Advantech Wireless

Transcend™ 200

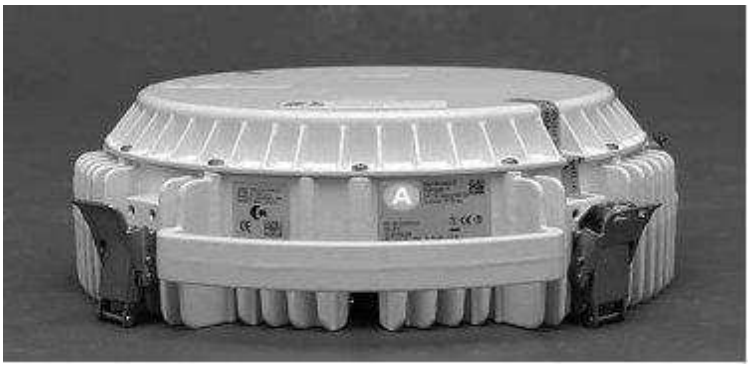
MEF member

High Speed IP and TDM Microwave Radio with True ACM™

Transcend 200 Indoor Unit (IDU)

Features

- **Advanced Radio and Digital Signal Processing**
  Up to 200 Mbps over-the-air throughput for single IDU configurations.
- **True Adaptive Coding and Modulation (True ACM™)**
  Transcend 200 automatically adjusts coding and modulation rates, without any payload error, to changing environmental conditions. This allows for sustained availability at overall higher capacity.
- **High Speed IP Traffic - Gigabit Switching Transcend 200**
  Transcend 200 includes a full featured integrated Layer 2 Gigabit Switch supporting low latency.
- **Nodal Traffic Grooming**
  Flexible support of IP, TDM, and mixed IP/TDM traffic with prioritarization via quality and cost of service.
- **Native IP and TDM**
  Maximize bandwidth utilization and radio capacity as IP and TDM traffic transmitted over-the-air without re-encapsulation. Transcend 200 also supports transmission of mixed native IP and native TDM traffic over-the-air.



Common Outdoor Unit (ODU)
for all Advantech's microwave radios

Overview

The Transcend 200 high capacity microwave radio with integrated gigabit switch, support of 16E1/T1s, and capacity of up to 200 Mbps on a single carrier is an ideal low cost high performance carrier grade IP and TDM radio. The Transcend 200 microwave radio is the high capacity, high performance, and flexible solution to demanding transmission and telecom applications including backhauling 3G/4G traffic and Wireless Broadband Networks such as WiMAX, Metro WiFi, UMTS TDD, and private communication networks carrying data, voice, and video traffic.

Transcend 200, Advantech Wireless' second generation microwave system offering True Adaptive Coding and Modulation™, dynamically and seamlessly adapts coding and modulation to path propagation conditions. The result is the Lowest Total Cost of Ownership; higher availability, smaller antennas, and longer hop distances.

The Transcend 200 can be flexibly configured as a narrow band or wide band IP, TDM, or mixed IP/TDM transport stream radio. Modulation and data throughput are programmable from QPSK to 64 QAM or up to 200 Mbps for a single carrier. Operators can provision traffic capacity based on priority or dynamically change it to provide maximum throughput. Provisioning can be based on CoS priorities or QoS for VoIP traffic and is fully compatible with triple play to combine voice (Abis or VoIP) with GPRS and video services.

Traffic grooming, cross connection, expansion and redundancy is supported through the integration of a front plane high speed serial interface. Transcend 200 supports a complete set of diversity and protection interfaces including full hot standby, frequency diversity, space diversity, and polarization diversity. The inherent connectivity and flexibility of Transcend 200 supports multiple network technologies including Mesh, Star, and Tree networks.

The Transcend 200 includes a secure Embedded Element Manager (Web interface and Telnet) built upon open standards. Advantech Wireless' optional NetWay Manager is a complete network management suite compatible with all Advantech's point-to-point microwave radios.

