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Data Sheet

Airmux-400

Broadband Wireless Multiplexer

- Carrier-class cost-effective broadband wireless radio system with Layer-2 Ethernet capabilities
- Net throughput of up to 200 Mbps aggregated (symmetric and asymmetric)
- Hybrid E1/T1 and Ethernet services on a single platform
- Multiband operation over 2.3 to 2.5 GHz, 3.5 licensed and 4.8 to 5.9 GHz frequencies
- High reliability and availability based on robust air interface protocol
- Long transmission range of up to 120 km (75 miles)

Airmux-400 is a carrier-class, cost-effective multiple point-to-point broadband wireless transmission device. It combines legacy TDM and Ethernet services for transmission over 2.3 to 2.5 GHz, 3.5 licensed and 4.8 to 5.9 GHz bands, and is suitable for deployment in FCC, IC and ETSI-regulated countries.

Airmux-400 offers high throughput, longer range and robustness at a competitive price for the global markets of cellular backhaul, WiMAX and ISP backhaul, broadband access, large private and government networks.

In addition to Airmux-400, the Airmux-400L model is available as a cost-effective solution for backhaul and access application with Ethernet and TDM throughput of up to 50 Mbps.

Airmux-400LC is available as a low-cost solution replacing previous Airmux-200 family, while offering Airmux-400 capabilities.

Airmux-400LC supports Ethernet and TDM throughput up to 25 Mbps or Ethernet only up to 10 Mbps.

Airmux is a complimentary addition to RAD's Service Assured Access & Service Assured Networking solutions. The portfolio combines extensive support for legacy services with future-proof Ethernet capabilities to address the challenges faced by utilities, transportation networks, carriers, and mobile operators in migrating to next-generation networks and services with flexibility, efficiency and carrier-class reliability.

MARKET SEGMENTS AND APPLICATIONS

Private Networks

Airmux-400 can be used in high-capacity interbranch connectivity applications for university campuses, health care organizations, government institutions, large enterprises and public establishments with high traffic requirements (Figure 1).

Service Providers and ISPs
Providing IP backhaul of 4G/broadband services in multiple point-to-point topologies, Airmux-400 offers broadband access for remote, rural and underserved communities:

- nLOS (no line of sight) in urban environment
- Long haul in rural setting (*Figure 2*).

Large corporate clients can build their networks to eliminate the recurring fee of incumbent leased line services while maintaining a secured dedicated capacity per site.

Mobile Carriers
In rural-to-urban cellular backhaul applications, Airmux-400 extends mobile reach to rural locations with carrier-grade, long-haul point-to-point E1/T1 and Ethernet services. It can also be used for backhaul of 3G traffic in urban environment with easy migration path from converged TDM/IP networks to all-IP networks.

Security and Surveillance
Aggregation and backhaul of traffic from multiple co-located megapixel video cameras, make Airmux-400 suitable for homeland security applications, municipal 'safe city' projects, or border control installations.

CAPACITY

The following models with different Ethernet or aggregate throughputs exist:

- Airmux-400: 200 Mbps aggregated throughput with up to 16 E1/T1 channels. This model operates in the following modes:
  - 100 Mbps full duplex with 40 MHz channel bandwidth
  - 200 Mbps asymmetric with 10, 20 or 40 MHz channel bandwidths and user-selectable uplink/downlink capacity (50–50% up to 92–8%).
- Airmux-400L: Supporting up to 50 Mbps aggregated throughput and up to 8 E1/T1 channels. Airmux-400L connectorized ODU includes a Small Form Factor (SFF) embedded antenna.
- Airmux-400LC: Different models supporting up to 10 Mbps Ethernet or up to 25 Mbps Ethernet + 4E1/T1 user traffic.

Airmux-400LC throughput can be upgraded from 10 to 25 Mbps by license key without HW replacement.

Airmux systems can be deployed to create a single point-to-point link, in a central site co-locating a multiple point-to-point array of links, or as a resilient ring for Ethernet-only services.

