

9000 Series Airborne ATR

Airborne Communications-on-the-Move (COTM) Solution

TACHYON'S COMMUNICATIONS-ON-THE-MOVE (COTM) TAKES FLIGHT

Communications and instant access to information are vital in mission-critical operations, especially those that are being conducted in forward-deployed locations. The warfighter on the ground relies on a dependable and secure two-way transmission of voice, video and imagery data to and from an airborne carrier in the skies above. This airborne carrier, in turn, is in constant communications via satellite with the NetOps center thousands of miles away.

Tachyon has developed the ATR-9000 Airborne ATR (Air Transportable Rack) series of terminals to meet the most rigorous demands for mobility and security by delivering broadband capabilities in a compact form factor. These terminals and their suite of custom network management tools have been designed to address high-speed COTM, specifically for complex aeronautical applications such as HD full-motion video in the return direction.

STATE-OF-THE-ART SATELLITE MODEM BOARD

Ideally suited for integrated land, air and sea networks. An extremely compact and lightweight board that meets the most rigorous demands for mobility and security. Supports data, voice and video connectivity in highly mobile military and government applications such as airborne Intelligence, Surveillance & Reconnaissance (ISR).

- Star and SCPC Topologies Supported
- High Carrier Data Rates: Up To 10 Mbps (Inbound), 2.5 Mbps (Outbound)
- Operation Mode: TDM Outbound
- Spread Spectrum Waveform Technology
- TRANSEC Security with AES 256-Bit Encryption
- Advanced QoS and Traffic Prioritization Options
- Supports WGS IF Ranges: 950-2000 MHz

DO-160 CERTIFICATIONS

- MIL-STD-704E: Aircraft Electric Power Characteristics
- MIL-STD-810E: Environmental Engineering Considerations and Laboratory Tests
- MIL-STD-461D: Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment



TACHYON SERVICES PROCESSOR (TSP)

The TSP subsystem provides the end-user with best-of-class networking services:

- HTTP Acceleration
- Routing: DHCP, NAT, IPv4/6, DNS, ARP, etc.
- Network Management Services (NMS): Locally via web browser, TELNET, SSH and remotely via Tachyon's core network management capabilities and ExtraNet
- Compatible with multiple airborne antenna systems

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CONFIGURATION

Network Topology Star and SCPC	Downstream (TDM)	Upstream (D-TDMA)
Modulation	BPSK, QPSK	BPSK, QPSK
FEC	Turbo, 0.431–0.879	Turbo, 0.431–0.793
Max. Carrier Rates		
Symbol Rate	15 Msps	7.5 Msps
Info Rate	21 Mbps	11 Mbps
IP Data Rate	20 Mbps (spread factor dependant)	2 Mbps
Spread Spectrum		
Spreading Factor	2, 4 and 8	1, 2, 4, 8 and 16
Max Rate (Msps)	SF2: 7.5, SF4: 3.75, SF8: 1.875	SF1: 7.5, SF2: 3.75, SF4: 1.875, SF8: 0.9375, SF16: 0.469

SPECIFICATIONS

SatCom Interfaces	
TX Out	SMA 50 Ohm, 950–2000 MHz
RX In	SMA 50 Ohm, 950–2000 MHz
RX Out	SMA 50 Ohm, 950–2000 MHz
Software Controllable	10 MHz Reference on TX Out and RX In Ports
Power Supply	Unit supports MIL-STD-704 Aircraft Power Standards; Optional DC Power for LNB/BUC
Data Interfaces LAN	Single 10/100/1000 Mbps Ethernet
Console	RS-232 Console Connection (Modem) RS-232 Console Connection (TSP)
Protocols Supported	TCP, UDP, ICMP, IGMP, RIP Ver2, Static Routes, NAT, DHCP, Local DNS Caching, cRTP and GRE
Security	AES Link Encryption (256-bit), TRANSEC with FIPS 140-2 Certification, x.509 Digital Certificates Authentication, Automatic Key Management
Traffic Engineering	Group QoS, QoS (Priority Queuing and CBWFQ), Strict Priority Queuing, Application Based QoS, Minimum CIR, CIR (Static and Dynamic), Rate Limiting
Other Features	Built-in Automatic Uplink Power, Frequency and Timing Control, Authentication
Chassis	Standard 1/2 ATR Chassis; Ventilated Design, 16 Front-Panel High-Visibility LEDs
Dimensions	14.125" x 7.788" x 4.98"
Power	300 w, 28 VDC
Weight	14 lbs / 6.36 kg