

CBSP FLV

Commercial Broadband Satellite Program Force Level Variant Terminal

Bringing Bandwidth to the Fleet

The Commercial Broadband Satellite Program Force Level Variant terminal (CBSP FLV) provides high data rate commercial satellite communications, with simultaneous dual C/Ku band operations, to large naval combatants and support ships. The terminal supports the quality-of-life mission as well as providing resiliency to the super high frequency (SHF) MILSATCOM. The CBSP FLV is a commercial-off-the-shelf, non-developmental item (COTS/NDI) SATCOM system. It expands upon the U.S. Navy's successful AN/WSC-8(V) terminal, also provided by L3Harris, demonstrating fleet availability of 99 percent while supporting bandwidth on-demand networks.

In support of the quality-of-life mission, the CBSP FLV provides our sailors and marines afloat increased access to:

- > Web-browsing
- > Email
- > Chat rooms
- > File transfers
- > Voice over internet protocol telephone

The CBSP FLV supports full duplex communications at data rates up to 51.84 Mbps using single channel per carrier (SCPC) modems and dynamic bandwidth modems. For large ships, the terminal can be configured with dual antennas to minimize the effects of superstructure blockage.



Satellite Communications

KEY BENEFITS

- > **Simultaneous operation in C- and Ku-band**
- > **Military qualified to withstand harsh shipboard environments**
- > **Fully stabilized 3-axis positioner to eliminate keyhole impacts**
- > **Dual antenna capability mitigates the effects of superstructure blockage**

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Antennas provide IESS-601 Standard G compliant beam patterns using a 2.74m reflector mounted on a high dynamics three-axis pedestal enclosed within a protective radome. The pedestal provides continuous azimuth axis rotation and incorporates inertial elements for stabilization. The below deck communications equipment is housed in a single radio frequency interference (RFI) shielded cabinet with modems, antenna control and supporting equipment and cables. The terminal is unique, two different types of modems – the MD-1366 Enhanced Bandwidth Efficient Modem (EBEM w/ESEM) for static SCPC operation and the SLM-5650A/B dSCPC modem for dynamic operation.

All equipment is hardened to the naval environment and all control is provided over a LAN via PC-based Windows 10 terminal controller.

PERFORMANCE		
Bands of Operation	Commercial C-band	Commercial Ku-band
Transmit Frequency (GHz)	5.85 to 6.425	13.75 to 14.5
Receive Frequency (GHz)	3.70 to 4.20	10.95 to 12.75
EIRP (dBW) min.	64.5	71.4
G/T (dBi/K) min.	17.3	24.6
Polarization (Tx/Rx)	RHC/LHC or LHC/RHC or H/V or V/H Linear	H/V or V/H Linear
OOB Rejection (dB)	100	90
Coverage	Full Hemispheric	
Acquisition/Reacquisition Time (Min.)	<5/<5	
Intermediate Frequency (MHz)	950 to 2050	
Throughput	MD-1366A/U (64Kbps-155 Mbps), SLM-5650A/B (64Kbps-51.8 Mbps)	
PHYSICAL		
Reflector Diameter (m)	2.74	
Radome Height/Diameter (m)	3.53/4.27	
Weight Above/Below Deck (lbs) (including standard radome)	1800/750	
ENVIRONMENTAL		
Shock	Per MIL-STD-901D, Grade B, Type I	
Vibration (Hz) Above/Below Deck	Per MIL-STD-167-1; AD 4-21/BD 4-33	
Operating Temperature (C)	Above Deck: -28 to + 50 degrees Below Deck: +10 to +50 degrees	
Non-operating Temperature (C)	-40 to +70 degrees	
EMI/EMC	Per MIL-STD-461 Shipboard	
Power (Single Antenna/Carrier)	Per MIL-STD-1399-300A; 440 VAC, 3-Phase Delta, 60 Hz, <5kW	
RMA		
Reliability (Hours)	Mean Time Between Operational Mission Failures >2576	
Maintainability (Hours)	Mean Corrective Maintenance Time Operational Mission Failures <1.0	
System Availability	>0.94	
OPTIONS		
Single or Dual Antenna Configurations		
Reduced Radar Cross Section Per NAVSEA letter 05T1/C07-009, 14 March 2007		
SAASM GPS Receiver		
Uninterruptible Power Supply		
Spectrum Analyzer		
Jet Exhaust Hardened Radome		

FEATURES

In support of the SHF MILSATCOM resiliency mission, the CBSP FLV terminal supports the transfer of products such as:

- > NIPRNet
- > SIPRNet
- > Secure telephones
- > Afloat personal telecommunications
- > Video teleconferencing
- > Video teletraining
- > Telemedicine/medical imagery
- > National primary imagery dissemination
- > Intelligence database/ tactical imagery

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