Transmission range of up to 120 km (75 miles) is attainable with an external antenna.

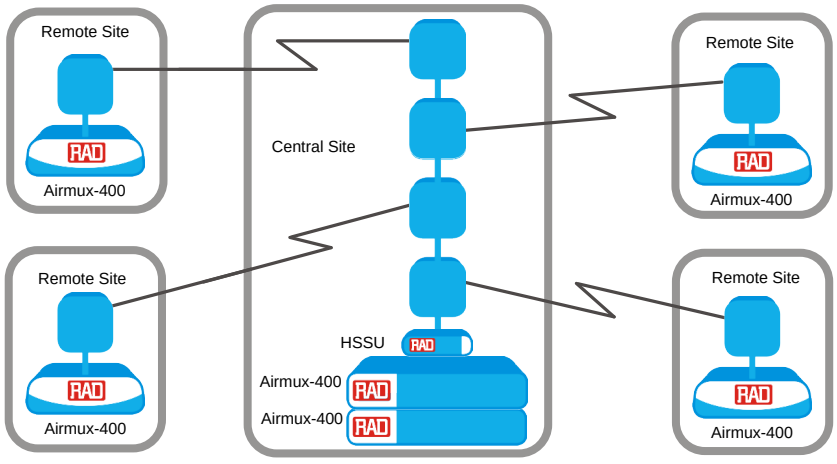

Figure 1. Enterprise Inter-branch Connectivity

ARCHITECTURE

Airmux multiplexers consist of a mast- or wall-mountable outdoor unit (ODU), an optional external antenna and an indoor unit (IDU) with redundant DC power supplies.

RADIO

Built on advanced MIMO and OFDM technologies, a pair of Airmux-400 units provides a high-capacity link at channel bandwidth of 10, 20 or 40 MHz (see Table 1 and Table 2). This guarantees a robust air interface able to withstand strong RF interference and harsh ambient conditions.

Security
Data transmitted over the air interface is encrypted using Advanced Encryption System (AES) with a 128-bit encryption key.

Air Link Quality of Service
When the link quality is low, Airmux-400 automatically searches for a clear channel within a pre-selected list of frequencies.

Short Time-to-Service
Because Airmux-400 operates in license-exempt frequencies, it can be deployed in record time, eliminating the costs and delays involved in leasing lines or trenching fiber.

Site Synchronization
Hub Site Synchronization (HSS) assists in the co-location of multiple radios by reducing the interference that normally occurs when several radios transmit and receive in close proximity to one another. HSS enables a complex radio environment of mixed services (TDM and Ethernet) and channel bandwidth frequencies.

New cable -free HSS allows co-located radios synchronizing without HSS unit and cables.

This feature is supported by Airmux-400 and Airmux-400L with hardware 9 and Airmux-400LC with hardware 4.

Note: *Like any other RF deployment, wireless operation is highly dependent on factors such as available frequencies and the physical space between radios. HSS does not eliminate the need for careful RF planning to ensure the design will work as planned.*

For long distance coverage, the synchronization can be obtained, using a GPS Synchronization Unit (GSU). The GSU reduces the interference between the collocated radios by providing a GPS signal simultaneously to ODUs at all locations.

RESILIENCY

1+1 TDM Link Backup
The Monitored Hot Standby (MHS) 1+1 link redundancy protects the wireless transmission against equipment failure or air interface loss. Link switchover is performed in less than 50 msec.

Diversity
With dual bipolar antennas, Airmux-400 links can be configured to transmit the same data through both radios. This ensures data transmission integrity under harsh conditions.

Ethernet Ring Protection
Ethernet rings are used to protect data against link and node failures.

ETHERNET

The IDU-E devices include three LAN ports: two Fast Ethernet UTP (RJ-45) ports and one Fast Ethernet SFP slot.

