

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 DAMA and IW satellite communications equipment training, integration, and mission rehearsal requirements.



TRAIN, INTEGRATE, REHEARSE PRIOR TO GOING OVER THE AIR

DOCCT/S replicates Legacy Demand Assigned Multiple Access (DAMA) and Integrated Waveform (IW) network control station and legacy network terminal operations. Internal satellite simulation includes frequency translation, digital transponder bandlimiting and hardlimiting, variable digital propagation delay, 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 UHF satcom network terminal, 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 one UHF satcom channel.

5 KHZ & 25 KHZ CHANNELS — PER MIL-STD-188-181B/C, 182A, -183B, -183, -183A, 183B, -185, -185A

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 with 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 free training (in CONUS) covering DAMA/IW theory, operation, maintenance and troubleshooting procedures for up to one year after delivery.

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 multi-channel 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 Multiport UHF Interface Drawer (MUID). DOCCT/S may also be configured for local RF operation enabling up to 2,000 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

IW 5/25 kHz, MIL-STD-188-181C, -182B, -183B, -185A

DAMA/DASA 5 kHz, MIL-STD-188-182A; 25 kHz, MIL-STD-188-183- and 183A supported

Dedicated Access MIL-STD-188-181B and other waveforms

PERFORMANCE

Satellite Simulation

- » Frequency translation
- » Digital bandlimiting and hardlimiting
- » Variable digital propagation delay
- » Variable digital thermal noise

Channel Simulation

- » 1 to 4 UHF satcom channels; 1 channel per set of 5 removable 6Ux160 VME I/O, DSP, Receiver, Transmitter and SatSim modules
- » Multi-channel system based on ViaSat RT-1828 9U 20-slot network terminal
- » Encrypted orderwire via optional NSA-endorsed Orderwire Encryption Board (OEB)

User Terminal Transmit Frequency 292 to 318 MHz

User Terminal Receive Frequency 243 to 270 MHz

Interoperability All JITC certification compliant UHF Satcom terminals

User Interface (Direct Connection)

- » 1 to 4 user terminals in addition to local RF (direct connection) connected user terminals
- » Provisions for half or full-duplex user terminals via MUID N type connectors
- » RF input power protection up to 250W
- » Provisions for remote user terminal location via user variable down link attenuation

User Interface (Local RF Connection)

- » 1 to 2,000 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 SQPSK, BPSK, DEQPSK, (S)BPSK, FSK, CPM

Cryptographic Keyfill KYK-13, KYX-15, KOI-18, AN/CYZ-10, SKL

External Reference 1, 5, or 10 MHz

Operator Interface

- » U.S. government UHF IW/DAMA NCS channel/terminal control protocol emulation
- » Terminal operation documentation via printable event log and alarm display
- » Windows® XP operating system

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 hardware including anti-shear locks, 90° stop metal handles, lifting/tiedown rings, coupling catches, locking cables/hasps, and removable swivel-style castors
- » Turnkey set-up with pre-installed 19-inch rack-mount components, rack-mounted PC and factory-preset database parameters
- » User-configurable database parameters for custom default start-up configuration

MECHANICAL

Dimensions (WHD) 29 x 34 x 30 in

Weight 230 lb (two-channel system)

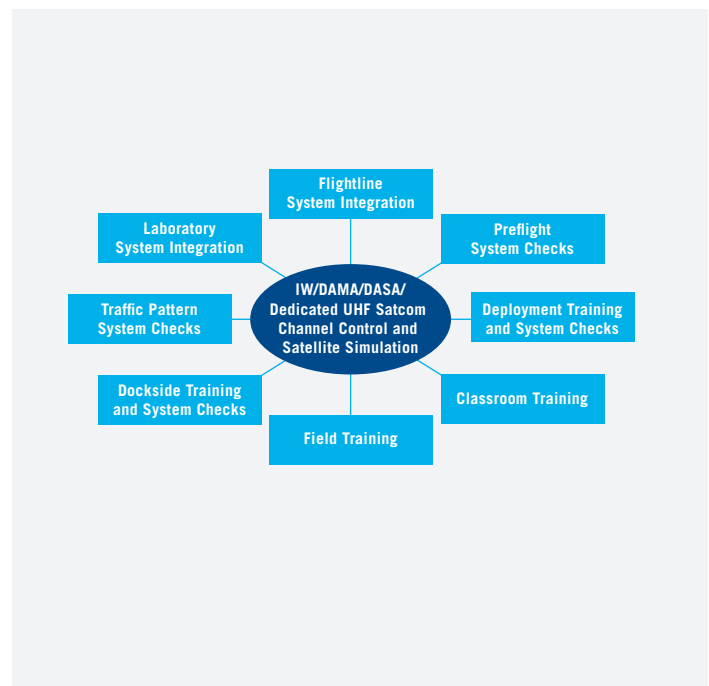
Power 110 to 240 volts to all installed equipment

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



CONTACT

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