

# Airmux-200 AIND

All-Indoor Wireless Broadband Multiplexer



Point-to-point radio solution for combined TDM and Ethernet traffic over license-free frequencies in a single enclosure

- Combines the IDU and ODU in a single enclosure
- Four T1s plus Ethernet over the 5.8 GHz spectrum band
- Enables outdoor placement of antenna only
- Minimizes maintenance costs

Airmux-200 AIND is a point-to-point radio solution for combined TDM and Ethernet traffic over license free frequencies.

It delivers T1s and Ethernet over the 5.8 GHz spectrum bands with high reliability at an unprecedented price.

Providing a unique single enclosure design for the radio and multiplexer units, Airmux-200 AIND affords maximum flexibility in installation and maintenance processes, enabling the placement of only an antenna on the outdoor tower.

Airmux-200 AIND significantly reduces radio installation and maintenance costs by enabling installation in street cabinets, and eliminating the need to deploy radios on outdoor towers or rooftops.

Costs are further reduced through remote maintenance, easy upgrades, and diagnostics that provide the ability to address problems on the spot. Airmux-200 AIND is FCC-compliant.



# Airmux-200 AIND

## All-Indoor Wireless Broadband Multiplexer

Operating at ranges of up to 50 miles with high-capacity connectivity of up to 48 Mbps, Airmux-200 AIND provides high reliability and robustness for cellular backhauling and broadband access applications.

Since Airmux-200 AIND operates in license-exempt frequencies, it can be deployed in record time eliminating the costs and delays involved in leasing lines or trenching fiber.

For operators who want to deliver T1 plus Ethernet services, require hassle-free installation and maintenance, and need to lower total cost of ownership, RAD's Airmux-200 AIND is the answer.

Airmux-200 AIND provides a unique single enclosure design for the radio and multiplexer units. The indoor unit is connected to an external antenna via a coaxial RF cable.

## Specifications

### RADIO

#### Frequency Band

5.740 – 5.835 GHz

#### Data Rate

Configurable up to 48 Mbps (bi-directional)

#### Channel Bandwidth

20 MHz

#### Duplex Technique

TDD

#### Modulation

OFDM – BPSK/QPSK/16QAM/64QAM

#### Max Transmitter Power

23 dBm max

#### Received Dynamic Range

>60 dB

#### Error Correction

FEC k=1/2, 2/3, 3/4

#### Encryption

AES 128

#### Antenna Specifications

See *Table 1*

#### Antenna connector

Female N-type, 50Ω impedance

*Note: When calculating the Link Budget, consider losses of the RF cable that connects the AIND device to the antenna*

### T1 INTERFACES

#### Framing

Unframed (transparent)

#### Number of T1 Ports

Up to 4

#### Standard Compliance

ITU-T G.703, G.826

#### Timing

Plesynchronous (independent Tx and Rx timing)

#### Line Code

B8ZS/AMI @ 1.544 Mbps

#### Latency

8 msec

#### Impedance

100Ω, balanced

#### Connector

RJ-45

#### Jitter and Wander

According to ITU-T G.823, G.824

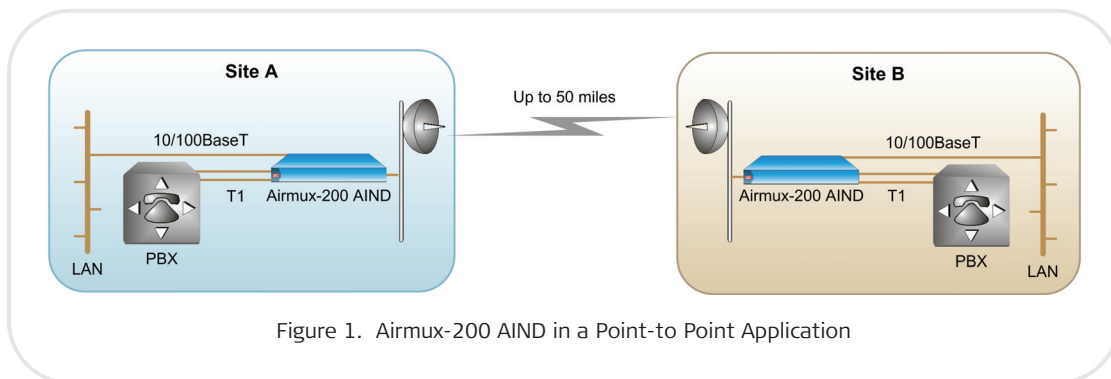


Figure 1. Airmux-200 AIND in a Point-to-Point Application

**LAN INTERFACES****Type**

10/100BaseT Interface with Autonegotiation (IEEE 802.3)

**Number of Ethernet Ports**

2

**Framing/Coding**

IEEE 802.3/U

**Maximum Frame Size**

1,536 Bytes

**Bridging**

Self-learning up to 2047 MAC addresses (according to IEEE 802.1Q)

**Traffic Handling**

MAC layer bridging, self-learning

**Data Latency**

3 msec typical

**Line Impedance**

100Ω

**VLAN Support**

Transparent

**Connector**

RJ-45

**MANAGEMENT****Network Management and Protocol**

SNMPc based

**Upgrade Capabilities**

Local and remote software upgrades

**Diagnostics**

Local and remote loopbacks

**POWER AND MOUNTING****Power Feeding**

110/220VAC, 50/60Hz, -24VDC/-48VDC

**Power Consumption**

14W Max

**Mounting**

19-inch rack

**Environmental****Operating Temperatures**

-35°C–60°C (-31°F–140°F)

**Humidity**

Up to 95% non-condensing

**PHYSICAL****Dimensions**

Height: 45.7 mm (1.8 in)

Width: 429.3 mm (16.9 in)

Depth: 289.5 mm (11.4 in)

Weight: 3 kg (6.6 lb)

Table 1. Antenna Specifications

Antennas		5.740–5.835 GHz
External Antenna 2 ft	Gain	28 dBi
	Beam Width	4.5°
	Polarization	Linear
External Antenna 3 ft	Gain	32.5 dBi
	Beam Width	4°
	Polarization	Linear
<b>Regulation</b>		
Radio	FCC: 47CFR	Part 15, Subpart C&B
	IC	RSS-210
Safety	TUV	60950, according to UL60950
	CAN-USA	C22.2 No. 60950
EMC	FCC	CFR Part 15, Subpart B
	CAN-ETSI	EN 301 489-1

## Airmux-200 AIND

### All-Indoor Wireless Broadband Multiplexer

## Ordering

### Airmux-200 AIND/F58F/EXT/4T1/@

Airmux-200 All-indoor, 4T1, 2 ETH, 5.8GHz  
FCC for external antenna

#### Legend

@ Power supply type:

**AC** AC power adaptor

**48** 48 VDC power supply

**24** 24 VDC power supply

### OPTIONAL ACCESSORIES

#### RM-33

Hardware kit for mounting one  
Airmux-200 AIND unit into a 19-inch rack

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