

RAD Airmux-200

Broadband Wireless Multiplexer

- IDU: Standard indoor unit
- Ethernet
 - Ethernet + 1 x E1 or 1 x T1
 - Ethernet + 2 x E1 or 2 x T1



- IDU-E: Carrier-class indoor unit
2 x Ethernet + 4 x E1 or 4 x T1
Single or dual power supply

GENERAL

Diagnostics: Local and remote loopbacks
IDU-to-ODU Connection
Outdoor Cat.5e cable, 100m (328ft) max.length
Power: DC: -48, 24VDC, AC: 100-240 VAC
Two AC power supply options are available for IDU-E:
-Single fixed power supply
-Two modular power supplies
Power Consumption
ODU with IDU: 10W max
ODU with IDU-E: 14W max
Indicators
PWR (green) – Power status
IDU (green) – IDU status
ODU (green/red) – Air Interface status
SERVICE (green/red) – E1/T1 signal status
Environment
Outdoor unit and external antenna:
Enclosure: IP67 all-weather case
Temperature: -35 to 60°C (-31 to 140°F)
Indoor units:
Temperature: 0 to 50°C (31 to 122°F)
Humidity: up to 90% non-condensing
Physical
ODU (with integrated antenna):
H: 305mm x W: 305mm x D: 58mm x W: 1.5kg
IDU:
H: 44mm x W: 237mm x D: 165mm x W: 0.5kg
IDU-E:
H: 44mm x W: 430mm x D: 290mm x W: 1.5kg

SPECIFICATIONS

RADIO

Frequency Bands

- 5.8GHz (5.725-5.850GHz)
- 5.4GHz (5.7470-5.725GHz)
- 5.3GHz (5.250-5.350 GHz)
- 4.9GHz (4.940-4.990 GHz)
- 2.4GHz (2.400-2.4835GHz)
- 2.3GHz (2.300-2.400GHz)

Data Rate

Up to +8Mbps, user-configurable

Channel Bandwidth

20 MHz

Duplex Technique

TDD

Modulation

OFDM – BPSK, QPSK, 16 QAM, 64 QAM

Transmit Power

See Table 1

RF Dynamic Range

More than 50 dB

LAN INTERFACE

Number of Ports

- IDU: 1
- IDU-E: 2

Type

10/100BaseT, auto negotiation

Framing/Coding

IEEE 802.3u

Bridging

Self-learning, up to 2048 MAC address

Traffic Handling

MAC layer bridging, self learning

Latency

3 msec (typical)

Line Impedance

100 ohm

VLAN Support

Transparent

Connector

RJ-45

Table 1: Radio Regulatory Compliance and Maximum Transmit Power

Frequency (GHz)	USA and Canada		Europe (ETSI)	
	Regulation	Max.Tx Power (dBm)	Regulation	Max.Tx Power (dBm)
5.725 – 5.850	47CFR Part 15 Subpart C, RSS-210	17	N/A	N/A
5.470 – 5.725	N/A	N/A	EB 300 216 V1.2.1, EN 301 893 V1.2.2	8 EIRP ≤ 30
5.250 – 5.350	47CFR Part 15 Subpart E, RSS-210	8	N/A	N/A
4.940 – 4.990	47CFR Part 15 Subpart B	15	N/A	N/A
2.400 – 2.4835	47CFR Part 15 Subpart C.RSS-210	11	EN 300 328	-4 EIRP ≤ 20

E1/T1 INTERFACE

Number of Ports

IDU: 1 or 2

IDU-E: 4

Framing:

Unframed

Timing:

Plesiochronous (independent Tx & Rx timing)

Line Code

E1: HDB3

T1: B8ZS, AMI

Latency:

8msec

Line Impedance

E1: 120Ω, balanced

T1: 100 Ω, balanced

Connector:

RJ-45

Jitter & Wander Compliance

As per G.823, G.824 requirements

MANAGEMENT

Protocol:

SNMP-based

Network Management:

SNMPc-based

Management Interface

10/100BaseT

Connector:

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Upgrade Capabilities

Local and over-the-air software download

RAD MTMi-20

4-Wire Extended Range with Remote Management

Features

- Extends range of data transmission over 4-wire lines
- Selectable data rates: 32, 64 and 128kbps
- QAM technology for extended range and improved performance
- Variety of digital interfaces: V.24, V.35, X.21, V.36/RS-449, Ethernet (built-in-bridge), G.703 co directional (64kbps)
- Automatic rate detection in external clock mode for tail-end applications
- Configuration and monitoring of local and remote units from the front panel
- Card versions available for the ASM-MN-214
19" modem rack and LRS-12 19" modem rack with central SNMP management



<<<Please contact Photonix for further information if required.>>>

RAD Airmux-400

Broadband Wireless Multiplexer



- Carrier-class, high capacity
- Sub-6GHz wireless multiplexer for high traffic networks
- 50 Mbps full duplex net throughput
- Up to 16 E1/T1s
- Superior OFDM and MIMO technology
- Unparalleled performance
- Extended range – up to 120 km (75 miles)
- Easy to install and simple to maintain
- Cost-effective solution

Airmux-400 enables carriers to accommodate capacity growth & maintain profitability through unparalleled price and excellent performance.

Airmux-400 is the ideal choice for carriers seeking cost-effective backhaul solutions. While demand for mobile bandwidth and migration to 3G and 4G networks will require carriers to significantly increase their backhaul capacity, they cannot expect a similar growth in ARPU and therefore need backhaul solutions to keep OpEx and CapEx to a minimum.

High capacity solution

- ✓ High capacity radio system, provides 50 Mbps full duplex net throughput, with a flexible combination of Ethernet and up to 16 E1/T1 interfaces with a range of up to 120 km (75 miles) in various sub-6GHz frequencies.
- ✓ Offers native Ethernet and native TDM over a single wireless link, enabling carriers to migrate to Ethernet with no additional cost and to protect their investment in the legacy TDM infrastructure.
- ✓ Delivers optimal performance and unmatched robustness in all environments, based on its advanced space diversity configuration, MIMO and OFDM technologies.

Flexible deployment options

- ✓ Ideally suited for applications such as backhaul for cellular and WiMAX networks, access and backhaul solutions for ISPs and enterprise networks, as well as for temporary applications for both carriers and private networks
- ✓ Incorporates safeguards to secure the wireless transmission against possible attack by supporting the advanced encryption standard (AES).