The Gigabit IDU-E device includes two Gigabit Ethernet UTP ports (RJ-45) and one Gigabit Ethernet SFP slot.

The regular IDUs have two 10/100BaseT ports.

With RAD's MiTOP-E3/T3, SFP-based TDM pseudowire gateway, Airmux-400 delivers E3/T3 data streams over its wireless link.

MANAGEMENT AND SECURITY

A single SNMP-based network management application (Airmux Manager) is used to control multiple Airmux-400 links as a unified network.

Airmux is compatible with SNMP v1 and SNMP v3.

RADview, RAD's SNMP-based management software provides access to the Airmux Manager via its topology map.

The Airmux Manager Spectrum View utility is an RF survey tool enabling the link installation prior to full link service activation. It provides comprehensive and clear spectral measurement information for easier installations.

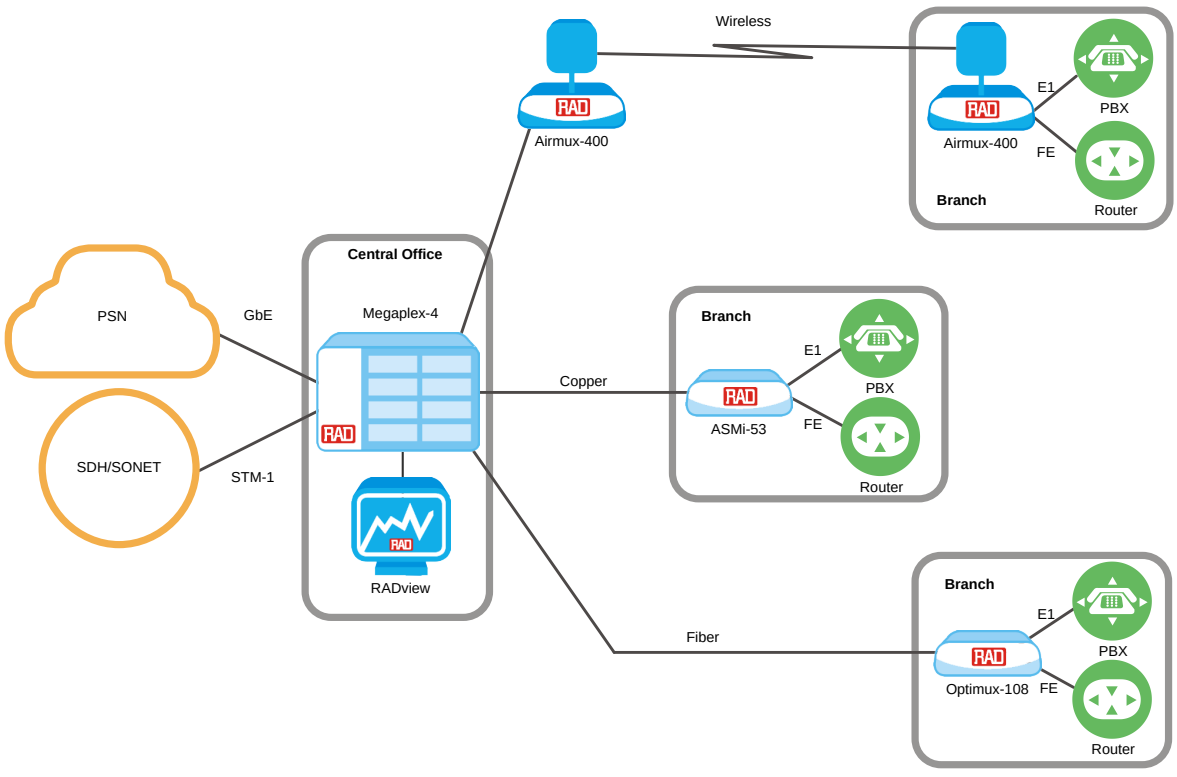

Figure 2. Providing Access for Multisite Connectivity

Table 1. Compliance

Band [GHz]	Regulation	Occupied Frequency Range [GHz]	Supported Channel Bandwidth [MHz]	Compliance
2.3	Universal	2.297-2.482	10, 20	N/A
2.4	FCC/IC	2.402-2.472	10, 20	FCC 47CFR, Part 15, Subpart C and IC RSS-210
2.4	ETSI	2.402-2.482	10, 20	EN 300 328 V1.7.1
2.5	FCC BRS(*)	2.495-2.690	5, 10, 20	FCC 47CFR, Part 27, Subpart M (BRS/EBS)
3.5	ETSI(+)	3.4105-3.7025	5, 10, 20	ETSI EN 302 326-2
	IC	3.475-3.650	5, 10, 20	IC RSS-192
	Universal	3.300-3.800	5, 10, 20	N/A
3.6	FCC/IC	3.650-3.675	5, 10, 20	FCC Part 90, Subpart Z and IC RSS-197 (Restricted)
4.4	Universal	4.400-5.000	5, 10, 20	N/A
4.8	Universal	4.800-4.900	5, 10, 20, 40	N/A
4.9	FCC/IC	4.940-4.990	5, 10, 20	FCC 47CFR, Part 90, Subpart Y and IC RSS-111
	Universal	4.890-5.010	5, 10, 20, 40	N/A
