



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, wherever they go in the world. From emailing to downloading files to media streaming.

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 VPN¹ access, passengers can conduct multi-site video conferences plus stream music, internet videos and live TV.

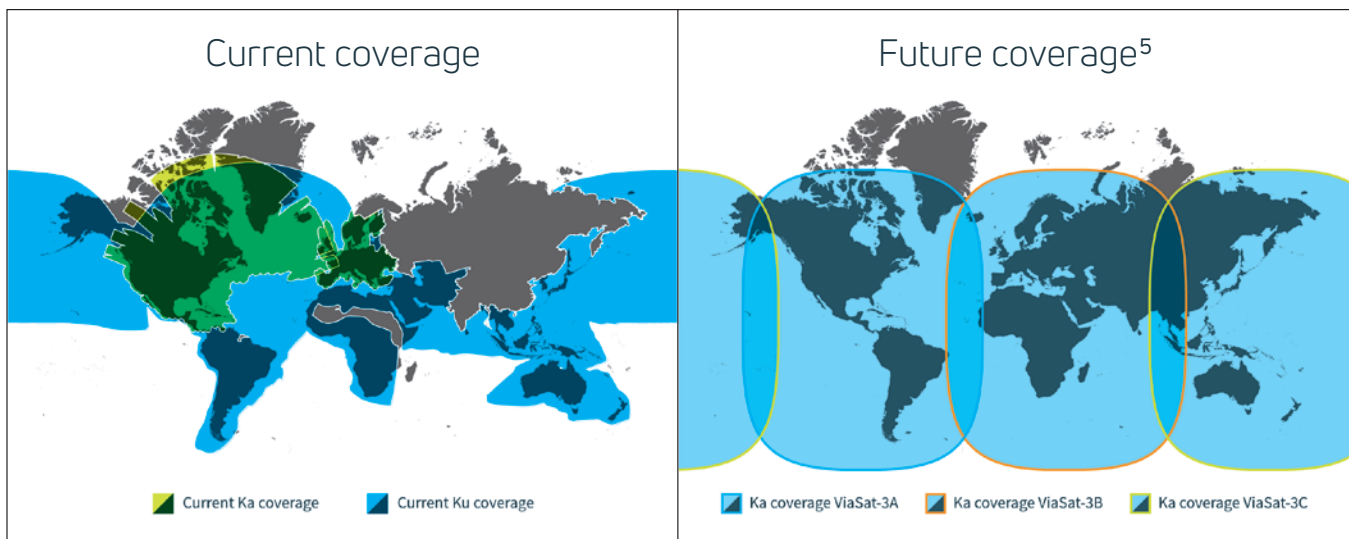
Dual-band service provides speeds typically greater than 20 Mbps² while in the Ka-band network, and up to 10 Mbps in the Ku-band network. Because we've removed the speed limits on our Ka-band service³, you could experience speeds higher

than other providers' Ka-band networks for unparalleled in-flight connectivity. 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 operations⁴ 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 at no additional cost. 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 20 Mbps. Stream, conference and surf — from takeoff to touchdown.

Forward-compatible: Protect your investment. Viasat's Ka-band equipment will work with our enhanced satellite technology of tomorrow⁵ allowing you to accommodate the increased demand for speed, capacity and performance.

Unrivalled 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.

