



# BIG TOP SPACE CONTROL TRAINING

## VIRTUAL SPACE CONTROL TRAINING, TEST AND EVALUATION

The U.S. Air Force's Big Top program, under development by Harris, offers dynamic live, virtual, and constructive training, test, and exercise environments to better prepare space control warfighters.

### BENEFITS

Complements the Space Test and Training Range

Prepares warfighters for real-world signal environments

Offers an effective and efficient way to train and evaluate trainees

Keeps operators adept in current industry trends and future applications

Provides significant improvement to the quality, quantity, and timeliness of space control training

### REAL-WORLD SIGNAL ENVIRONMENTS

With increased potential for adversaries to disrupt the flow of critical information and threaten national security, space control warfighters must be at the top of their game. Air Force Space Command's Big Top program will prepare space control warfighters for everything from protecting against system attacks to keeping up with technology innovations and new satellite spectral environments.

Designed and built by Harris, Big Top represents a new approach to space control training. Space control operators stay up to date on systems and procedures by using realistic scenarios that reflect

real-world signal environments, facilitated by multiple antennas that capture actual satellite spectrum data. A closed-loop test and evaluation environment enables operators to try new and innovative tactics and techniques in a safe environment with no impact to on-orbit assets.

Additionally, Big Top's modular, scalable physical architecture offers maximum capability training in the smallest footprint possible and allows for inclusion in both unit-level and national-level training exercises. These innovations help advance the state-of-the art in Space Mission Force tactics and techniques.

**BIG TOP CAN BE USED AS A PROVING GROUND FOR NEW SYSTEMS BY USING SIMULATION AND TEST TO VERIFY SYSTEM REQUIREMENTS—REDUCING RISK AND TIME TO CAPABILITY.**



Linear editing tool creates time-based, dynamically reactive satellite spectrum simulation capability

**About Harris Corporation**

Harris Corporation is a leading technology innovator, solving customers’ toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world. Learn more at [harris.com](http://harris.com).

# TRAINING THE SPACE-READY WARFIGHTER

The use of space for transmitting communications signals—data, voice, internet, and other media—has become commonplace. Today’s training must address the increased potential for adversaries to disrupt the flow of critical information and threaten national security.

**REALISTIC, TOTAL IMMERSION**

To create a realistic, total-immersion training experience, Big Top will deliver sample training scenarios using a graphical user interface (GUI) with a high-fidelity display that connects to operational systems.

The GUI will be the first instantiation of new web application guidelines established by the Space Superiority Logistics and Sustainment Division. Operators will work within a training environment that emulates a live signal environment. As a bonus, Big Top is small and modular, designed to go wherever the operators go, and will help reduce sustainment and maintenance costs.

**REAL-TIME SATELLITE CAPTURES**

Big Top provides multiple antennas to capture satellite signals from around the world. The satellite signal transmitted back over computer networks contains trending data to assist instructors in determining the most appropriate signal environments to select for mission training scenarios. The signal data can then be incorporated into new training scenarios in days compared to the months it took previously.

**TRAIN THE TRAINER**

Harris’ train-the-trainer manuals and instruction will help Air Force trainers transition to independent operation of the new tool. They will have the ability to create highly customized training scenarios that contain constantly

refreshed, real-world satellite spectrum data combined with instructor-generated synthetic signals. The result is a truly unique satellite signal environment simulation. Once created, these scenarios provide a repeatable and standardized set of training components to provide objective evidence of Space Mission Force crew readiness.

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**THROUGH BIG TOP, HARRIS IS PROVIDING SPACE CONTROL OPERATORS WITH A REALISTIC, TOTAL-IMMERSION TRAINING EXPERIENCE THAT DOES NOT IMPACT NORMAL OPERATIONS**

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Big data analytical capabilities incorporated into Big Top will enable trainers to better evaluate the effectiveness of human operators paired with hardware and software systems. Trainers will be able to conduct formal evaluations by identifying trends in the effectiveness of operators within individual units across unit-level and national-level exercises.

Training is only the beginning. Big Top promises to be equally applicable and important to evaluation, testing, and exercise activities in the future. For more information, contact [spacesuperiority@harris.com](mailto:spacesuperiority@harris.com).

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