4.9	Japanese Regulations – see Table 2			
5.0				
5.3	ETSI	5.150-5.350	10, 20	ETSI EN 301 893
	FCC/IC	5.260-5.340	5, 10, 20, 40	FCC 47CFR, Part 15, Subpart E and IC RSS-210
	Universal	5.140-5.345	5, 10, 20, 40	N/A
5.4	ETSI	5.475-5.720	10, 20, 40	ETSI EN 301 893
	FCC	5.480-5.590 5.660-5.715	5, 10, 20, 40	FCC 47CFR, Part 15, Subpart E
	IC	5.480-5.590 5.660-5.715	5, 10, 20, 40	IC RSS-210
	Universal	5.465-5.730	5, 10, 20, 40	N/A
5.6	Japanese Regulations – see Table 2			
5.8	ETSI	5.725-5.875	10, 20	ETSI EN 302 502
	FCC/IC	5.725-5.850	5, 10, 20, 40	FCC 47CFR, Part 15, Subpart C and IC RSS-210
	MII China	5.730-5.845	5, 10, 20, 40	MII China
5.9	Universal	5.730-5.960	5, 10, 20, 40	N/A
6.0	Universal	5.690-6.060	5, 10, 20, 40	N/A
6.4	Universal	5.900-6.400	10, 20	N/A

Specifications

RADIO

Compliance
FCC/IC:

FCC 47CFR, Part 15, Subpart C,
FCC 47CFR, Part 15, Subpart E
FCC 47CFR, Part 90, Subpart Y
RSS-111
IC RSS-210

ETSI:

ETSI EN 302 502
ETSI EN 301 893

China: MII

Duplex Technique
TDD

Frequencies, Channel Bandwidths and Regulations
See *Tables 1 and 2*

Modulation
2×2 MIMO-OFDM, see *Table 3*

Sensitivity
See *Table 3* (measured at BER < 10E-11, 20 MHz)

Encryption
AES 128, FIPS-197

Integrated Antenna Characteristics
See *Table 4*

Embedded antenna (Airmux-400L) Characteristics
See *Table 5*

IDU-to-ODU Connection
Outdoor Cat.5e cable, 100m (328 ft) max. length

CAPACITY

Throughput
Airmux-400LC: Up to 25 Mbps aggregated (Ethernet and up to 4 x E1/T1) or 10 Mbps (Ethernet only)

Airmux-400L: Up to 50 Mbps aggregated (Ethernet and up to 8 E1/T1 combined)

Airmux-400: Up to 200 Mbps aggregated (Ethernet and up to 16 E1/T1 combined)

