

# The Aviation Combined Arms Tactical Trainer (AVCATT)

## In Transition

By LTC Christopher R. Shotts

**A**viation transformation continues to evolve with the Army, and the AVCATT program is postured to meet the demand of the Aviation force with a state of the art virtual collective training simulation.

AVCATT has not seen a significant upgrade since it was introduced to the field in 2003, but the on-going effort to upgrade your AVCATT suites will provide you a clearly superior capability to support aviation collective training.

### What Is AVCATT, Anyway?

AVCATT is a mobile, transportable, virtual simulation training system on two 50 foot trailers with the capability to conduct realistic, high intensity, task-loaded, immersive collective and combined arms training exercises and mission rehearsals.

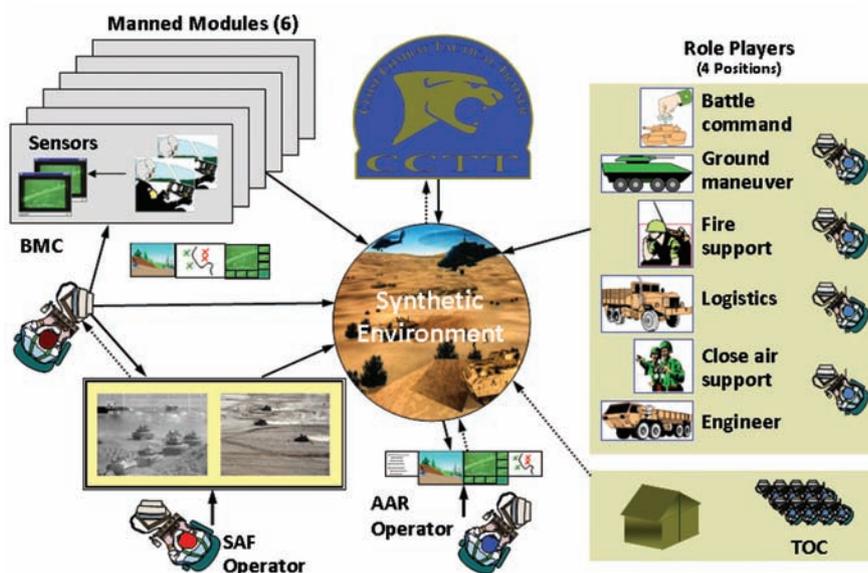
It includes six reconfigurable aircraft manned modules and semi-automated forces, after action review, battle master controller, and role player capabilities.

Each manned module is reconfigurable to current Army attack, reconnaissance, cargo, and utility aircraft. Role player capabilities are provided for the Fire Support, ground maneuver, battle command, close air support, logistics, and engineer functional areas.

AVCATT is an essential enabler for aviation training. It is designed to reinforce the aircraft specific skills required during combat that can be very perishable if not practiced.

AVCATT training can provide all the advantages of complex larger scale exercise conducted in the field, but also offer the myriad advantages of a simulator: it can save the unit time in planning and preparation of the training, reduce the unit burden of maintaining aircraft as they train for

### AVCATT Designed For Interoperable Collective Training



their next deployment, it doesn't limit training to the terrain available at home station, and it allows unlimited freedom of fire and maneuver during training to meet training objectives.

AVCATT also has the advantage of providing a highly realistic combat environment during training where OPFOR can be scaled to meet the training objectives.

### 23 Suites Fielded

The last four of 23 AVCATT suites were fielded January of this year.

All 23 suites are now in use, and the combined retrofit of the 19 older AVCATT suites is well under way.

The four newest suites fielded to Frankfort, KY, Fort Campbell, KY (two suites), and Houston, TX were designed and built with all of the newest capabilities for AVCATT to include: new Helmet Mounted Visual Displays (HMVD), new Image generators, a new digital sound and com-

munication model system (Advanced Simulation and Training inc. (ASTi) Telestra), and several other computer and network hardware upgrades that will allow AVCATT suites to run One Semi-Automated Force (OneSAF) and SE Core databases and other common virtual components when they are fielded next fiscal year.

As the AVCATT systems transition to the new hardware and software configurations, you should see a remarkable improvement in the system.

### New Visual System

The new HMVD not only provides a brighter picture with greater resolution, but it is also significantly lighter than the old HMVD.

The newer Rockwell Collins Inc., SR100A HMVD now mounts directly onto the NVG mount of the aviator's HGU-56P or M142 IHADS helmet.

It adjusts easily to give the aviator

a better virtual picture of the operating environment, with the same field of view and visual perspective of the actual aircraft cockpit.

The new Rockwell Collins Inc. EPX-50 image generator provides a sharper, more realistic view of the virtual terrain and allows a higher concentration of simulation entities in the visual scene during a training exercise.

Together the visual upgrades provide pilots with better comfort during training and a better visual experience in AVCATT.

Since AVCATT relies heavily on visual cues and aural cues to provide a realistic flight experience, the new and upgraded AVCATT suites provide a better training experience for our aviation units preparing for war.

Every AVCATT suite will be fitted with the new image generator and HMVD this fiscal year.

Along with the visual upgrade each suite will be provided three upgraded terrain databases: Korea, Iraq, and Afghanistan.

These three terrain databases will serve the fielded suites until a full complement of SE Core deployed and home station databases are integrated into the AVCATT software baseline along with the fielded OneSAF as the common computer generated force for the virtual training environment.

