

Airline Industry Use-Case



There is a revolution occurring in broadband communications for commercial air travel. Against the backdrop of increasing mobile device ownership and a boom in High Throughput Satellite (HTS) capacity, the aero connectivity market is on the cusp of exponential growth. Passengers are increasingly seeking ubiquitous connectivity and this is affecting which airline they decide to use. Demand for access to social networks, business email, movies & TV, and the Internet has never been higher, and passengers want to remain connected wherever they go. This demand, coupled with emerging requirements from airlines for telematics and streamlined aircraft operations, means that the potential for the connected aircraft market is undeniable.

As the broadband revolution heads skywards, the challenge for aeronautical broadband service providers is to find access technology that is agile, powerful, very low profile, light-weight, reliable and can meet the high demands and regulations of the aero sector.

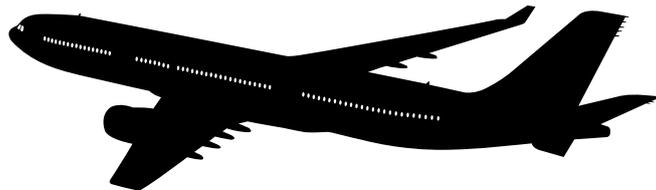
At present, most wideband aeronautical antennas are mechanically steered. They are heavy and not low-profile, which creates drag and increases fuel costs. They are also prone to mechanical failure, with many moving parts and are difficult and costly to install and repair. A new generation of antenna is required that can meet the physical demands of flight, and the market demands for high bandwidth.

Crew welfare
(Social media, messaging, media)

Passenger IFCE Services
(broadband access, email & social media, online services, entertainment)

E-commerce
(inflight retail operation)

Telematics (IoT)
(Equipment performance, conditions, status)



Ubiquitous Connectivity is Possible with Phasor Technology

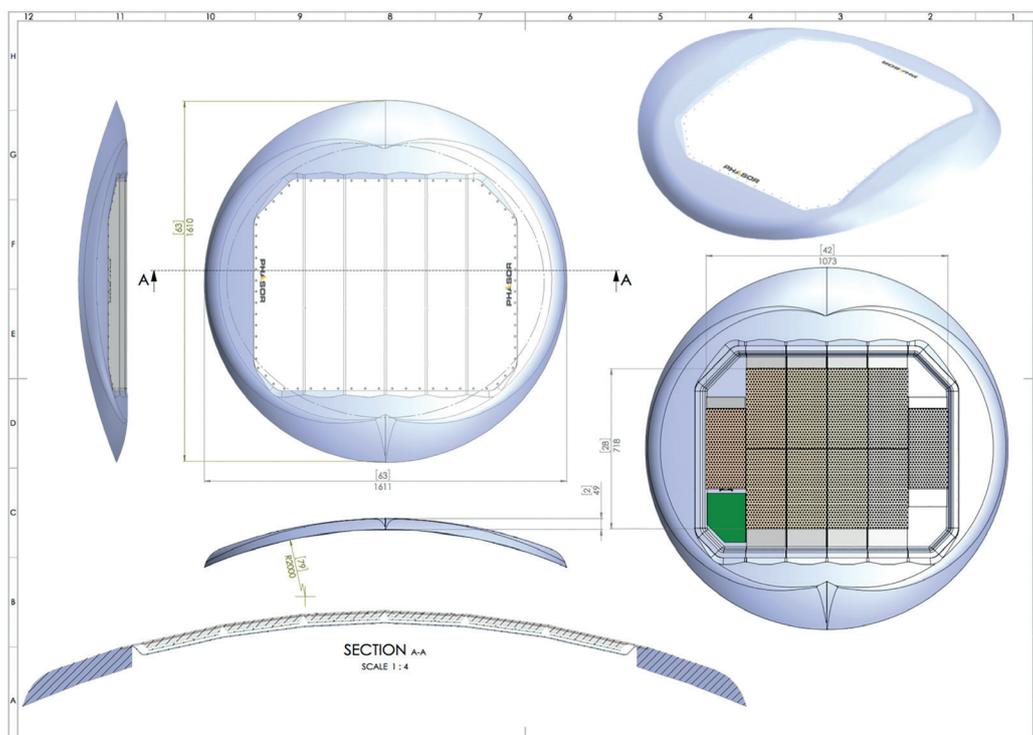
Phasor has developed the world's first enterprise-grade, solid-state, electronically steerable, flat panel antenna, designed for the commercial aeronautical market. Lightweight, low profile, conformal and highly scalable to meet a broad range of bandwidth requirements, the Phasor electronically-steerable antenna will usher in a new era of broadband connectivity, reliability and convenience.

The Technology

Based upon patented innovations in dynamic beam-forming and system architecture, Phasor pushes antenna innovation further than ever before by taking the entire RF-chain and shrinking it onto its own proprietary microchip. This is how it works:

- These microchips are connected to their own tiny omni-directional “Patch-antenna”; creating the radiating “Element”;
- Its electronically steered antennas are made up of an array of elements all interconnected across a “Core Module” - the basic system building block; all within a 2-inch thick solid-state package;
- Phasor’s technology dynamically controls the phase and amplitude of each Element to steer the beam; allowing it to track any satellite signal no matter where you or the satellite moves.

This revolutionary design means the antenna is extremely low-profile and highly reliable and can be scaled-up without loss of performance and integrated onto commercial vehicles as a flat or conformable unit.



Using this software defined antenna architecture, Phasor technology can achieve:

- nearly instantaneous tracking speeds;
- multiple independent beams, enabling the tracking of two independent satellites, simultaneously;
- dynamic beam shaping, tapering or nulling, to avoid adjacent satellite interference;
- the option of a “distributed array” combining signals from antennas placed separately into one “logical antenna”.

For the first time, Phasor’s technology can allow commercial airlines and aeronautical In-flight Communications Service providers to deliver a highly reliable, broadband solution to their passengers without the need for large, heavy and maintenance-intensive parabolic antennas.

Bringing high-speed connectivity to the aeronautical world has never been easier.

Phasor is the future of Mobile Broadband.