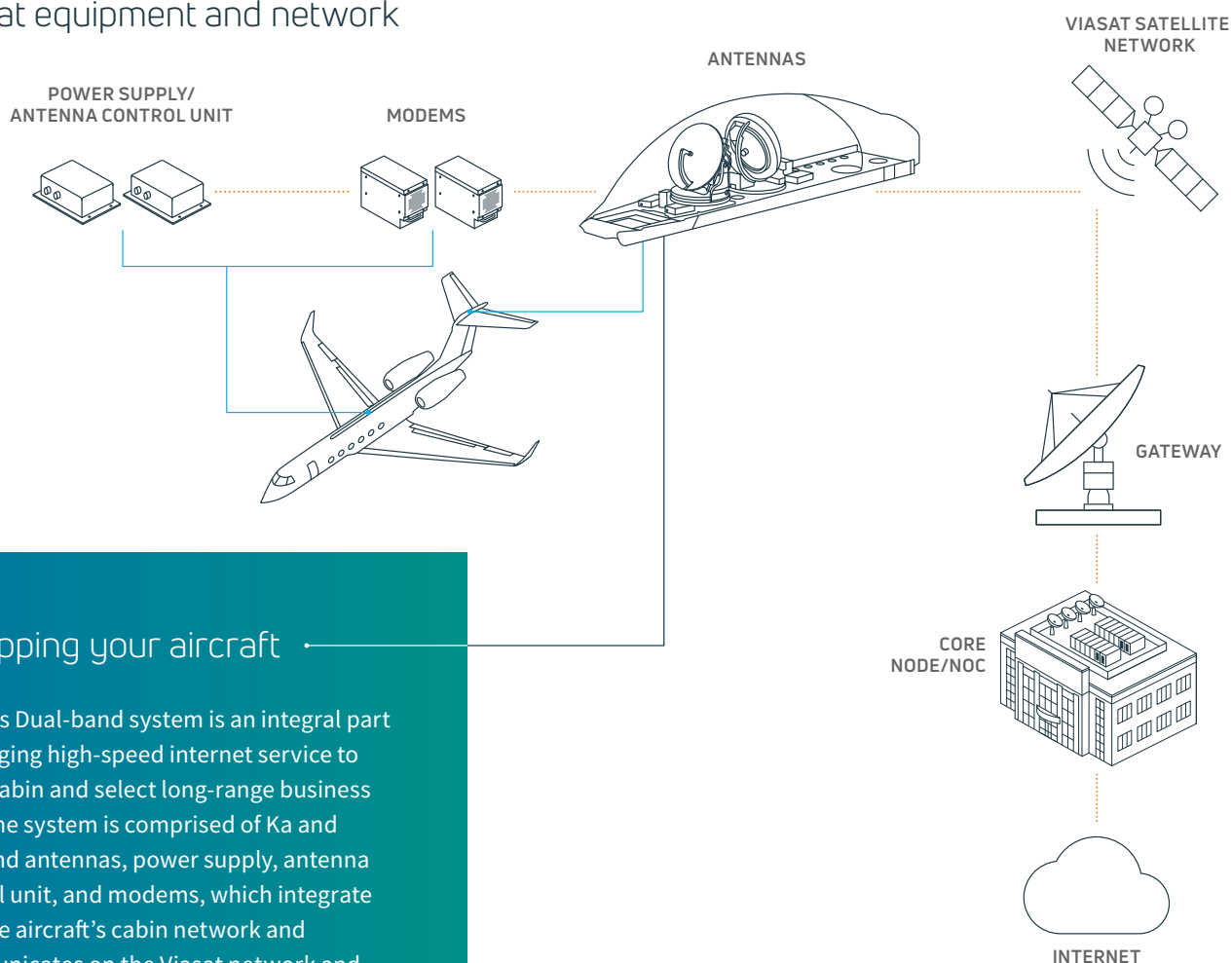
Streaming live TV: Enjoy streaming live in high-definition to cabin TV monitors or passengers' own devices. Streaming TV does not impact your data plan allocation.

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 Viasat's 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, power supply, antenna control unit, and modems, which integrate into the aircraft's cabin network and communicates on the Viasat network and partner high-capacity satellites.

Specifications

Dual-band solution

Operating frequencies

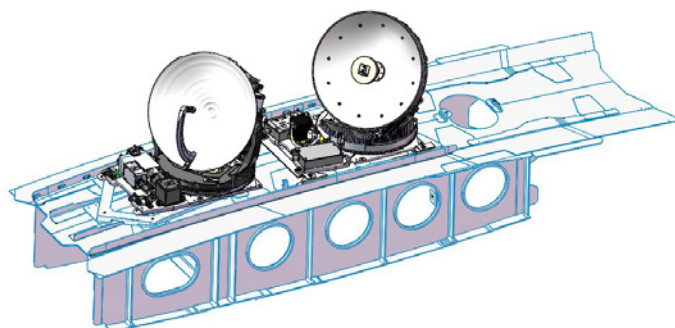
Transmit	Ka: 27.5 to 30.0 GHz Ku: 14.0 to 14.5 GHz
Receive	Ka: 17.7 to 21.2 GHz Ku: 11.55 to 12.75 GHz

Environmental & physical characteristics

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

Supported aircraft

Gulfstream	GIV, GV, G450, G500, G550, G600, G650
Bombardier	Global Express, Global XRS, Global 5000 – 8000



Dual-band service plans

Plan	Data (GB)	To aircraft when using Ka			From aircraft when using Ka	
		Maximum	Typical	CIR	Maximum	CIR
Ultra40 Dual Band	40	No Max	>20 Mbps	8 Mbps	2 Mbps	0.75 Mbps
Ultra60 Dual Band	60	No Max	>20 Mbps	8 Mbps	2 Mbps	0.75 Mbps
Ultra100 Dual Band	100	No Max	>20 Mbps	8 Mbps	2 Mbps	0.75 Mbps
Ultra200 Dual Band	200	No Max	>20 Mbps	8 Mbps	2 Mbps	0.75 Mbps

Ku service level for all plans

- › **To Aircraft:** 10 Mbps within CONUS, 6 Mbps Global
- › **From Aircraft:** 1 Mbps for aircraft equipped with VR-12C antenna (512 Kbps Global)

¹ VPN performance varies. Speak to a Viasat Business Aviation expert for VPN recommendations. ² "Typical" speeds are the speeds a terminal should usually experience under normal network and environmental conditions; speeds are not guaranteed and will vary. ³ Removing the speed limits' 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. ⁴ Subject to country regulations. ⁵ Future coverage is an expansion of current Ka-band and Ku-band coverage. Coverage is approximate and subject to change. ⁶ Includes Ka-band satellites launched through 2022.

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