



UNITED STATES SPACE FORCE

SPACE OPERATIONS COMMAND

FACT SHEET

ADVANCED EXTREMELY HIGH FREQUENCY SYSTEM (AEHF)

MISSION: The Advanced Extremely High Frequency (AEHF) System is a joint service satellite communications system that provides survivable, global, secure, protected, and jam-resistant communications for high-priority military ground, sea and air assets. AEHF enables the Department of Defense to control tactical and strategic forces through all levels of conflict, and supports the attainment of space superiority for the joint force.

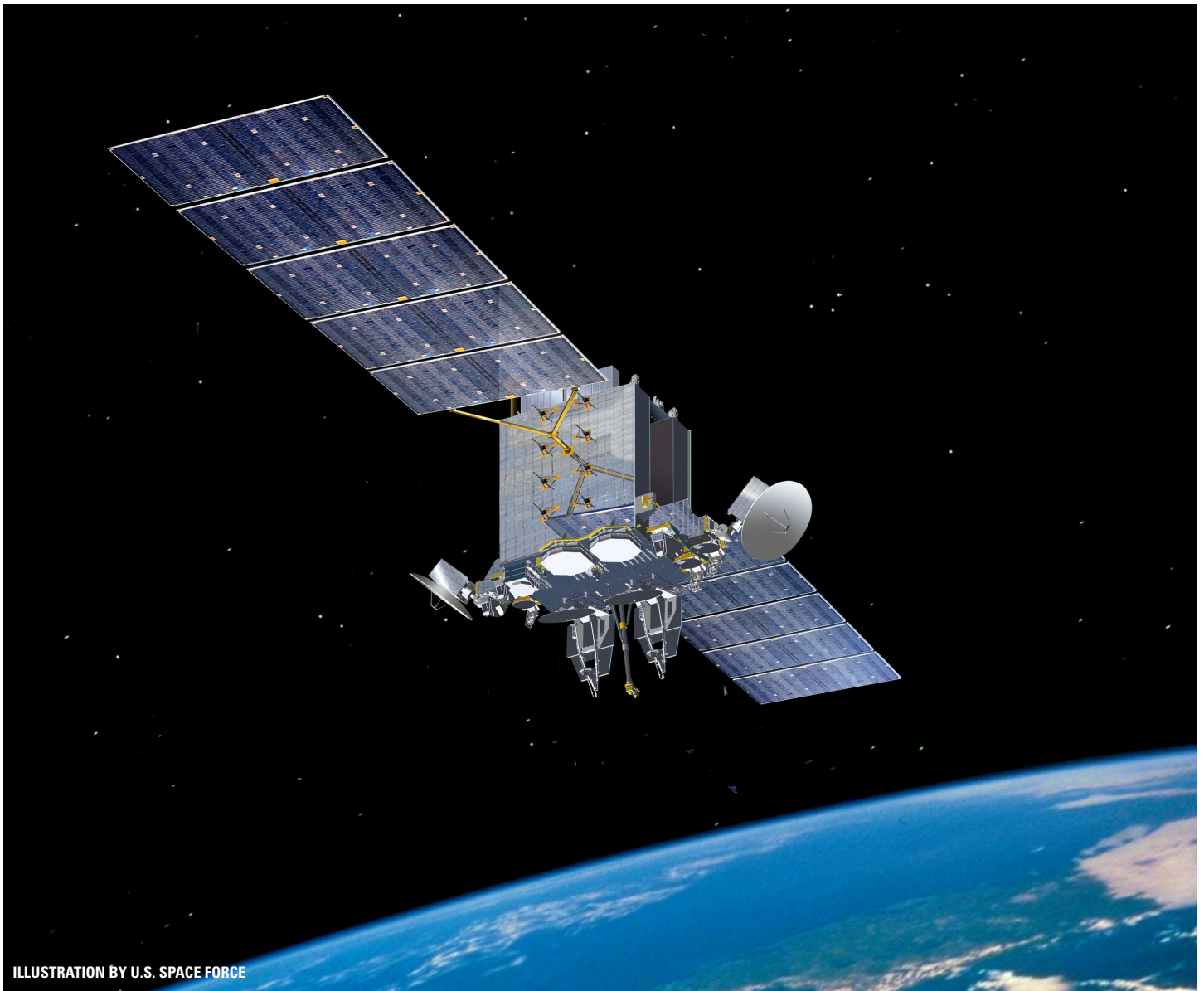


ILLUSTRATION BY U.S. SPACE FORCE



ADVANCED EXTREMELY HIGH FREQUENCY SYSTEM (AEHF)

FEATURES

The AEHF system consists of satellites in geosynchronous earth orbit that provides 10 times the throughput of the 1990s-era Milstar satellites with a substantial increase in coverage for users. The final AEHF satellite was launched March 26, 2020 and was the first launch for the U.S. Space Force. AEHF provides continuous 24-hour worldwide coverage between north and south poles. The AEHF system is composed of three segments: space (the satellites), ground (mission control and associated communications links), and terminals (the user segment). The segments will provide communications in a specified set of data rates from 75 bps to approximately 8 Mbps. The space segment consists of the on-orbit satellite systems utilizing crosslink communications to allow for full inter-satellite communication. The mission control segment controls satellites on orbit, monitors vehicle health, and provides communication system planning and monitoring. This segment is highly survivable, with multiple control stations. System uplinks and crosslinks will operate in the extremely high frequency range. The terminal segment includes fixed and ground mobile terminals, ship and submarine terminals, and airborne terminals used by all of the Services and international partners. Space Systems Command (SSC) is responsible for acquisition of the space and ground segments as well as the Space Force terminal segments.

BACKGROUND

The AEHF System is the follow-on to the Milstar system, augmenting the capabilities of Milstar, and expanding the Military Satellite Communications (MILSATCOM) architecture. AEHF provides connectivity across the spectrum of mission areas, including land, air and naval warfare; special operations; strategic nuclear operations; strategic defense; theater missile defense; and space operations and intelligence. Multiple international partners, participate in the AEHF program.

LAUNCHES

August 14, 2010

May 4, 2012

September 18, 2013

October 17, 2018

August 8, 2019

March 26, 2020

GENERAL CHARACTERISTICS

Primary Function: Worldwide, secure, survivable, and protected satellite communications

Payload: Onboard signal processing in LDR, MDR, & XDR, with satellite cross-link capability

Antennas: 2 Downlink Phased Arrays, 2 Crosslinks, 2 Uplink/Downlink Antennas, 1 Uplink Phased Array, 6 Uplink/Downlink Dish Antenna, 1 Each Uplink/Downlink earth coverage horns

For more information please visit
<https://www.spoc.spaceforce.mil>

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