

## Manage IW/DAMA/DASA Services

A turnkey trainer/simulator for UHF satellite communications, DOCCT/S has the flexibility to address an entire range of UHF legacy IW and DAMA satellite communications equipment training, integration, and mission rehearsal requirements.



### **Train, Integrate, Rehearse Prior To Going Over The Air**

DOCCT/S replicates Legacy IW and Demand Assigned Multiple Access (DAMA) network control station and Legacy network terminal operations. Internal satellite simulation includes frequency translation, digital transponder bandlimiting and hardlimiting, and variable digital propagation delay, doppler effects, and thermal noise. With DOCCT/S, you can develop, integrate, and train on UHF satellite communication equipment without the expense and time constraints associated with accessing live satellite channels.

### **Compact, Rugged, Portable –**

#### **Rack-Mounted Components In A Shock Proof Case**

The DOCCT/S terminal architecture is based on ViaSat's RT-1828 and RT-1830 UHF SatCom network terminals, with the addition of hardware and software to emulate network control and communication over a UHF satellite transponder. A set of five VME modules consisting of an I/O module, DSP module, transmitter module, receiver module, and satellite simulator module in a DOCCT/S terminal replicates a UHF SatCom channel.

### **5 kHz & 25 kHz Channels –**

#### **Per MIL-STD-188-182A, -183, -181B, -185B**

The Legacy DAMA Network Control System (NCS) that provides worldwide coverage for 5 kHz and 25 kHz DAMA for the U.S. Government was designed, developed, built, certified, and fielded by ViaSat. The fielded and JITC-certified IW Phase 1 and forthcoming Phase 2 Channel Control system was designed and developed by ViaSat in conjunction the U.S Government to provide increased bandwidth efficiency and communications quality. DOCCT/S replicates NCS software in the rackmount PC so terminal login and communications service requests are handled with the MIL-STD required protocol. DOCCT/S also includes DAMA and NCS tutorials and preset database parameters to enable you to quickly understand and begin using the system.

### **Achieve Project Objectives –**

#### **Configure Operation Parameters**

It's easy to configure DOCCT/S to meet the objectives of your project or program. DOCCT/S may include a single channel or multichannel terminal to simulate up to four UHF SatCom channels that may include encrypted orderwire with an optional orderwire encryption board (OEB). Up to four user network terminals may be connected directly at UHF to the DOCCT/S Multipoint UHF Interface Drawer (MUID). DOCCT/S may also be configured for local RF operation enabling up to 2000 additional user network terminals to participate in LOS UHF SatCom via antenna at ranges up to 12 miles. Up to four user baseband I/O devices per simulated channel may also be connected to DOCCT/S so that it may also operate as a network terminal for legacy UHF waveforms.

## SPECIFICATIONS

### OPERATING MODES

<b>IW</b>	5/25 kHz, MIL-STD-188-181C, -182B, -183B, -185
<b>DAMA/DASA</b>	5 kHz, MIL-STD-188-182A 25 kHz, MIL-STD-188-183- and 183A supported
<b>Dedicated Access</b>	MIL-STD-188-181B and other waveforms

### KEY DOCCT/S SPECIFICATIONS

<b>Satellite Simulation</b>	<ul style="list-style-type: none"> <li>• Frequency translation</li> <li>• Digital bandlimiting and hardlimiting</li> <li>• Variable digital propagation delay</li> <li>• Variable digital doppler effects</li> <li>• Variable digital thermal noise</li> </ul>
<b>Channel Simulation</b>	<ul style="list-style-type: none"> <li>• One to four UHF SatCom channels One channel per set of five removable 6Ux160 VME I/O, DSP, Receiver, Transmitter and SatSim modules</li> <li>• Single Channel System based on ViaSat RT-1830 3U 5 Slot network terminal</li> <li>• Multi-Channel System based on ViaSat RT-1828 9U 20 Slot network terminal</li> <li>• Encrypted orderwire via optional NSA endorsed Orderwire Encryption Board (OEB)</li> </ul>

