

STARFIGHTER INTEGRATED REPEATER PAYLOAD

StarFighter™ Integrated Repeater Payload

Background

Space Data's military FM repeater technology is based on the simple concept of lifting wireless transceivers into the stratosphere (between 65,000 and 100,000 ft) using weather balloons technology.

Space Data's initial endeavors were in the commercial sector, supporting the oil industry. The heart of the network is the SkySite® Platform. This platform provides the functionality of a standard wireless base station at altitudes that provide broad coverage.

Today, Space Data operates a low data rate commercial network over the South-Central U.S. servicing an area with some 330,000 wells or 60% of the entire U.S. market. This operational network supports data applications such as alarms, asset tracking and messaging.

Integrated Solution

Space Data, in conjunction with the Air Force Space Battlelab, demonstrated the ability of a balloon-borne repeater to extend radio communications beyond line of sight (BLOS). Voice testing was completed in the UHF band using standard military portables, operating in AM and FM modes with analog, digital, secure and non-secure links.

Space Data's StarFighter platform is the next generation, production version balloon-borne repeater, available now for operational use. The StarFighter's two transceivers support simultaneous payload control and voice repeater operations in the military UHF band. This integrated single payload solution offers a power-efficient military repeater capability for customer voice and data applications.



StarFighter Specs

Transmit Power:
up to 3 watts

Payload Weight:
6 pounds

Frequency Range:
225 - 375 MHz

Battery Life:
6 - 14 hours

Climb Rate:
1,000 ft per minute

Operational Altitude:
65,000-100,000 feet

Coverage Footprint:
Over 400 mile diameter

Other Advantages

- Low Cost
- Can carry an additional 6-pound tethered payload
- Adaptable for other frequency ranges
- Minimal logistic support
- Uses commercial-off-the-shelf (COTS) technology

StarFighter System

Launch Support

- Designed to be launched by a one- or two-person team
- Launch hardware is easily transportable
- Launch from any field location
- The lifting gas used in the system is hydrogen or helium
- Capable of launching in 40+knot winds
- De-reeler capability for ease of launch of multiple payload configurations

Command & Control

- Controlled via a portable ground station, in-vehicle or stationary ground operation — dubbed the Tactical Launch & Control System (TLCS)
- Operators can enable/disable repeater operations and change parameters during flight
- Altitude controlled through proprietary vent and ballast technologies
- Payload is easily tracked through GPS technologies
- Operates well above terrestrial weather