



# ARSST - TS

Army Space Support Team - Tactical Set



## Summary

- Suite of Equipment Consists of Space Operations Systems (SOS) and Space Applications Technology User Reachback Node (SATURN)
- Space Analysis and Battlespace Situational Awareness
- Imagery Toolset to include 2D/3D Visualization and Simulations
- Global Reachback Capability and Triple Redundancy Global Commercial Satellite
- Secure Voice and Data
- Rapidly and Easily Deployable

**The ARSST-TS provides Soldier Forces with global wideband satellite communications and software applications that contain space analysis, common operating picture, geo-spatial and imagery tools.**

The ARSST development evolved over nine years of experimentation, employment, assessment and refinement in exercises, Major Theater War (MTW) and Military Operations Other Than War/Support and Stability Operations (MOOTW/SASO) in support of Joint and Coalition Headquarters and the Headquarters operations of the Army, Corps, Division echelons of the Army. ARSST-TS employment during OPERATION ENDURING FREEDOM and OPERATION IRAQI FREEDOM clearly demonstrated that the space-based products provided by ARSST-equipped teams markedly enhanced command and control, situational awareness and analysis for commanders and their staffs.

### ARSST-TS Dismounted (D) Description

ARSST-TS is a "proven prototype" system configured in a V5 Rigid Walled Shelter mounted on a M1113 High Mobility Multi-purpose Wheeled Vehicle (HMMWV). The V5 shelter and M1113 are supported through organic Army maintenance and supply support. ARSST-TS components are easily dismounted from the V5 shelter and placed into ruggedized transit cases. This dismounted variant is referred to as the ARSST-TS Dismounted. ARSST-TS is comprised of four Space Operating System (SOS) computer workstations and a Space Applications Technology User Reachback Node (SATURN) communications suite that provides classified and unclassified broadband communications, making possible in-theater space analysis, space support products, and space planning tools in support of the tactical commander. The SATURN suite is a triple redundant Satellite Communications (SATCOM) suite that integrates Commercial Off the Shelf (COTS) components. The Internet Protocol Satellite (IPSAT) capability is the backbone of the SATURN's broadband communications. Operating in the commercial Ku frequency band, the SATURN provides 1-4Mbps downlink and 256Kbps – 1Mbps uplink capability for reachback connectivity. Bandwidth can be increased dependent upon location of the terminal, antenna size, and funding. The data stream is encrypted by a National Security Agency (NSA) Type 1 In-line Network Encryption (INE) device currently accredited up to SECRET. The SATURN is approved to operate under the Department of Defense (DoD) Information Assurance Certification and Accreditation (C&A) Process (DIACAP). The secure capable handheld portable Iridium Satellite Phone provides initial entry voice and data communications. Initial communications through the Iridium are required to coordinate and establish the IPSAT connectivity. Voice over Internet Protocol (VoIP) becomes the primary means when the IPSAT is operational. The connection can be secured using a CISCO ATA-186 connected to a unit provided Secure Telephone Equipment (STE) or Secure Telephone Unit (STU) device. Once the IPSAT is operational, the Iridium along with a Storm Global Area Network (GAN) over International Maritime Satellite (INMARSAT) provides backup redundant voice and data connectivity. The SOS workstation is a DIACAP accredited computer that can be networked through the SATURN or a DoD land based network. The SOS is a commercial laptop computer workstation capable of classified and unclassified data processing and network connectivity. The specialized collection of software includes COTS and Government Off the Shelf (GOTS) applications to support operations and planning activities with 2D and 3D visualization, simulations and analysis, battlespace situational awareness, near real time intelligence data retrieval, space order of battle, satellite health and availability, and map/elevation data/imagery overlay displays.

### ARSST-TS (D) System Overview

- Space Operations System (4)
  - Space analysis, space situational awareness, geospatial and imagery applications
- Internet Protocol Satellite (IPSAT) Communications
  - Global wideband commercial SATCOM
  - 1-4MB Downlink/256kb-1Mbps Uplink Ku Band
  - Either 1.2 or 1.8M (depends on destination of user)
- INMARSAT
  - 64kb L Band
  - Secure backup communications (voice/data)
- Iridium Satellite Phone with secure sleeve
  - Secure backup communications (voice)
- Encryption
  - Inline Network Encryption Device
  - High Assurance Internet Protocol Encryptor (HAIPE)
- Uninterruptible Power Supply
- Voice over Internet Protocol Capability (secure and non-secure)
- Other Components
  - Network Attached Storage 2-4 TB
  - Large Format Printer
  - Multi-Function Printer

### Benefit to the Warfighter

The capabilities of teams utilizing the ARSST-TS provide commanders with extremely valuable space-based products which have been successfully employed during employments in operations other than war, humanitarian assistance, disaster relief, OPERATION ENDURING FREEDOM, OPERATION IRAQI FREEDOM, and other contingencies.

### System Features Include:

- Rapid and easily deployable
- Global "reachback" communications capabilities
- "One-stop" support center for deployed Space Forces
- Provides triple redundancy communications capability for the user
- Portable computer system designed for space analysis
- Five-tier support system



For more information, please contact:  
U.S. Army Space and Missile Defense Command/  
Army Forces Strategic Command  
Public Affairs Office  
P.O. Box 1500  
Huntsville, AL 35807-3801  
Phone: 256-955-3887  
Fax: 256-955-1214  
Email: [webmaster@smdc.army.mil](mailto:webmaster@smdc.army.mil)  
Distribution A 0908/0521