. S3I's Crew Station Working Group's approach was applied to refine the designs of both the IOS and the pilot-vehicle interface (PVI). This iterative methodology garnered feedback at strategic points in the design maturation process from Fort Rucker's Directorate of Simulation (DOS) and operational UH-60 instructor pilots. The end result is a six flat panel touch screen IOS, enabling the IP to tailor the information displayed, and a PVI that closely replicates the actual aircraft, further enhancing the immersive training experience.

OUTLOOK FOR THE FUTURE

The first prototype underwent DOS accreditation in October 2015, as a Level 7 equivalent FTD. Subsequent BAT devices are or will be deployed to Ft Bliss, Ft Hood, Ft Carson, Ft Stewart, Camp Humphries, Iowa Army National Guard (ANG), Oklahoma ANG, Pennsylvania ANG,



Michigan ANG, and Louisiana ANG. BAT is designed modularly to maximize flexibility for future growth. The benefits of the modular design are: 1) the design is not inseparably tied to a particular vendor for the key technologies, providing the option of using different vendors; 2) when new technology is available, it can be incorporated with minimal non-recurring engineering; 3) the design can be tailored to provide simulator capability for other H-60 variants (e.g. UH-60V, HH-60, FMS & OGA variants).

IN PARTNERSHIP WITH PEO Aviation

FOR FURTHER INFORMATION:

U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT
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<https://www.avmc.army.mil>

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