TDM INTERFACES

Number of Ports
2, 4, 8 or 16

Type
E1/T1

Framing
Transparent to framing mode

Timing
Plesiochronous (independent Tx and Rx)

Line Code
E1: HDB3

T1: B8ZS, AMI

Latency
8 msec

Line Impedance
E1: 120Ω, balanced

T1: 100Ω, balanced

Jitter and Wander
As per G.823, G.824

Connector
RJ-45

ETHERNET INTERFACES

Number of Ports
3

Type
2 × 10/100BaseT, autonegotiation (802.3u)
1 × SFP

Framing/Coding
IEEE 802.3u

Bridging
Up to 2048 MAC addresses self-learning

Traffic Handling
MAC layer bridging, self-learning

Latency
3 msec (typical)

Line Impedance
100Ω

VLAN Support
802.1p & Q

Table 2. Japanese Regulations

Band [GHz]	Channel Bandwidth [MHz]	Frequency Allocation [MHz]	Regulation
4.9	10	4915, 4920, 4925, 4935, 4940, 4945	MIC Notification 88 Appendix 47, Article 2, Paragraph 1, Item 19-5, 6, 7, 8, 9, 10, Base station
	20	4920, 4940, 4960, 4980	
	40	4930, 4970	
5.0	10	5040, 5045, 5055	
	20	5040, 5060, 5080	

SFP Port
Fast or Gigabit Ethernet, for full details, see the *SFP Transceivers data sheet* at www.rad.com

Note: *It is strongly recommended to order this device with* ***original*** *RAD SFPs* ***installed.*** *This ensures a comprehensive functional quality test on the entire assembled unit prior to shipping. RAD cannot guarantee full compliance to product specifications for units using non-RAD SFPs.*
For detailed specifications of the SFP transceivers, see the SFP Transceivers data sheet.

MANAGEMENT AND SECURITY

Protocol
SNMP, Telnet

Interface
10/100/1000BaseT

Note: *1000BaseT is supported by the IDU-E Gigabit only.*

Connector
RJ-45

Upgrade Capabilities
Local and over-the-air software download

MONITORING AND DIAGNOSTICS

Constant traffic monitoring over the radio link

Statistics data collecting

Internal and external loopbacks on both sides of a link

RESILIENCY

Grounding and Lightning Protection
Individual grounding for each IDU/ODU

Internal arrestors for lightning protection

Internal ESD protection circuits over power/telecom lines

Optional lightning protection kit

GENERAL

Power
DC: -20 to -60 VDC (AC/DC power adapter can be ordered separately)

Power Consumption
35W max (ODU with IDU)

Indicators
IDU (green/orange/red): IDU status
ODU (green/red): ODU status
AIR I/F (green/orange/red): Air link status
SVC (green/orange/red): TDM service status
HSS (green/orange/red): HSS status
STBY (green/orange/red): MHS status
LINK (yellow): Ethernet link status
ACT (green): Ethernet activity 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 (32° to 122°F)
Humidity: Up to 90%, non-condensing

Physical

ODU with integrated antenna:
Height: 371 mm (14.8 in)
Width: 371 mm (14.8 in)
Depth: 90 mm (3.54 in)
Weight 3.5 kg (7 lb)

ODU with embedded antenna:
Height: 270 mm (10.62 in)
Width: 195 mm (7.67 in)
Depth: 90 mm (3.54 in)
Weight 1.8 kg (3.6 lb)

LC ODU with integrated antenna:
Height: 197 mm (7.76 in)
Width: 241 mm (9.49 in)
Depth: 77 mm (3.03 in)
Weight 1.3 kg (2.86 lb)

LC ODU with external antenna:
Height: 196 mm (7.72 in)
Width: 171 mm (6.73 in)
Depth: 72 mm (2.83 in)
Weight 1.1 kg (2.43 lb)

IDU:
Height: 44 mm (1.7 in)
Width: 237 mm (9.3 in)
Depth: 165 mm (6.5 in)
Weight 0.5 kg (1.1 lb)

