



Collins Aerospace

# Dual-band business jet connectivity solution

Service and system overview



# Connect without compromise. Even at 40,000 feet.

Viasat's Dual-band solution is bringing the most powerful internet services to the business jet market.

Viasat's Dual-band solution leverages both Ka-band and Ku-band networks to keep business jet customers connected in flight. Now, passengers can enjoy a high-speed internet experience for all they do online, from emailing to downloading files to streaming, wherever they go in the world.

## Uninterrupted connectivity

Viasat's Dual-band solution is intelligently designed to provide the fastest speeds available, globally. The high-capacity dual-band solution automatically navigates between Ka- and Ku-band networks bringing the best internet experience to everyone on board. In addition to web browsing, email, and corporate VPN<sup>1</sup> access, passengers can conduct multi-site video conferences plus stream music, internet videos and live TV.

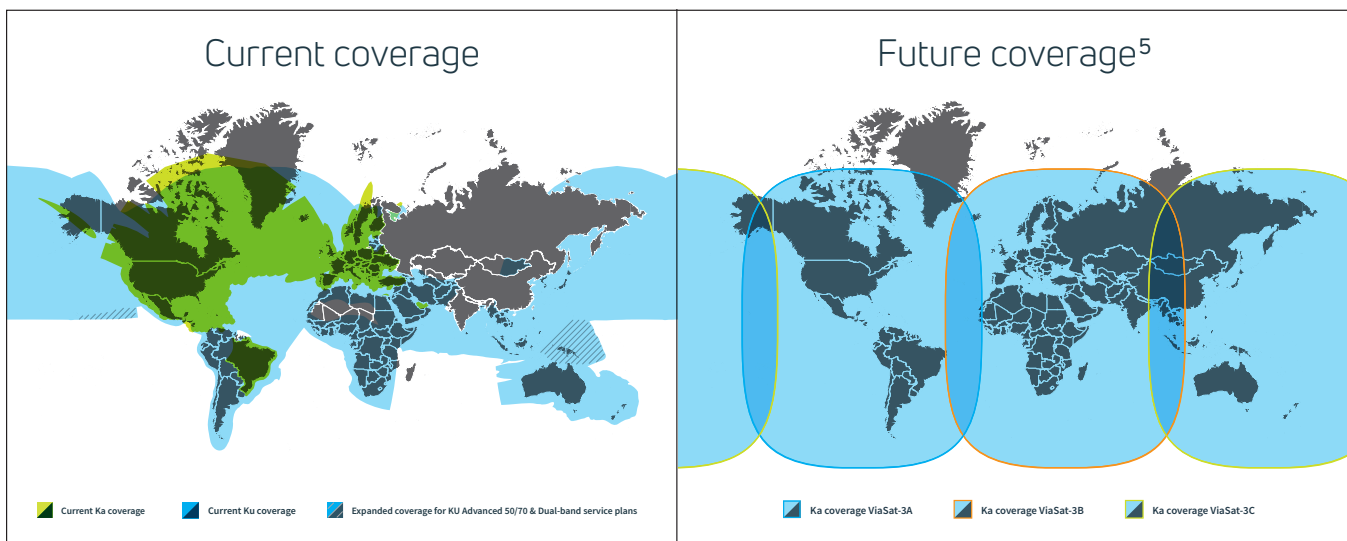
Dual-band service provides speeds typically greater than 30 Mbps<sup>2</sup>, with peaks exceeding 90 Mbps, while in the Ka-band network, and up to 10 Mbps in the Ku-band network. The

intelligent system will automatically default to Ka-band and leverage the Ku-band back-up service when outside of the growing Ka-band footprint.

Dual-band connectivity ensures internet is available during all phases of flight and ground operations<sup>4</sup> including taxi, takeoff, and landing, so passengers can conference, surf, stream just like they would at home or in the office.

## High speeds, highest capacity

Viasat already has the world's highest capacity satellites, including ViaSat-1 and ViaSat-2, which provide high-speed internet access to millions of users and devices across North and Central America, the Caribbean, and North Atlantic flight routes. The ViaSat-3 global satellite constellation is expected to offer 3 terabits per second total capacity for an even faster streaming media in-flight experience to passengers traveling anywhere in the world. And our global Ku-band service ensures you're always connected. Dual-band — the best of both worlds and only from Viasat.



