



PRODUCT BRIEFING – WTM 6000

Next Generation, High Performance Trunking Radio Solution for All-IP and Hybrid Wireless Transport Applications

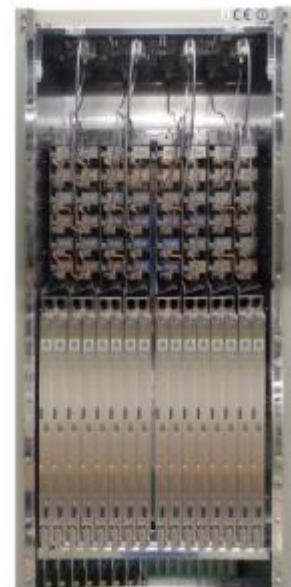
INTRODUCTION

The Aviat WTM 6000 introduces true native Gigabit Carrier Ethernet transport for high performance, long distance, ultra-reliable trunking applications.

The WTM 6000 enables operators to support critical national backbone links using ultra-dependable wireless connections, with performance that exceeds even fiber over distances well in excess of 80 km/50 miles, and over all kinds of challenging terrain, whether it is long expanses of water, jungle or desert.

PRINCIPLE CHARACTERISTICS

- Purpose designed for long haul high performance N+1/N+0 TDM/SDH and mixed mode native IP/Gigabit Ethernet microwave digital radio with high throughput
- Market leading rack density – 16 TR/rack (for 1+0/1+1 to 2x(7+1) in ACAP/ACCP/CCDP
- Up to 4 Gbit/s of Ethernet throughput, or 2.5 Gbit/s TDM/SDH link capacity in less than one equipment one rack.
- Broad Frequency band support from 4 to 13 GHz.
- Choice of STM-1 or IP/Ethernet Gigabit Interfaces.
- Advanced Ethernet features, including VLAN, Priority Assignment (QoS), Scheduler, Jumbo Frame, Synchronization, Port Monitoring Status, RSTP, Flow Control support.
- Full-rate Gigabit interface speeds through Link Aggregation for multiple radio channel bonding.
- High power Transmitters and System Gain.
- Integrated long-haul transport features with Dual-Layer redundancy protection system.
- Voice and Data Orderwire, Wayside Channels, Space-Diversity, DADE) as standard
- Scalable and upgradeable.
- Ultra-reliable for availability that can exceed that of fiber over long distances.



PLATFORM FEATURES

All platform features listed below are subject to rollout and availability. Please check with your Aviat representative for further details.

SCALABLE TDM/SDH AND IP/ETHERNET MIXED TRANSPORT

- N+1/N+0 TDM-SDH and Ethernet Transport, long haul Microwave Radio in all bands in demand from 4 – 13 GHz, for N = 1 to 15, up to 16 RF Channels in adjacent or alternated polarization (ACAP or ACCP) plan
- Radio Terminal (i.e. Rack or Network Element NE) can accommodate up to 16 RF Channels:
 - a) Conventional TDM/SDH STM-1 per RF Channel and STM-4 interface options
 - b) IP Packet RF Channel traffic aggregated into Gigabit Ethernet port(s). Gigabit Ethernet Switch has single non-protected or dual-protected Link L1LA/Line L2LA aggregated Gigabit Ethernet ports for seamless interoperation of N+1 and N+0 backhaul networks.
 - c) Adaptive Coded Modulation (ACM) for Ethernet Transport from 4QAM to 256QAM with throughput from ~40 Mbit/s to >200 Mbit/s per RF channel/XPIC.
- Future-proof, with low-risk migration enabling operators to deploy TDM/SDH with a cost effective evolution path to add parallel native Ethernet traffic with eventual all-Ethernet/IP support. Choice of conventional TDM/SDH or single non-protected or dual-protected aggregated Gigabit Ethernet interface(s) on up to 8 RF or 16 RF Channels.
- IP Features optimized Framing for Native Packet Traffic:
 - VLAN Support per port,
 - Priority Assignment (QoS),
 - Advanced frame/packet processing-Interframe Gap Suppression, Header Compression, Strict Priority Scheduler and Jumbo Frame, DWRR.
 - SyncE Input and Output support,
 - Monitoring Status per port,
 - Spanning Tree Protocol STP/RSTP (Line) Protection IEEE 802.1w,
 - Flow control (Line) IEEE802.3x Pause Frames.

Cost-Saving Application Benefits

REDUCED CAPEX

- Superior technical specifications, such as:
 - Mixed-mode with optimized native IP Ethernet packet traffic aggregated into Gigabit Ethernet port(s),
 - IP features (VLAN, Priority Assignment (QoS), Scheduler, IFG, Header Compression, Jumbo Frame, SyncE, Monitoring Status, Spanning Tree Protocol (STP/RSTP),
 - Higher modulation schemes (Adaptive Coded Modulation-ACM) enabling higher throughput, and
- Higher system gain for reduced antenna/tower hardware cost.

- Industry leading capacity-per-rack minimizes shelter cost.
- Easy installation and Commissioning.
- High degree of modularity and simplified Branching Unit (BRU) to minimize expansion costs.

REDUCED OPEX

- Superior reliability, designed with negligible “Out-of-Box” failures.
- Easy SNMP and local Browser OAM (Operations and Maintenance) and fully integrated into Aviat ProVision Network Management system.
- Lower power consumption reduces HVAC power demand costs.

WTM 6000 GENERAL DESCRIPTION

The WTM 6000 is a high capacity microwave radio system with SDH/IP mixed mode hybrid transport capability suitable for a variety of network applications including mobile backhaul transmission.

Available in the radio frequency bands of 4/5/U6/8/11 GHz with 40 MHz and U4/L6/U6/7/8/13 GHz with 28/29/29.65/30 MHz RF channel spacing. The WTM6000 radio equipment is fully solid state and designed to meet ETSI, R&TTE, ITU-T and ITU-R Recommendations for long haul and high capacity digital microwave radio system.

The modulation scheme is highly efficient fixed 64QAM or 128QAM, or Adaptive Coded Modulation (ACM) operation of 4/16/32/64/128/256QAM, depending on the propagation condition and low density parity check (LDPC).

The WTM 6000 can be used in various types of SDH/IP networks such as ring, star, linear or nodal configurations, and provide high-quality performance even in severe transmission path conditions such as over water, over mountains.

Various types of optional auxiliary signal transmission are available such as 2.048 Mbit/s wayside traffic, 10/100BASE-TX Fast Ethernet and 64 Kbit/s digital service channels.

Flexible RF arrangements, with Space Diversity, enables single or dual terminal configuration, accommodating up to sixteen (16) transceivers per rack.

- (1) N+1 or N+0 & M+1 or M+0 combined ACCP/ACAP/CCDP with/without SD
- (2) 1+1 Hot-Standby (two (2) systems per rack, Point-to-Point Terminal)
- (3) 2x(1+1) Hot-Standby (four (4) systems per rack, Dual Terminal)

High power amplifier with +32 dBm (128QAM) and +30 dBm (256QAM) output power for 4-8 GHz band, +33 dBm (4QAM-64QAM).

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