IDU-E
Height: 44 mm (1.7 in)
Width: 436 mm (17.2 in)
Depth: 210 mm (8.2 in)
Weight: 1.5 kg (3.3 lb)

Table 3. Radio Link Characteristics (Channel Bandwidth 40 MHz)

Modulation	Air Rate [Mbps]	Full Duplex Throughput [Mbps]	Tx Power [dBm]	Sensitivity [dBm]	Notes
BPSK 0.5	13	–	25	-88	Installation Mode
QPSK 0.5	27	10	25	-86	Single Mode
QPSK 0.75	40.5	16	25	-83	Single Mode
16 QAM 0.5	54	22	24	-81	Single Mode
16 QAM 0.75	81	32	21	-80	Single Mode
64 QAM 0.66	108	43	19	-72	Single Mode
64 QAM 0.75	121.5	49	18	-70	Single Mode
64 QAM 0.83	135	53	18	-67	Single Mode
2 x BPSK 0.5	27	10	25	-88	Dual Mode
2 x QPSK 0.5	54	21	25	-86	Dual Mode
2 x QPSK 0.75	81	32	25	-83	Dual Mode
2 x 16 QAM 0.5	108	43	24	-81	Dual Mode
2 x 16 QAM 0.75	162	64	21	-80	Dual Mode
2 x 64 QAM 0.66	216	85	19	-72	Dual Mode
2 x 64 QAM 0.75	243	96	18	-70	Dual Mode
2 x 64 QAM 0.83	270	100	18	-67	Dual Mode

Table 4. Integrated Antenna Characteristics

Antenna Type	Frequency [GHz]	Gain [dBi]	Beam [degrees]	Dimensions		Weight	
				[mm]	[inch]	[kg]	[lb]
Flat panel, Dual Polarization	4.9x–5.875	19 (4.9x GHz) 23 (5.x GHz)	9	371×371×40	14.6×14.6×1.5	2.5	5.5
Flat panel, Dual Polarization	2.400	17.5	16	371×371×40	14.6×14.6×1.5	2.5	5.5
Flat panel, Dual Polarization	3.4–3.7	21	12	371×371×11	14.6×14.6×0.4	3.5	7

Table 5. Embedded Antenna Characteristics

Antenna Type	Frequency [GHz]	Gain [dBi]	Polarization	Beam Width		Lightning Protection
				Azimuth 3 dB	Elevation 3 dB	
Flat panel	4.9-5.15	13.0 ±1	Dual Linear	35°	15°	DC Grounded
Flat panel	5.15-5.47	15.0 ±1	Dual Linear	35°	15°	DC Grounded
Flat panel	5.47-5.875	15.5 ±1	Dual Linear	35°	15°	DC Grounded
Flat panel	5.875-6.02	12.5 ±1	Dual Linear	35°	15°	DC Grounded

Ordering

Outdoor Units (ODU's)

Airmux-400/ODU-H/*
Complies with HAZLOC standard and certified to operate under hazardous environment in explosive zones

Complete * from Table 6 for selected band and rate

Airmux-400/ODU/*
Complete * from *Table 7* for selected band and rate

Airmux-400L/ODU/+
Complete + from *Table 8* for selected band and rate

Airmux-400LC/ODU/&
Complete & from *Table 9* for selected band and rate

Indoor Units (IDU's)

Airmux-400/IDUE/#
Indoor unit with redundant DC power supply

Legend

IDU-E interface:

- **4TDM** 4 TDM ports, 3 Ethernet ports (10/100 Mbps) (2 UTP + 1 SFP)
- **8TDM** 8 TDM ports, 3 Ethernet ports (10/100 Mbps) (2 UTP + 1 SFP)
- **16TDM** 16 TDM ports, 3 Ethernet ports (10/100 Mbps) (2 UTP + 1 SFP)
- **2GbE** 2 Gigabit Ethernet ports (2 GbE + 1 SFP)

