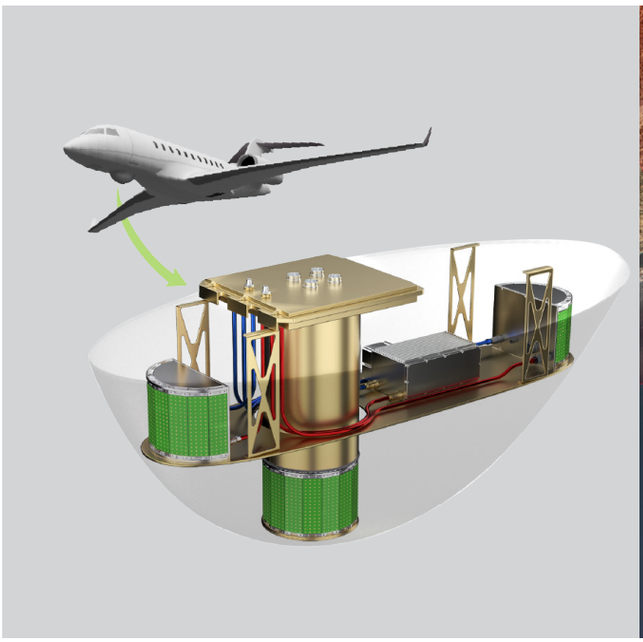
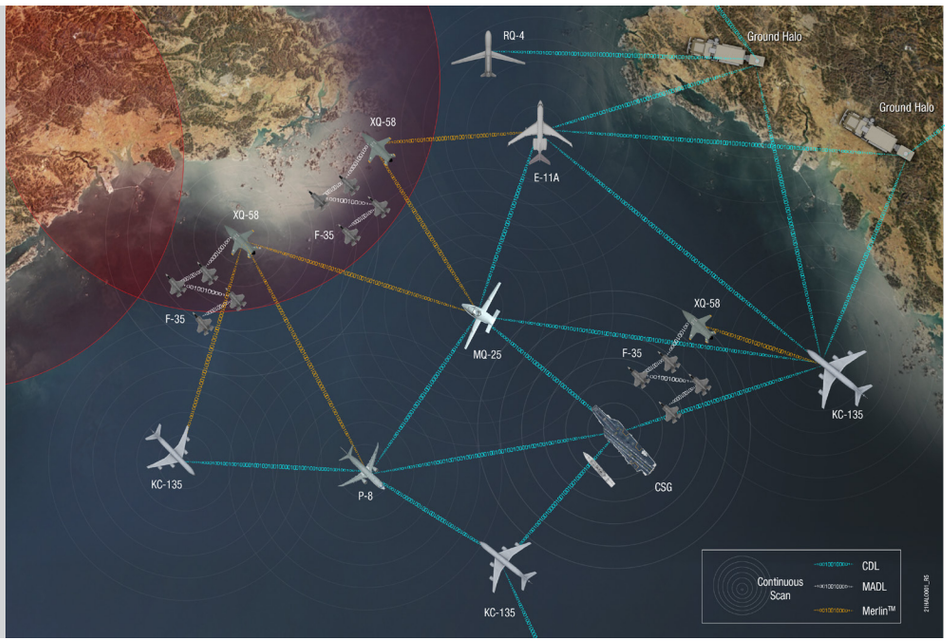




Features and Benefits

- **Multiple Links** - Supports many high data rate (tens of Mbps) links, providing optimal functionality for mesh networks with redundant network paths.
- **Rapid Net Entry & Resiliency** - Rapid discovery mode performs initial acquisition and reacquires interrupted links in seconds without the need for GPS.
- **Adaptive Processing** - Tracks and adapts sidelobe nulls while suppressing interference, preserving signal integrity.
- **Translate & Transform** - Translates variable data rates and transforms waveforms to provide unparalleled flexibility to communicators at the edge.
- **Disaggregation** - Connects legacy stove-piped systems with emerging advanced systems in a network-of-networks providing a foundation critical to realizing JADC2.
- **Future-Ready** - Software is cybersecure and upgradable, accommodating additional waveforms and emerging capabilities.
- **Modular** - Designed to be modular via open standards-compliant building blocks for various platforms and different link ranges and data rate needs.