Transcend 200 Specifications

Interfaces

- 4 x 10/100/1000 BaseT Ethernet Switch
- 16 x E1/T1 over low-cost DB-37 interfaces
- 2 x 10/100/1000 BaseT ports dedicated for NMS and EOW applications (traffic independent)
- DSUB-15 (f), 4 x Inputs, 2 x Form-C relay outputs for Alarm Interface
- DSUB-9 (f) Serial console port for CLI
- 2 x High speed serial interface for redundancy and traffic aggregation
- USB for backup and configuration

Characteristics

Frequency bands (GHz)	6 – 38 GHz
Channelization	1.75 – 56 MHz for ETSI and 2.5 – 50 MHz for ANSI market (programmable)
Modulation	Programmable: QPSK, 16-QAM, 32-QAM, 64-QAM with True Adaptive Coding and Modulation™
Configuration	Unprotected, hot stand-by, frequency diversity & space diversity
Antenna Unit	0.3 to 3.7 m or from 1 to 12 ft (depending on frequency)
Latency 1000BaseT	196 µsec (example given for 56MHz/64QAM, 100kbps, 64 Byte Packet size)

Management Functions

- Multiple simultaneous user support
- True IP management network (DCN)
- Supports host networking
- Automatic routing via RIP/OSPF
- Support Simple Network Time protocol (SNTP) for centralized time management
- Application software downloaded and updated without loss of traffic

Fault Management Functions

- Real-time alarm / event logs
- Acknowledgeable and re-configurable alarms / events
- Alarms/Events via SNMP TRAPS, e-mail (SMTP), as well as digital I/O and LED

Configuration Management Functions

Embedded element managers:

- HTTP server for WEB based management
- Text terminal interface and Telnet server for CLI
- SNMP agent
- MIB Browser
- Embedded configuration log
- Support of CDP for automatic network discovery

Performance Management Functions

Embedded Real time performance collection:

- Management traffic statistics
- Payload traffic statistics

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An ISO 9001: 2008 Company

PB-T200-1W0-LJZ007-13150

Specifications are subject to change without notice

Transcend ™ 200

Physical

Environmental robustness	According to ETSI & IEC standards, CE marking and Bell Telecordia GR-63-CORE

Dimensions:

Indoor Unit	483x44x277 mm or 19”, 1U WxHxD)
Radio Frequency Unit	267x89x267 mm or 10.5x3.5x10.5inch WxHxD, incl. handle)

Weight:

Indoor Unit	< 3.2 kg or 7 lbs
Radio Frequency Unit	< 5 kg or 11 lbs

Temperature:

IDU	-5 to +50 C
ODU	-33 to +55 C
	(full specification)
	-45C to +55C
	(operational)
	Up to +60C with solar shade

Electrical:

Power Consumption	100 W (typical)
Voltage Supply DC	-48 VDC, optional +/-24VDC and +48VDC
Voltage Supply AC	100/240 VAC 50/60 Hz
ODU-IDU cable length	up to 300 m

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Transcend ™ 200

Coupler/ Splitter (shown with installed Outdoor Units)

From 6 to 38 GHz

Microwave Antenna

From 6 to 38 GHz high performance integrated and non-integrated antennas

Coupler Electrical specifications

Operating Frequency available:	5.9 to 7.1 GHz
	7.1 to 8.5 GHz
	10.7 to 11.7 GHz
	12.7 to 13.3 GHz
	14.4 to 15.4 GHz
	17.7 to 19.7 GHz
	21.2 to 23.6 GHz
	24.2 to 26.5 GHz
	37.0 to 40.0 GHz
Return loss	18 dB min.
	(25 dB typ.)
Coupling values available	3 dB, 6 dB & 10 dB
Isolation	20 dB min.
	(25 dB. typ.)
Direct antenna and ODU mount interface	

Environmental characteristics

Weight (Typical):	6 Kg max.
Pressure:	6 PSI
Operating Temperature:	-45C to +55C
	up to
	+60C with solar shade

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