



During flight secure and reliable communications are essential, yet have not always been available or affordable for commercial helicopters and light aircraft. As a result real-time flight following, point-to-point or multicast voice communication, and equipment health and usage monitoring systems (HUMS) are non-existent.

RELIABLE AND AFFORDABLE SATELLITE CONNECTIVITY

The Viasat L-band Managed Service meets the need for secure, reliable and affordable data and voice connectivity during all phases of flight. The service uses the Viasat Aviation Terminal 2220 (AT2220) offering the highest data rates among satellite terminals of its size. Wired and wireless terminal interfaces integrate your equipment and IP-based data and voice applications.

Service advantages:

- » Frequent GPS position reports while receiving weather updates and exchanging voice communications
- » Transmit HUMS data during flight to the maintenance center for real-time equipment monitoring
- » Access to flight support web sites using personal mobile devices
- » Enables applications to extend smartphone voice, SMS, and email services through the satellite network
- » Mission-critical, Push-to-Talk call groups for emergency response or business agility

TWO-WAY SECURE NETWORKING FOR HELICOPTER AND LIGHT AIRCRAFT

The Aviation Terminal 2220 is one of the smallest and lightest full-duplex aviation terminals on the market. The single line replaceable unit combines an antenna, RF front-end and modem into one assembly. This makes installation easy, eliminating expensive RF cables, and reducing installation time and complexity.

In order to provide the most affordable communications the terminal relies on remarkably efficient bandwidth usage, low-latency IP networking and optimized power consumption. In addition, the terminal includes embedded, beyond-line-of-sight voice connectivity for communications between the aircraft and end users through Point-To-Point or Push-To-Talk call groups.

Equipped with a dual channel receiver, Wi-Fi/Bluetooth, GPS, Automated Position Reporting/Automated Vehicle Location, and AES-256 data link encryption, the feature-rich Viasat 2220 terminal supports your secured communication needs.

AVIATION TERMINAL 2220 FEATURES

Advanced Technology

- » Single assembly antenna, RF and modem
- » Dual-channel receive, single-channel transmit
- » Two-way send/receive connectivity
- » Built-in helicopter rotor blockage mitigation
- » Low-latency for real-time monitoring
- » Packet-switched, IP-based networking for low-cost broadcast, multicast and unicast messages
- » Ethernet, serial, Wi-Fi, and Bluetooth interfaces eases integration
- » Embedded GPS or GLONASS for real-time position reporting
- » Point-To-Point or netted voice
- » Wi-Fi enabled. Connect smartphones, tablets or PC's to access communication and data services across the satellite network
- » AES256 encryption for strongest available data link security

Application Examples

- » **Flight Following** Embedded AVL server provides real time aircraft location updates
- » **In-cabin Communication** Supports voice, text and email using your own smartphone or tablet
- » **In-flight Weather** On-demand, real-time data at affordable cost
- » **Telemetry and Status** Provides equipment health and status while in-flight for predictive data analytics
- » **Emergency Medical** Two-way networking enabling real-time Emergency Medical Services (EMS) monitoring of patient vital signs: ECG, blood pressure, respiratory rate, etc. and communications with hospital staff



SPECIFICATIONS

GENERAL

Antenna Polarization	RHCP & LHCP, software configurable
Receiver Capability	Can receive two independent channels simultaneously
Frequency Band	
» TX	1626.5 to 1675.0 MHz
» RX	1518.0 to 1559.0 MHz
Transmission Security	
» Link Encryption	AES-256
GNSS	GPS or GLONASS

EXTERNAL INTERFACES

Power	10 to 32 VDC, via multi-pin connector, short circuit and surge protection
Bluetooth	4.0
Wi-Fi	IEEE 802.11 B/G, 2.4 GHz
Ethernet and Serial	Via multi-pin connector
GNSS	L1 frequency

MECHANICAL

Size (L x W x H)	225 x 146 x 53 mm
Weight	2 kg

ENVIRONMENTAL

Operating Temperature	-55° to +71° C
Operating Altitude	Up to +55,000 ft
Humidity	Up to 95% at +55° C
Waterproofness	IP 66 wet service operation
Sand and Dust	Sand and dust proof at +55° C and ambient

ENVIRONMENTAL (CONTINUED)

Fluid Susceptibility	Continuous spray of de-icing fluid
Salt Fog	48-hour continuous exposure
Operational Shock and Crash Safety	18 shocks of 6g at 11±1ms each
Designed to RTCA/DO-160G	
» Temperature	Category F2
» Humidity	Category C
» Vibration	Category S and U2
» Explosive Atmosphere	Category E
» Waterproofness	Category S
» Fluid Susceptibility	Category F
» Power Input	Category B
» Voltage Spike	Category A
» Radio Frequency Susceptibility	Category T
» Radio Frequency Emission	Category H
» Audio Frequency Conducted Susceptibility	Category B
» Induced Signal Susceptibility	Category AC

REGULATORY APPROVALS

CE	Per R&TTE Directive 1999/5/EC, Low Voltage Directive 2006/95/EC
FCC	Title 47 Section 15, Title 47 Section 25
RCM	AS/NZS CISPR 22:2009 Safety IEC/EN/AS/NZS 60950-1, IEC/EN/AS/NZS 60950-22
RoHS	Per European Union Council Directive 2011/65/EU
REACH	Per European Union Council Directive 1907/2006/EC
WEEE	Per European Union Council Directive 2012/19/EU



99.9% network availability



Cost to communicate is greatly reduced through multicast and broadcast



Real-time messaging with latency less than 800 milliseconds



Extend and enhance terrestrial and cellular services



Protects against cybersecurity threats with embedded AES256 encryption



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