Airborne Reconnaissance Low (ARL)

Modernization

Recapitalization

Maintenance

MISSION

To detect, locate, and report threats using a variety of imagery, communications-intercept, and moving-target indicator sensor payloads.

DESCRIPTION

Airborne Reconnaissance Low (ARL) is a self-deploying, multi-sensor, day/night, all-weather reconnaissance, intelligence, system. It consists of a modified DeHavilland DHC-7 fixed-wing aircraft equipped with communications intelligence (COMINT), imagery intelligence (IMINT), and Synthetic Aperture Radar/Moving Target Indicator (SAR/MTI) mission payloads. The payloads are controlled and operated via on-board open-architecture, multi-function workstations.

Intelligence collected on the ARL can be analyzed, recorded, and disseminated on the aircraft workstations in real time and stored on board for post-mission processing. During multi-aircraft missions, data can be shared between cooperating aircraft via ultra high frequency air-to-air data links allowing multi-platform COMINT geolocation operations. The ARL system includes a variety of communications subsystems to support near-real-time dissemination of intelligence and dynamic retasking of the aircraft.

There are currently two configurations of the ARL system:
- Two aircraft are configured as ARL–COMINT (ARL–C), with a conventional communications intercept and direction finding (location) payload.
- Six aircraft are configured as ARL–Multifunction (ARL–M), equipped with a combination of IMINT, COMINT, and SAR/MTI payload and demonstrated hyperspectral imager applications and multi-intelligence (multi-INT) data fusion capabilities.

Southern Command (SOUTHCOM) operates one ARL–C and two ARL–M aircraft. United States Forces Korea (USFK) operates three ARL–M aircraft. Planned upgrades for ARL include baselining the fleet by providing a common architecture for sensor management and workstation man-machine interface. ARL–C systems will be converted from COMINT only to ARL–M multi-INT configuration. Planned sensor improvements include upgrading the radar to provide change detection and super-resolution SAR, upgrading the MX-20 electro-optical/infrared (EO/IR) subsystem to reflect current standards, including the addition of a laser illuminator, and the addition of digital pan cameras across the fleet for high-resolution imaging and change detection. A new and improved COMINT payload will be fielded, increasing frequency coverage and improving target intercept probability.

SYSTEM INTERDEPENDENCIES

None

PROGRAM STATUS
- **2QFY09** Phoenix Eye upgrade on ARL-M1
- **3QFY10** Convert ARL C1 into ARL M8

PROJECTED ACTIVITIES
- **FY09 and on:** Continued imagery, radar, COMINT, system interoperability, workstation architecture upgrades and C to M conversions

Technology Development	Engineering & Manufacturing Development	Production & Deployment	Operations & Support

UNITED STATES ARMY

Airborne Reconnaissance Low (ARL)

FOREIGN MILITARY SALES
None

CONTRACTORS
Sierra Nevada Corp. (Hagerstown, MD)
Aircraft survivability:
Litton Advanced Systems
   (Gaithersburg, MD)
COMINT subsystem:
BAE Systems (Manchester, NH)
EO/IR subsystem:
WESCAM (Hamilton, Ontario, Canada)
Engineering support:
CACI (Berryville, VA)
Radar subsystem:
Lockheed Martin (Phoenix, AZ)