The estimated delivery of the new software baseline for AVCATT that will include OneSAF and additional

## AVCATT Locations

Suite #	Location	Delivery Date	Suite #	Location	Delivery Date
1	Illesheim, GE	Jan 04	13	Fort Drum, NY	Apr 07
2	Fort Carson, CO ☼	Dec 03	14	Fort Hood, TX	Aug 07
3	Smyrna, TN ♦	Sep 03	15	Hammond, LA ♦	Oct 07
4	Eastover, SC ♦	Sep 03	16	Albany, NY ♦	Feb 08
5	Camp Humphries, Korea	Aug 05	17	Fort Rucker, AL	May 08
6	Hunter AAF, GA	Jun 05	18	Fort Leonard Wood, MO ♦	May 08
7	WAATS ♦	Jun 05	19	Schofield Brks, HI	Sept 08
8	Orlando, FL (Moving to Fort Bliss 4QTRFY11)	Jan 06	20	Houston, TX ♦	Oct 09
9	Fort Riley, KS	Jun 06	21	Fort Campbell, KY	Nov 09
10	Fort Lewis, WA ☼	Jun 06	22	Frankfurt, KY ♦	Nov 09
11	Fort Bragg, NC	Aug 07	23	Fort Campbell, KY	Nov 09
12	EAATS ♦	Feb 07	♦ Denotes Reserve and ARNG Regional Training Sites ☼ Denotes Active, Reserve, and ARNG Training Sites		

terrain databases is expected to occur in the third quarter of FY11.

### Non-rated Crew Member Manned Module

Another significant development in aviation collective training under the AVCATT program is the inclusion of the non-rated crew member in the virtual training realm using the new Non-rated Crew Member Manned Module (NCM3). The NCM3 is now under contract to provide an aircraft

back end for training the full aircrew in the UH-60 and CH-47.

Each NCM3 suite will consist of a trailer with two reconfigurable modules, each consisting of three stations each that will replicate rear crew stations in the UH-60 and CH-47 aircraft.

The UH-60 stations include left and right door gunners and a position for either a cargo hook operator or a rescue hoist operator. The CH-47 stations include a left and right door gunner and a position for either a cargo hook operator or tail gunner.

The NCM3 will be fully integrated with the AVCATT so UH-60 and CH-47 units can train the full crew of their aircraft during collective missions.

It is also being designed to support individual level tasks for non-rated crew members when not linked to the UH-60 or CH-47 module of the AVCATT suite.

NCM3 comes with a fully functional instructor/operator station for each aircraft back end.

Unit instructors will be able to use it to teach new crew chiefs and new door gunners the basics of working inside the aircraft as well as how to operate the aircraft weapon system during flight, how to conduct sling load operations, how to operate the rescue hoist, and how to coordinate with the other members of the aircraft crew.

The NCM3 will be fielded on a regional basis starting in FY11 to support deploying units, and will be

## AVCATT Enhanced Visual System

### Helmet Mounted Display (HMD)

- Mounts on Pilot's Helmet NVG mount (HGU-56/P)
- Enhanced resolution
- Less weight (1.8 Lbs) w/counterweight



fielded to other key AVCATT locations depending on future funding.

### The Future of AVCATT

The aviation Combined Arms Training Strategy (CATS) recommends aviation units use AVCATT to support a broad array of collective tasks for Attack / Reconnaissance, Assault, and General support aviation units.

Commanders are currently using AVCATT to save training time and improve unit readiness as they prepare for deployments to Iraq and Afghanistan.

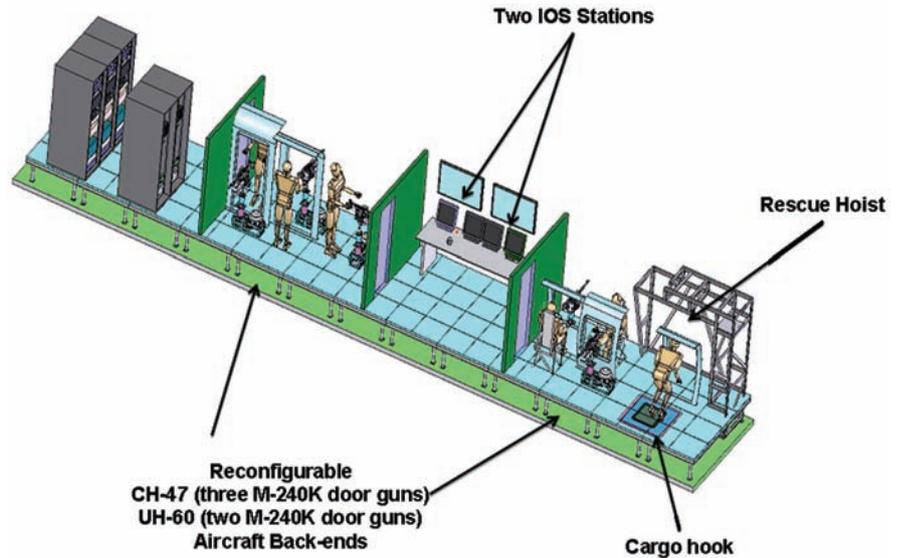
The AVCATT Assistance Team led by MAJ Wellington "Duke" Samouce, continues to support units by helping train aviation unit leaders on best practices for using AVCATT to train aviation formation.

Units interested in scheduling a team visit can contact the Air Systems team at TCM-Virtual (931) 684-8456.

The AVCATT program is positioned to support aviation collective training now and into the future.

As improvements to AVCATT are implemented over the next year, the sys-

## Non-rate Crew Member Manned Module for AVCATT



tems will prove to be useful in helping our aviation forces achieve higher readiness as they prepare for deployment.

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LTC Christopher R. Shotts is a senior

aviator currently working as a Simulation Operations Officer (FA-57) for the TRADOC Capability Manager for the Virtual Training Environment, Fort Leavenworth, Kansas.