## The Viasat difference

Viasat's Dual-band solution offers:

**Faster speeds:** Leverage Ka-band's no speed limits to reach in-flight internet speeds of greater than 90 Mbps. Stream, conference and surf — from takeoff to touchdown.

**Forward compatibility:** Protect your investment. Viasat's Ka-band equipment will work with our enhanced satellite technology of tomorrow<sup>5</sup> allowing you to accommodate the increased demand for speed, capacity and performance.

**Unrivaled capacity:** Take advantage of global bandwidth and speed powered by the world's highest capacity satellite network. Capacity is the engine behind high-speed internet.

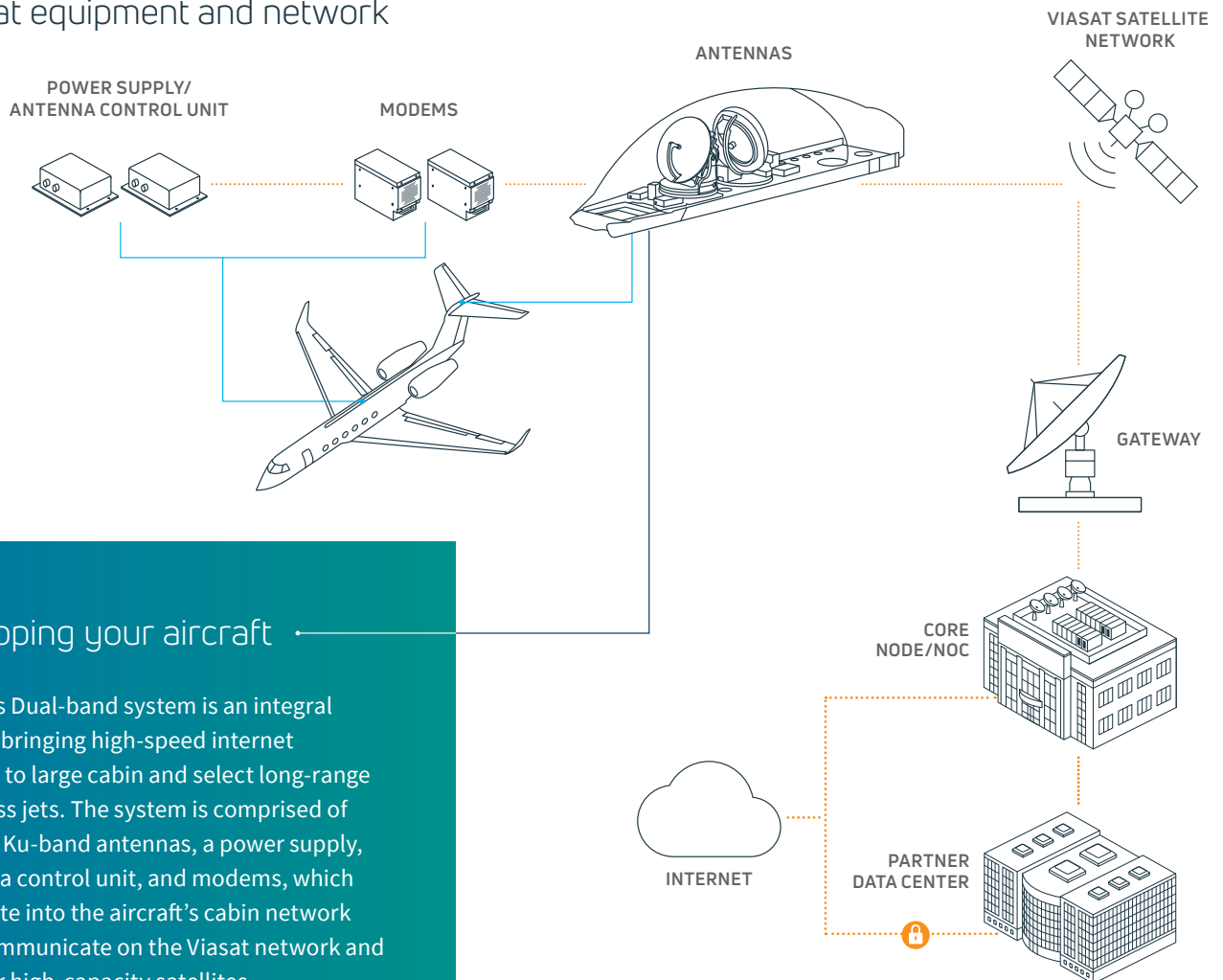
**Streaming live TV:** Enjoy streaming live in high-definition to cabin TV monitors or passengers' own devices.