**User Terminal Transmit Frequency** 292 to 318 MHz

**User Terminal Receive Frequency** 243 to 270 MHz

**Interoperability** All J1TC certification compliant UHF SatCom terminals

**User Interface (Direct Connection)**

- One to four user terminals in addition to local RF connected user terminals
- Provisions for half or full duplex user terminals via MUID N type connectors
- RF input power protection up to 100w
- Provisions for remote user terminal location via user variable down link attenuation

**User Interface (Local RF Connection)**

- One to 2000 user terminals in addition to directly connected user terminals
- Configuration options for up to 1 mile or up to 12 mile range

**User Baseband I/O**

- 4 serial baseband I/O ports per channel with MIL-STD-188-114 and RS-232/RS-422 interface
- Interoperable with KY-57, KY-58, KY-99, KY-100, KIV-7, KYV-5, KG-84, AN/USC-42, VDC-300, VDC-400, VDC-500

**User I/O Rates**

IW: 75, 300, 600, 1200, 2400, 4800, 6000, 7200, 8K, 9.6K, 16K, 19.2K, 28.8K, 32K, 38.4K, 48K, 56K bps

5 kHz DAMA: 75, 300, 600, 1200, 2400 bps

25 kHz DAMA: 75, 300, 600, 1200, 2400, 4800, 16k bps

Non-DAMA: 1200, 2400, 4800, 6000, 7200, 8000, 9600, 19.2k, 16k, 28.8k, 32k, 38.4k, 48k, 56k bps

**Modulation** SOQPSK, BPSK, DEQPSK, (S)BPSK, FSK, CPM

**Cryptographic Keyfill Interface** DS101 and DS102

**Reference Internal** 10 MHz

**External Interface** 1, 5, or 10 MHz

**Operator Interface**

- U.S. Gov't. UHF IW/DAMA NCS channel/terminal control protocol emulation
- Terminal operation documentation via printable event log and alarm display
- IW/DAMA SatCom and DOCCT/S operation interactive tutorial
- Windows XP operating system
- Anti-reflective active color LCD

**Storage Devices**

- 160GB hard disk drive
- CD-ROM drive

**Portability, Transportability**

- Shock proof, fungus resistant, water-tight, air-tight, portable case equipped with internal storage pouch and stainless external hard ware including anti-shear locks, 90° stop metal handles, lifting/tiedown rings, coupling catches, locking cables/hasps, and removable swivel style castors
- Turn-key set-up with pre-installed 19" rack mount components, drawer mounted ruggedized laptop PC and factory preset database parameters
- User configurable database parameters for custom default start-up configuration
- Provisions for remote control

### MECHANICAL

**Space** 24" (W) x 34" (H) x 30" (D)

**Weight** 160 lbs (single channel system)

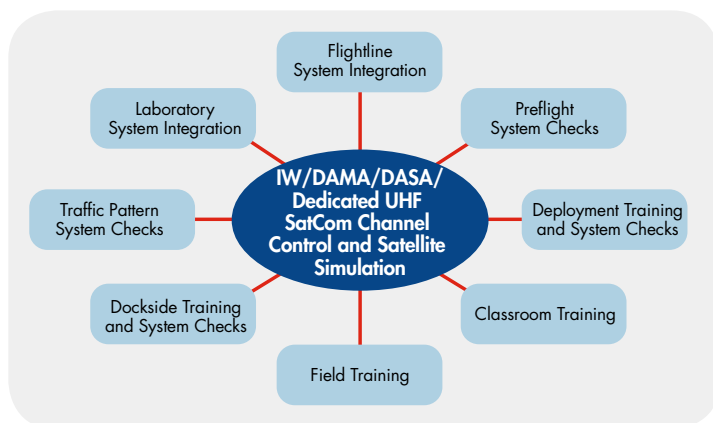
**Power** 110 to 240 volts to all installed equipment

### GENERAL

**Technical Documentation** Commercial Operation and Maintenance Manual (English)

**Hardware Warranty** One year on ViaSat, Inc manufactured items with 30 day turn-around time at ViaSat, Inc. depot maintenance facility

**Installation & Training** Provided, in English, at delivery



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