High Performance IP & TDM Microwave Radio

Transcend™ 800XP Indoor Unit (IDU)

Features

- **Advanced Radio and Digital Signal Processing including integrated True XPIC™**
  Over 800 Mbps over-the-air uncompressed throughput on a single RF carrier or multiple Gbps over-the-air throughput for N+0 configurations. Built-in True XPIC™ with Co-Channel Dual Polarization.

- **True Adaptive Coding and Modulation (True ACM™)**
  Transcend™ 800XP 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 Routing and Switching**
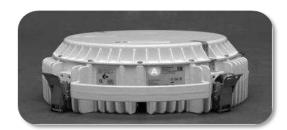 Transcend™ 800XP includes a full featured built-in Layer 2 Gigabit Switch and Layer 3 Gigabit router. High Speed IP traffic is scalable up to Gbps with low latency.

- **Flexible Installation Configuration**
  Transcend™ 800XP is available in split-mount and full-indoor configuration for lower frequency bands. Includes seamless scalability for nodal applications and easy RF channel expansion.

- **Flexible synchronization solution with various sync options**:
  - incoming E1/DS1;
  - according to ITU-T G 8262;
  - on precision timing protocols - IEEE 1588-2008 or proprietary protocol based on low and consistent packet delay variation;

Common Outdoor Unit (ODU) for all
Advantech Wireless' microwave radios
used in split configurations.

Overview

The Transcend™ 800XP with integrated Layer 2 10/100/1000BaseT/1000Base-F Ethernet switch and a full featured Layer 3 10/100/1000BaseT Ethernet router for native IP traffic. Transcend 800XP in hybrid configuration includes optional support for up to 2 x STM-1/OC-3 or 20 x E1/T1s is the ideal carrier grade IP and TDM microwave radio. Transcend™ 800XP is the high capacity, high performance, and flexible solution to demanding transmission, telecom and broadcast applications including backhauling 3G/4G traffic and Wireless Broadband Networks such as LTE, HSPA+, WiMAX, Metro WiFi, UMTS TDD, and private communication networks carrying data, voice, and HD video.

Transcend™ 800XP's built-in True XPIC™ digital signal processor doubles available capacity by supporting two carriers with vertical and horizontal polarizations on the same frequency. The channel re-use capability provides the greatest capacity possible within any given available bandwidth.

Transcend™ 800XP also offers True Adaptive Coding and Modulation™, which 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.

Transcend™ 800XP can be flexibly configured as a narrow band or wide band IP, TDM, or hybrid - mixed IP/TDM transport stream radio. Modulation and data throughput are programmable from QPSK to 1024 QAM or more than 800 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.

Expansion and redundancy is supported through the integration of a front panel high speed serial interface. Transcend™ 800XP supports a complete set of diversity and protection interfaces including full hot standby, frequency diversity and space diversity as well as XPIC with full CCDP support. The inherent connectivity and flexibility of Transcend™ 800XP supports multiple network technologies including Ring, Mesh, Star, and Tree networks.

Transcend™ 800XP Specifications

Interfaces

- Synchronous Ethernet
- 16 x 10/100/1000 BaseT Ethernet Switch
- 8 x SFP Ethernet Switched optical or copper ports
- 4 x 10/100/1000 BaseT Ethernet Router
- 2 x STM-1/OC3 full duplex through SFP slots (optional)
- 20 x E1/T1 (optional)
- DSUB-15 (f), Protection and Alarm Interface
- DSUB-9 (f) Serial console port for CLI
- 2 x High speed serial interface for redundancy and traffic aggregation

Characteristics

Frequency bands (GHz)	4 – 38 GHz
Channelization	1.75 – 56 MHz for ETSI and 2.5 – 80 MHz for ANSI channel scheme (programmable)
Modulation	Programmable: QPSK-1024 QAM with True Adaptive Coding and Modulation^{TM}
Configuration	Unprotected, hot stand-by, space diversity, frequency diversity, XPIC with Co-Channel Dual Polarization and N+0
Installation Type	Split or All-Indoor
Ethernet Latency	200 us (typical value)

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) CT management
- Active and standby software partitions for very robust operation
- Application software downloaded and updated without loss of traffic

Fault Management Functions

- Real-time alarm / event logs
- Acknowledgeable and re-configurable alarms / events
- Forwarding of alarms to 8 northbound Network Management
- Alarms/Events via SNMP TRAPS, e-mail (SMTP), as well as digital I/O and LED
- Rapid Spanning Tree protocol

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 Cisco Discovery Protocol for automatic network discovery

Performance Management Functions

Embedded Real time performance collection:
- Management traffic statistics
- Payload traffic statistics

Security Management Functions:

- 4 User levels with reconfigurable passwords per user (http / CLI)

Advantech Wireless

Physical

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

Dimensions:

Indoor Unit (IDU)	483x44x277 mm or 19x1.75x10.9inch, (1U) (WxHxD)
Outdoor RFU (ODU)	267x89x267 mm or 10.5x3.5x10.5inch (WxHxD, incl. handle)
Full-Indoor RFU	483x264x277 mm or 19x10.5x10.9inch, (6U) (WxHxD)

Weight:

Indoor Unit (IDU)	< 3.2 kg or 7 lbs
Outdoor RFU (ODU)	< 5 kg or 11 lbs
Full-Indoor RFU w/o branching	< 11 kg or 24 lbs

Temperature:

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

Electrical:

Power Consumption	varies with installation type and configuration.
Voltage Supply DC	+/-48 VDC
Voltage Supply AC	100/240 VAC (optional)
ODU-IDU cable length	up to 300 m