



aviONS

ONBOARD NETWORK SYSTEM (ONS)

The aviONS system combines the Avionica avRDC MAX, avWiFi and avCM to provide wired & wireless flight deck connectivity, application hosting, QAR data downloads, and EFB support – among other features. The aviONS

aircraft data interfaces (e.g., ARINC 717, 429) can be used for both QAR functions and onboard data functions.

ADVANCED DATA WHERE YOU NEED IT

aviONS extends an airline's network beyond the limitations of its ground infrastructure as it connects the cockpit to the airline's data network. With robust processing power and 256 GB of storage, aviONS stands ready to host today's advanced mission-critical software applications as well as support tomorrow's cutting-edge systems.



GROUNDBREAKING CYBERSECURITY FEATURES

The aviONS systems obtained one of the world's first retrofit cybersecurity FAA STC. aviONS supports seamless segregation between the Aircraft Control Domain (ACD)(e.g., ACARS, navigation), the Airline Information Services Domain (AISD)(e.g., Maintenance, ADS-B), and Passenger Information and Entertainment Services Domain (PIESD) (e.g., IFE internet). Some of the supported use cases include in-flight flight deck EFB internet, and ACD data – such as in-flight parameters – flowing to PIESD EFBs & hosted applications.

AIRBORNE DATALOADER

The aviONS supports dataloading for ARINC 615 & 615A, as well as Boeing AIMS loading on B777 aircraft. Further aircraft integration can include interfacing to dataloading panels or MCDUs.

ENDLESS APPS

The aviONS supports one of the first of its kind application hosting on aircraft. Interested third parties can utilize Avionica's SDK to write their own Docker applications (at either DAL D or E) to consume & process aircraft data in real-time – this can include ARINC 717 data or up to 10 ARINC 429 ports. Applications also have the ability to transmit data to ground servers during flight!

CONNECTED AIRCRAFT

The aviONS system sits at the center of Avionica's Connected Aircraft. It utilizes available IP links (e.g., avCM, GoGo Inflight IFE) to synchronize the aircraft system with Avionica's ground network. Over-the-Air Synchronization includes configuration, applications, and third-party loadable apps. The aviONS also provides AID functionality for Avionica satLINK MAX installations to substantially reduce wiring and provide a soft VoIP phone on Android & iOS devices. The aviONS is also capable of providing the data feed for moving maps on various EFB applications, including Jeppesen's FliteDeck Pro™.



TECHNICAL SPECIFICATIONS

SIZE/WEIGHT

Dimensions: 7.15 L 4.1W 2.6H

Weight: 3 LBS

Power: 28VDC (Max 340mA Nominal)

CERTIFICATION CONSIDERATIONS

Compliant to DO-178B/C DAL D

Cybersecurity: Compliant to DO-326A, DO-356A, DO-355

Cybersecurity: Compliant FAA Issue papers 1, 2 & 3

Implementation compliant to ARINC 834, 835 & 653 standards

Approved STC on Boeing 737, 777, 747 and Airbus

aviONS AIRCRAFT INTERFACES

ARINC 429: 8 Tx, 10 Rx

ARINC 717: 1 Rx (Bi-phase/bi-polar)

RS 232: 4 Tx, 5 Rx

RS 422: 2 Rx

Ethernet: 4 Ports

Discretes: 10 I/O

SPEEDS

Wired Ethernet: 100baseT

Wireless Speeds (4G): Up to 1.6 Flight Hours per minute (ARINC 717 at 256 words per second)

ENVIRONMENTAL

RDC A2,B,A,B,S (Curve B2),X,X,X,X,X,A,A,A,Z,CC,TT,M,X,X,X,A,X
 WIFI D1,C,A,A,S,X,X,X,X,X,A(15),BX,B,B,BCX,TT,M,X,X,X,A,X
 CM A1, C,A, B, R, R, W, F, D, F, X, A, A, B, R, BWX, TT, M, XXJ2L2, X, X, A, C