



Advantech
Wireless

AMR Transcend™ 100



High Speed IP Solution



Features

- **Adaptive Coding and Modulation (ACM)**
Transcend 100 automatically adjusts coding and modulation rates, without any payload error, to changing environmental conditions. This allows for sustained availability at overall higher capacity.
- **Advanced Radio and Digital Signal Processing**
High capacity modulation engine which integrates the most advanced forward error correction engine available, LDPC, adaptive time equalizer, and other technologies to lead to higher system gain and link availability.
- **Layer 2 Switch interface**
The managed 4-port Ethernet switch includes priority and VLAN support (IEEE 802.1p/q), end-to-end flow control, RMON statistics and latency control.
- **Mixed network capabilities**
Transcend 100 offers simultaneous Ethernet and E1/T1 traffic connections for different types of networks.

Overview

Allgon Microwave, the true Ethernet Microwave Radio pioneer, continues to advance its position as the leading native Ethernet microwave supplier with the high capacity AMR Transcend™100. The AMR Transcend 100 is the first microwave system to offer true Adaptive Coding and Modulation leading to higher availability, smaller antennas, and longer distances between antennas all translating into the lowest Total Cost of Ownership. The Transcend 100 microwave radio flexibly supports 100 mbps of IP traffic with an additional 4E1/T1s available for wayside traffic.



Overview (continued)

The Transcend 100 microwave radio is ideal for IP or mixed IP/TDM networks where high capacity and the highest system availability is required such as backhauling IP/TDM networks such as Mesh WiFi, WiMax, 3G/4G, and private networks carrying data, voice, and video.

Transcend 100's ACM functionality adapts coding and modulation, without payload error, to changing environmental conditions. Instead of losing the connection due to heavy fading, Transcend 100 adjusts in real-time radio performance to maintain connection and maximize up-time and availability. In addition to true ACM, Transcend 100 includes several other path fade countermeasures including Low Density Parity Check, the most advanced forward error correction engine available today, adaptive time domain equalizer, and other advanced techniques. The result of these technologies is higher system gain which translates into higher availabilities.

The AMR Transcend 100 access Node Controller (aNC) includes a 4-port 10/100BaseT Layer 2 Ethernet switch. The switch supports Quality of Service (QoS) which is required for IP-networks in demanding applications such as Voice over IP (VoIP) and Video on Demand (VoD). With built-in traffic priority, Transcend 100 ensures safe delivery of information together with low latency and a minimum of packet loss over the transmission.

Transcend 100 includes a secure Embedded Element Manager (Web interface, Telnet). Allgon Microwave's optional NetWay Manager™ is a complete network management suite compatible with all Allgon Microwave's point-to-point microwave radios.



Product Specifications

Capacity	Up to 108 Mbps software controlled
Redundancy	Hot Standby, Space Diversity, Frequency Diversity and Polarity Diversity
Number of ports	4x10BaseT/100BaseTx with Layer 2 Switch
Wayside capacity	4xE1/T1 (optional)
Physical interfaces	10/100 half or full duplex auto negotiate Ethernet: 4xRJ-45 (IEEE 802.3) 37 pin DSUB (120 Ohm balanced) (ITU-G.703) ANSI 100 Ohm Balanced ANSI T1.102, T1.403

Ethernet Specific Functionality

- Full VLAN support (port based, multi-access and trunk) IEEE 802.1q
- End-to-end flow control
- Head-of-line blocking prevention support
- Full priority support according to 802.1p (optional)
- RMON statistics for throughput measurements
- Tagging and un-tagging of VLANs

System

Frequency bands [GHz] 6, 7, 8, 11, 13, 15, 18, 23, 26, 32, 38

Power control ATPC with dynamic range >20dB, software controlled in 0.1dB steps

Receiver thresholds [dBm] for 28 MHz RF channels:

Capacity [Mbps]	20	33	41	61	71	82	90	100	100+4E1		
6 GHz	-91.5	-90.5	-89.5	-86	-84	-82.5	-79.5	-78.5	-77		
7 GHz	-91.5	-90.5	-89.5	-86	-84	-82.5	-79.5	-78.5	-77		
8 GHz	-91.5	-90.5	-89.5	-86	-84	-82.5	-79.5	-78.5	-77		
11 GHz	-92	-91	-90	-86.5	-84.5	-83	-80	-79	-77.5		
13 GHz	-92	-91	-90	-86.5	-84.5	-83	-80	-79	-77.5		
15 GHz	-92	-91	-90	-86.5	-84.5	-83	-80	-79	-77.5		
18 GHz	-92	-91	-90	-86.5	-84.5	-83	-80	-79	-77.5		
23 GHz	-91.5	-90.5	-89.5	-86	-84	-82.5	-79.5	-78.5	-77		
26 GHz	-91.5	-90.5	-89.5	-86	-84	-82.5	-79.5	-78.5	-77		
26 GHz	-91.5	-90.5	-89.5	-86	-84	-82.5	-79.5	-78.5	-77		
32 GHz	-90	-89	-88	-84.5	-82	-81	-78	-77	-75.5		
38 GHz	-89	-88	-87	-83.5	-81.5	-80	-77	-76	-74.5		
Output Power [dBm]	6 GHz	7 GHz	8 GHz	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz	26 GHz	32 GHz	38 GHz
QPSK	30	27	27	26	26	26	25.5	24	23.5	22.5	22
16QAM	28	22.5	22.5	21.5	21.5	21.5	21.5	20.5	19.5	18.5	17.5
64QAM	24	20	20	19	19	19	19.5	19	17.5	16	16

Rev. N.1



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Management

Physical interfaces	Ethernet 10BaseT, 2xRS-232 (PC and modem), Control panel with keypad and display
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Built-in management protocols	HTTP server, Telnet server, SNMP agent, FTP client, SMTP agent and SNTTP agent
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Physical

Power supply	48 VDC, any polarity,
Power consumption (1+0):	100W (7 to 38 GHz), 118 W (6 GHz)
Environmental robustness	According to ETSI standards, CE marking

Temperature ranges:

Indoor Unit	-5° C to +40° C
Radio Frequency Unit	-33° C to +50° C

Dimensions:

Indoor Unit (WxHxD)	190.2x17.3x109.1inch / 483x44x277 mm (19", 1U)
Radio Frequency Unit	D 267 mm H 89 mm
Antenna Unit	Integrated up to 1,2 m/4ft; up 3.7m/12ft non-integrated dual polarized (for larger capacity need)

Weight:

Indoor Unit	< 10/ 4.5 (lbs/kg)
Radio Frequency Unit	≤ 10.1/ 4.6 (lbs/kg)
Antenna Unit	< 22lbs/ 10kg (0.3m, incl. mast mounting bracket)