## How it works

Viasat's Dual-band solution is an intelligently designed system that provides the best satellite network for internet connectivity. The service seamlessly shifts connectivity between Ka- and Ku-band networks as needed, creating a continuous high-speed internet experience for passengers.

Once on board, passengers connect their devices to the aircraft's cabin network similar to how they'd connect to Wi-Fi on the ground. Data is transmitted between the Viasat dual-band system on the plane to the satellite ground station. As the plane moves through the air, the system automatically performs handovers between Ka- and Ku-band coverage areas.

## Viasat equipment and network



## Equipping your aircraft

Viasat's Dual-band system is an integral part of bringing high-speed internet service to large cabin and select long-range business jets. The system is comprised of Ka and Ku-band antennas, a power supply, antenna control unit, and modems, which integrate into the aircraft's cabin network and communicate on the Viasat network and partner high-capacity satellites.

# Specifications

## Dual-band solution

### Operating frequencies

<b>Transmit</b>	Ka: 27.5 to 30.0 GHz Ku: 14.0 to 14.5 GHz
<b>Receive</b>	Ka: 17.7 to 21.2 GHz Ku: 11.55 to 12.75 GHz

### Environmental & physical characteristics

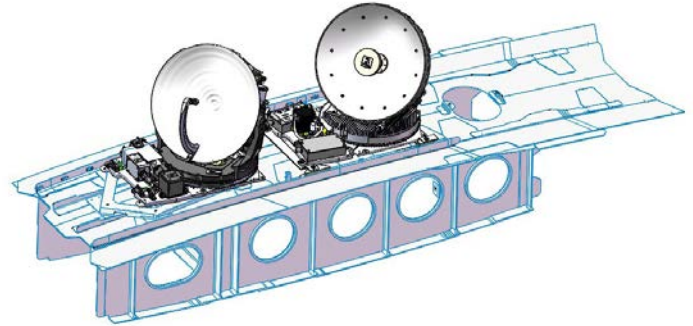
<b>Operating temperature</b>	-55°C to +70°C
<b>Size</b>	Ka: 12.0" x 12.9" Ku: 11.9" x 12.9"
<b>Weight, total system</b>	88.5 lb; 40.1 kg
<b>Power input (AC or DC options)</b>	115 VAC, 400 Hz or 28 VDC

### Dual-band aircraft speeds

- › **To aircraft when using Ka:** No maximum limit<sup>1</sup>; Typical >30 Mbps
- › **From aircraft when using Ka:** Up to 2 Mbps

### Supported and supportable aircraft

<b>Bombardier</b>	Global Express, Global XRS, Global 5000, Global 6000
<b>Gulfstream</b>	GIV, GV, G450 <sup>7</sup> , G550, G650/650ER



<sup>1</sup> VPN performance varies. Speak to a Viasat Business Aviation expert for VPN recommendations. <sup>2</sup> "Typical" speeds are the speeds a terminal should usually experience under normal network and environmental conditions; speeds are not guaranteed and will vary. <sup>3</sup> Removing the speed limits<sup>2</sup> means that there is no cap set on the speed delivered to a terminal. Speeds may still be limited by terminal equipment capabilities, network and environmental conditions, and other factors. <sup>4</sup> Subject to country regulations. <sup>5</sup> Future coverage is an expansion of current Ka-band and Ku-band coverage. Coverage is approximate and subject to change. <sup>6</sup> Includes Ka-band satellites launched through 2022. <sup>7</sup> STC expected in 2022.

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