Airmux-IDUH/2ETH
Indoor unit with six PoE ports

Airmux-IDU/%
Indoor unit with single DC power supply

% IDU interface:

- **2TDM** 2 TDM (E1/T1) interfaces, 2 ETH interfaces, alarm port
- **2ETH** 2 ETH interfaces

Notes:

- *Enhanced Ethernet capabilities (VLANs and QoS) and resilient ring topology supported by both IDU/2TDM and IDU/2ETH models.*
- *For AC power feeding, order external power adapter (Airmux-PS-E-AC/a). See Optional Accessories below.*

Power Adapters

Airmux-PS-E-AC/a
Power adapter for IDU and IDU-E, 90–240 VAC to 48 VDC

Airmux-PS-H-AC/a
Power adapter for IDUH, 90–240 VAC

Power over Ethernet (POE) Devices

Airmux-POE/GBE/a
PoE device with 100BaseT/GBE interface and AC power feeding

Legend

a Power cable with matching plug:

- **ACEU** Europe
- **ACUS** US
- **ACUK** UK
- **ACAU** Australia/China
- **ACOC** Open-ended connector
- **ACAG** Argentina
- **ACSA** South Africa
- **DC** +48 VDC

Note: *DC option is not available for Airmux-PS-H-AC/a.*

Airmux-POE/DC
DC PoE device for Airmux-400 and Airmux-5000/SU with -20 to -60 VDC power feeding

Airmux-OPOE/DC
Outdoor DC PoE device for all Airmux radios with – 20 to -60 VDC power feeding

Airmux-OPOE/GBE/AC
Outdoor GBE AC PoE device for all Airmux radios with AC power feeding

Airmux-POE/GBE/ET/a
Extended temperature PoE supporting -40° to 70°C (-40° to 158°F)

Airmux-POE/GBE/ET/DC
Extended temperature PoE supporting -40° to 70°C (-40° to 158°F) and DC range -10 to -60 VDC

Note: *A PoE device eliminates the need for ordering an IDU-E.*

Table 6. Airmux-400/ODU-H/*

Band	Rate (Mbps)		
	200	100	10
F58F	F58F/200M/INT	NA	NA
	F58F/200M/EXT	NA	NA

Table 7. Airmux-400/ODU/*

Band	Rate (Mbps)		
	200	100	10
F24F	F24F/200M/INT	NA	NA
	F24F/200M/EXT	NA	NA
F25F	NA	F25F/100M/INT	NA
	NA	F25F/100M/EXT	NA
F3XF	NA	F3XF/100M/INT	F3XF/10M/INT
	NA	F3XF/100M/EXT	F3XF/10M/EXT
F3XE	NA	F3XE/100M/INT	F3XE/10M/INT
	NA	F3XE/100M/EXT	F3XE/10M/EXT
F4XU	NA	F4XU/100M/EXT	NA
F49F	F49F/200M/EXT	NA	NA
	F49F/200M/INT	NA	NA
F49/JPN	F49/JPN/INT	NA	
	F49/JPN/EXT	NA	
F50/JPN	NA	F5X/JPN/INT	NA
	NA	F5X/JPN/EXT	NA
F54E	F54E/200M/INT	NA	NA
	F54E/200M/EXT	NA	NA
F54U	F54U/200M/INT	NA	NA
	F54U/200M/EXT	NA	NA
F58F	F58F/200M/INT	NA	NA
	F58F/200M/EXT	NA	NA

Table 8. Airmux-400L/ODU/+

Band	Rate (Mbps)
	50
F24F	F24F/INT
	F24F/EXT
F25F	F25F/INT
	F25F/EXT
F49F	F49F/EMB
F49/JPN	F49/JPN/INT
	F49/JPN/EXT
F50/JPN	F5X/JPN/INT
	F5X/JPN/EXT
F54E	F54E/EMB
	F54E/INT
F54U	F54U/EMB
F58F	F58F/EMB
	F58F/INT