Halo™ Software-Defined Digital Beam Forming Communications System

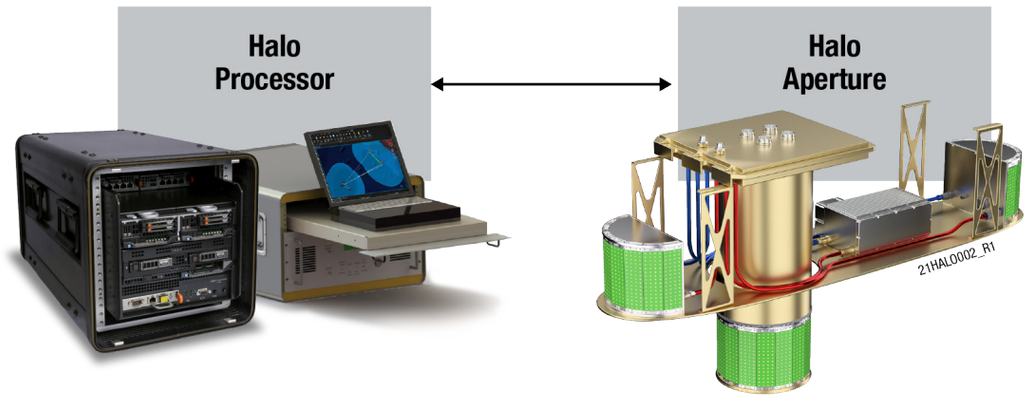
Revolutionary breakthrough in digital networking

Halo solves a critical communications challenge for warfighters at the edge: delivering reliable, high data rate service in a scalable, heterogenous network. Its robust, software-defined, digital beam-forming antenna system delivers secure video, voice, and data, transporting data through a joint, all-domain mesh network. The result is revolutionary: providing our warfighters with a demonstrable battlespace advantage.

Halo eliminates the need for crowded antenna farms with its one low-profile antenna. This single aperture delivering many links yields a SWaP-C per link advantage. Halo can “copy/paste” multiple beams in software, providing individual directional beams to each network node, thereby suppressing an adversary’s ability to intercept communications and detect platforms.

Halo’s powerful digital processing capabilities enable automated discovery and spatial networking. This capability establishes a resilient GPS-independent network that provides adaptive link management and dynamic network routing. Its pure digital beam technology processes faster and more effectively than analog or hybrid beam-formers.

Leveraging spectrum reuse, Halo optimizes network availability in both congested civil airspace and contested military environments. Halo supports over 7 times more users in the same portion of spectrum. Halo’s nulling capability protects against jamming and interference.



Specifications (Airborne)

Transmit and Receive RF		Networking	
Ku-Band	14.4 GHz – 15.35 GHz	Number of links	8, expandable with radios/cryptos
Data Rates	200 kbps to 137 Mbps	Network type	Mesh
Waveforms	CDL, BE-CDL, Advanced Tactical Data Link (ATDL)	Discovery	ATDL waveform
Halo-to-Halo link range	SR: 300nm+	Auxiliary beams	Node tracking, interference tracking, battlefield spectrum survey
Security	Type 1 or AES	Network computer	Dell EMC Tracewell T-FX2he
LPI/LPD ATDL	Merlin™ Waveform	Cybersecurity	VMware vCloud & Tanzu, Twistlock, Spunk , ATT Level 4 compliant
		Network Acquisition	Autonomous – No Operator Intervention Required

Physical Specifications				
Assembly	**Dimensions (inches)**	**Weight (lbs)**	**Cooling**	**Voltage**
Halo Aperture	73.0 x 20.0 x 29.0	415	PAO	48 VDC
Thermal Control System	24.0 x 20.0 x 19.5	120	Fan	115 VAC, 400 Hz
Power Distribution Unit	24.0 x 19.0 x 28.0	35	Fan	115 VAC, 400 Hz
Halo Processor*	29.8 x 13.6 x 13.6	91	Fan	115 VAC, 60 Hz
User Interface Crypto Assembly	30.0 x 22.5 x 12.8	100	Fan	115 VAC, 400 Hz
Radome	84.0 x 21.0 x 30.5	60	N/A	N/A

* represents one variant; others available

Other Physical/Power	
EMI/EMC	MIL-STD 461G
Temperature	-40°C to +55°C operating; +70°C intermittent
Altitude	0-60Kft
Max Power Consumption	10 kW
Max Transmit Power	454 watts
Input Power	MIL-STD 704

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