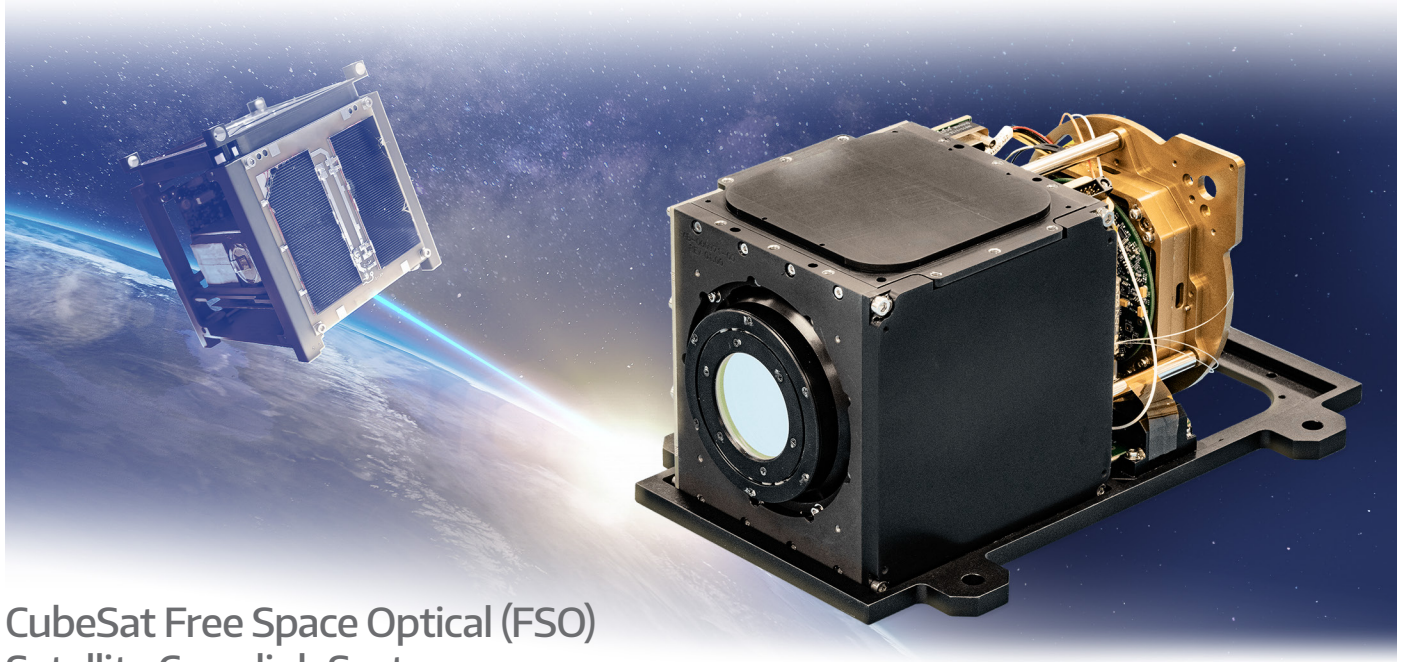


SkyLight[®] Optical Communication Terminal (OCT)



CubeSat Free Space Optical (FSO) Satellite Crosslink System

CACI's SkyLight is an ultra-low size, weight, and power (SWaP) FSO communication system providing satellite crosslink and up/down link capabilities. SkyLight is a fully integrated system that includes all data processing, optical transmitters, amplifiers, and receivers. The system includes an integrated two-axis beam steering capability that provides $\pm 50^\circ$ beam steering in a 1.5U form factor, eliminating the need for satellite body-pointing to maintain links. Its field-proven closed-loop beam tracking system supports long distance crosslinks while minimizing link loss due to pointing errors.

The long link distance and high-data rate provided in the small package of SkyLight make it an effective and reliable OCT for satellite crosslinks, while also supporting space-to-ground and space-to-air communication links. SkyLight utilizes CACI's patented optics that are almost entirely fiber optic-based and are very robust to shock and vibration. SkyLight's two-stage beam steering design provides simultaneous wide field-of-regard beam steering and high bandwidth fine steering to accurately track platform vibration.

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For more information about our optical and photonics expertise and technology, visit:
www.caci.com/photonic-solutions

Features

- Low SWaP for CubeSat and other smallsat applications.
- Fully integrated system includes all data processing, optical transmitters, and receivers.
- Integrated beam steering negates need for satellite body beam pointing.
- Accurate range and time-transfer capability used to provide “GPS-free” alternative positioning, navigation, and timing to distribute position, velocity, and time to optically connected platforms.
- High technology readiness level.

Benefits

- Delivers resilient, reliable, and low risk communications that are immune to radio frequency (RF) interference and jamming.
- Very low probability of interception and detection.
- Enables proven secure communication capability in RF denied environment.
- High-performance throughput for low-earth-orbit space.
- Effectively unlimited use of optical spectrum, contrasted to limited, congested, and contested RF communication.

CACI Optical and Photonic Solutions — Proven, Mature, Low-Risk, American Engineered and Made

SkyLight terminals have completed qualification testing and satellite integration and are scheduled to launch for their initial program in late 2023. Two terminals on two 6U CubeSats will be launched with a variety of crosslink experiments planned at varying link distances.

Our FSO communications programs are conducted by CACI’s multi-disciplinary Optical and Photonic Solutions team, composed of physicists and material scientists, as well as optical, electrical, and mechanical engineers working out of our California, New Jersey and Florida facilities. This team is focused on building the most advanced resilient, reliable, and low-risk photonics-based solutions for our customers – to include optical modems, optical terminals, and high-power sources for communications. The team also conducts research and development of high-power optical sources for remote sensing applications and optical systems for space exploration.

SkyLight Specifications

General Specifications

| | |
|------------------------|-----------------|
| Link Distance | 1000 km |
| Beam Steering | ±50° |
| Data Rate | 100 Mbps |
| Transmit Optical Power | 1 W |
| Wavelength | 1536 nm/1553 nm |
| Acquisition Time | <30 sec |
| Operating Temperature | -25°C to 45°C |

SWaP Specifications

| | |
|----------------------------|---------------|
| Size | 1.5 U, 1.6 kg |
| Active Power Consumption | 35 W |
| Stand-by Power Consumption | <0.5 W |

This material consists of CACI International Inc general capabilities information that does not contain controlled technical data as defined within the International Traffic in Arms Regulations (ITAR), Part 120.10, or Export Administration Regulations (EAR), Part 734.7-10. (PRR ID743)



EXPERTISE and TECHNOLOGY
for National Security

At CACI International Inc (NYSE: CACI), our 23,000 talented and dynamic employees are ever vigilant in delivering distinctive expertise and differentiated technology to meet our customers’ greatest challenges in national security and government modernization. We are a company of good character, relentless innovation, and long-standing excellence. Our culture drives our success and earns us recognition as a *Fortune* World’s Most Admired Company. CACI is a member of the *Fortune* 1000 Largest Companies, the Russell 1000 Index, and the S&P MidCap 400 Index. For more information, visit us at caci.com.

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