Table 9. Airmux-400LC/ODU/&

Band	Rate (Mbps)	
	25	10
F24F	F24F/25M/INT	F24F/10M/INT
	F24F/25M/EXT	F24F/10M/EXT
F54E	F54E/25M/INT	F54E/10M/INT
	F54E/25M/EXT	F54E/10M/EXT
F54U	F54U/25M/INT	F54U/10M/INT
	F54U/25M/EXT	F54U/10M/EXT
F58F	F58F/25M/INT	F58F/10M/INT
	F58F/25M/EXT	F58F/10M/EXT

Airmux-400

Broadband Wireless Multiplexer

OPTIONAL ACCESSORIES

Airmux-400-ANT/$
External antenna with 1m (3.3 ft) cable. **grid** stands for a grid antenna, **fp** – a flat panel antenna, and **dish** – a dish antenna.

Legend

$ External antenna:

19/2327/FP	19 dBi, 2.30–2.70 GHz, 2.3, 2.4, 2.5 GHz bands
21/3338/FP	21 dBi, 3.30–3.80 GHz
22/4451/FP	22 dBi, 4.40–5.10 GHz, 4.8, 4.9 GHz
23/4960/FP	23 dBi, 4.90–6.06 GHz bands
24/5764/FP	24dBi, 5.700–6.425 GHz bands
28/4964/FP	28dBi, 4.900–6.425 GHz bands
28/5260/DISH	28dBi, 4.90–6.06 GHz bands
32/4958/DISH	32dBi, 4.90–5.875 GHz bands
25/3338/DISH	25.5dBi, 3.30–3.80 GHz bands

Note: *For detailed description of external antennas, see Airmux-400 External Antennas data sheet at www.rad.com.*

CBL-Airmux-UTP/@
Assembled cable for connection between IDU and ODU

Legend

@ Cable length:

25	25m (82 ft)
50	50m (164 ft)
75	75m (246 ft)
100	100m (328 ft)

Airmux-HSSU
Hub site sync unit to connect 8 collocated outdoor units and 2 additional HSS units

Airmux-GSU/a
Outdoor GPS-based synchronization kit (GSU, GPS antenna, 1.5m (4.9 ft) RF cable, CBL-Airmux-HSS/5 cable, PoE unit, and mounting kits for GSU and GPS antenna)

Legend

a Power cable with matching plug:

ACEU	Europe
ACUS	US
ACUK	UK
ACAU	Australia/China
ACOC	Open-ended connector
ACAG	Argentina
ACSA	South Africa

CBL-Airmux-HSS/@@
Assembled cable for HSS connection

Legend

@@ Cable length:

5	5m (16.4 ft)
15	15m (49.2 ft)
50	50m (164 ft)
100	100m (328 ft)

Airmux-MHS-kit
Cable and patch panel assembly (8 × RJ-45 Y-connections) for Monitored Hot Standby configuration

Airmux-Lightning-Protection
Outdoor lightening protection unit for 10/100/1000BaseT surge protector. Includes 0.5m (1.64 ft) CAT5e cable and wall/poll mounting kit.

Airmux-Lightning-Protection-Kit
Set of 10 Airmux-Lightning-Protection units

Airmux-FE-Repeater
Ethernet repeater to extend the PoE-to-ODU cable beyond the 100m limit (but not more than 200m)

Airmux-Planner
Radio network planning tool

Airmux-RMK-LC-SPARE
Spare mounting kit for Airmux-400LC radios

Airmux-RMK-MARINE
Mounting kit for salty environment (excluding Airmux-400LC)

Airmux-RF-Cable
Coax cable with two N-type connectors

Capacity/P1025/Airmux-400LC/10M-25M
License key for Airmux-400LC throughput upgrade from 10 to 25 Mbps

581-100-11/13 (2.8.20)

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