



Broadband On Aircraft (BOA™) System

BOA facilitates integration of high bandwidth digital equipment in legacy aircraft without adding new wiring!

5-D Systems, Inc.

Example BOA™ Application



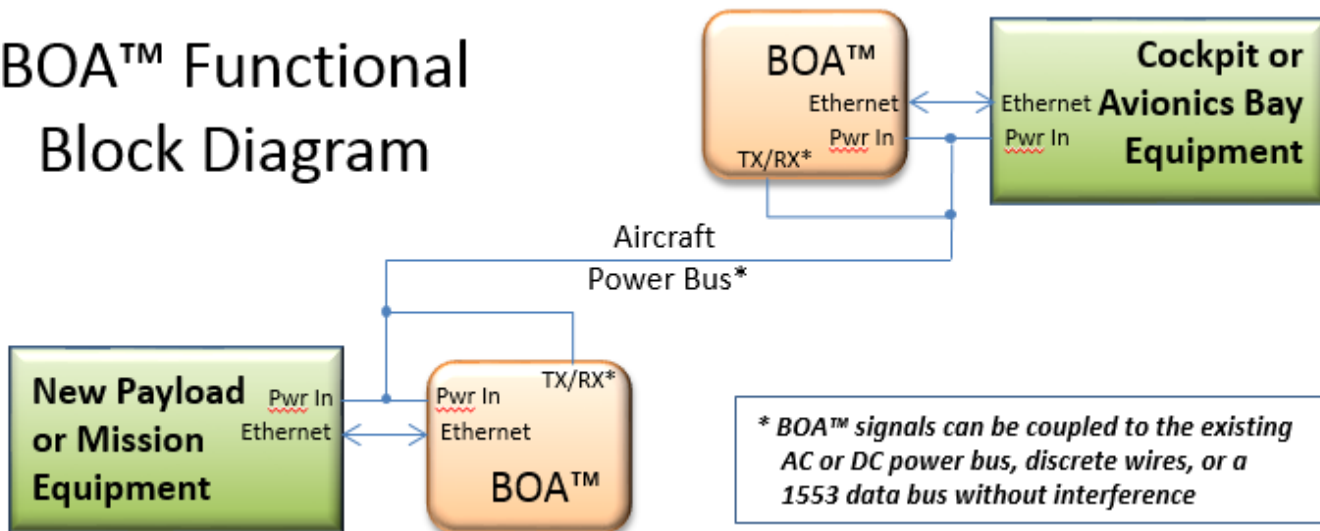
System Description

- BOA™ System provides Ethernet networking over existing aircraft power or 1553 busses
- Leverages commercial Power Line Communications (PLC) technology
- Provides 60+ Mbps of throughput
- Full duplex (bidirectional) operation
- Secure and robust operation
- Non-interfering with existing systems
- Meets DO-160F & IP67 Specifications
- Designed to MIL-STD-810G, 704F, & 461F

Benefits

- Addresses need to expand mission capabilities by enabling high bandwidth communications throughout a platform without requiring extensive wiring additions or modifications
- Facilitates timely, cost effective upgrades and modernization of legacy platforms
- Enables equipment and sensor installation anywhere power wiring is accessible on the platform

BOA™ Functional Block Diagram



** BOA™ signals can be coupled to the existing AC or DC power bus, discrete wires, or a 1553 data bus without interference*



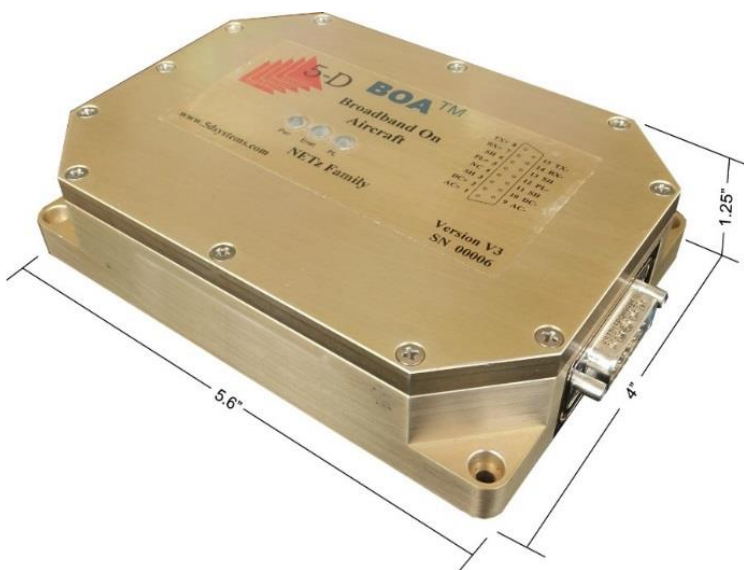
Broadband On Aircraft (BOA™) System

*Easily Adds Networking Capability to Existing Aircraft
(or other Military platforms including Land and Sea)*

5-D has developed a transceiver system that provides reliable, high bandwidth Ethernet networking over existing wiring in a legacy platform – without affecting the original wiring function.

5-D Systems, Inc.

BOA™ transceivers come in ruggedized, sealed enclosures or as OEM modules for integration into existing equipment. These compact transceivers enable networking wherever power is available on a platform. The benefit is a significant reduction in cost and depot time for modernization and system enhancements. BOA™ transceivers minimize equipment and panel removal/replacement, and eliminate the need to install additional wiring for networking functionality.



BOA™ Transceiver

BOA™ Performance

| Communications Medium | Throughput Provided |
|-----------------------|---------------------|
| Aircraft 400Hz/115Vac | 64 Mbps |
| Aircraft 28VDC | 62 Mbps |
| Aircraft 1553 Bus | 60 Mbps |
| Automotive 12VDC | 49 Mbps |

BOA™ Specifications

Electrical

Input Voltage: +22 to +36 VDC or 115VAC/50-400hz

Reverse Polarity Protection:
Built-In

Power: <3 Watts

Output Signals: Transformer Isolated

Data Input: Ethernet (IEEE 802.3)

Physical

Size: 5.6"L x 4"W x 1.25"H

Weight: 1.5 lbs

Connector: 15 pin sealed D-subminiature

Environmental

Random Vibration: 4.12 Grms all axes

Temperature: -40°C to +71°C

Shock: 6G all axes

Altitude: 55,000ft ASL

Sealing: IP67

Potential Applications

Legacy platform upgrades, payload/cargo monitoring, camera/surveillance systems, structural health monitoring, engine/system sensors, data recorders, etc.