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Data Sheet

Airmux

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

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

The Airmux product line is part of RAD's Axcess+ portfolio for Multiservice Access Platform and First Mile 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 mi) is attainable with an external antenna.



Data Sheet

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.

Airmux cable-free HSS concept allows synchronizing co-located ODUs over Ethernet without the need for HSS cables and HSSU device.

The new cable-free HSS is supported by all new Airmux-400 models.

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.

RADview-EMS, 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.



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)		
Э F	ETSI(+)	3.4105-3.7025	5, 10, 20	ETSI EN 302 326-2		
5.5	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						
5.0	japanese Regulatio	ons – see Table 2				
	ETSI	5.150-5.350	10, 20	ETSI EN 301 893		
5.3	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		
	ETSI	5.475-5.720	10, 20, 40	ETSI EN 301 893		
	FCC	5.480-5.590	5, 10, 20, 40	FCC 47CFR, Part 15, Subpart E		
5 /		5.660-5.715				
5.4	IC	5.480-5.590	5, 10, 20, 40	IC RSS-210		
		5.660-5.715				
	Universal	5.465-5.730	5, 10, 20, 40	N/A		
5.6	Japanese Regulatio	ons – see Table 2				
	ETSI	5.725-5.875	10, 20	ETSI EN 302 502		
5.8	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		

Table 1. Compliance

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

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: 120 Ω , balanced

T1: 100 Ω , balanced

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

Connector RJ-45

ETHERNET INTERFACES

Number of Ports

3

Type $2 \times 10/100BaseT$, autonegotiation (802.3u) $1 \times SFP$

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
	20	4920, 4940, 4960, 4980	Paragraph 1 Item 19-5 Base station
	40	4930, 4970	
5.0	10	5040, 5045, 5055	
	20	5040, 5060, 5080	
5.6	20	5500, 5520, 5540, 5560, 5580, 5600,	MIC Notification 88 Appendix 45, Article 2
		5620, 5640, 5660, 5680, 5700	Paragraph 1 Item 19-3-2 5.6 GHz Wide Band
	40	5510, 5550, 5590, 5630, 5670	Low Power Data Communication System

Data Sheet

SFP Port

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

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

Modulation	Air Rate	Full Duplex Throughput	Tx Power	Sensitivity	Notes
	[Mbps]	[Mbps]	[dBm]	[dBm]	
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 3. Radio Link Characteristics (Channel Bandwidth 40 MHz)

Table 4. Integrated Antenna Characteristics

Antenna Type	Frequency	Gain	Beam	Dim	ensions	Weight	
	[GHz]	[dBi]	[degrees]	[mm]	[inch]	[kg]	[Ib]
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
Tuble 5.	Linbedded / interind	characteristics

Antenna Type	Frequency	Gain	Polarization	Beam Width		Lightning	
	[GHz]	[dBi]		Azimuth 3 dB	Elevation 3 dB	Protection	
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	

Data Sheet

Ordering

Outdoor Units (ODU's)

Airmux-400/ODU/*

Complete ***** from *Table 6* for selected band and rate.

Airmux-400L/ODU/+

Complete + from *Table 7* for selected band and rate.

Airmux-400LC/ODU/& Complete & from *Table 8* 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-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

Power over Ethernet (POE) Devices

Airmux-POE/GBE/a

PoE device with 100BaseT/GBE interface and AC power feeding

Legend

- 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

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

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

	Rate (Mbps)					
Band	200	100	10			
F23U	NA	F23U/INT	NA			
	NA	F23U/EXT	NA			
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			
F48ARG	F48ARG/200M/EXT	NA	NA			
F48U	F48U/200M/EXT	NA	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			
F60U	F60U/200M/INT	NA	NA			
	F60U/200M/EXT	NA	NA			

Table 6. Airmux-400/ODU/*

Band	Rate (Mbps)
	50
F24F	F24F/INT
	F24F/EXT
F24U	F24U/INT
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
F60U	F60U/EMB

Table 7. Airmux-400L/ODU/+

Table 8. Airmux-400LC/ODU/&

Dand	Rate (Mbps)			
вапо	25	10		
F24F	F24F/25M/INT	F24F/10/INT		
_	F24F/25/EXT	F24F/10/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		

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
28/5260/DISH	28dBi, 4.90–6.06 GHz bands
32/4958/DISH	32dBi, 4.90–5.875 GHz bands
28/5260R/DISH	28dBi, 5.25–6.0 GHz bands with preassembled radome
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 <u>www.rad.com</u>.

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

а

Power cable with matching plug:			
ACEU	Europe		
ACUS	US		
ACUK	UK		
ACAU	Australia/China		
ACOC	Open-ended connector		
ACAG	Argentina		
ACSA	South Africa		
A :			

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 $(8 \times RJ-45$ 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.

Data Sheet

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-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

International Headquarters

24 Raoul Wallenberg Street Tel Aviv 69719, Israel Tel. 972-3-6458181 Fax 972-3-6498250, 6474436 E-mail market@rad.com

North America Headquarters 900 Corporate Drive Mahwah, NJ 07430, USA Tel. 201-5291100 Toll free 1-800-4447234

E-mail market@radusa.com

www.rad.com order from: Cutter Networks Ph: 727-398-5252 / Fax: 727-397-9610

Fax 201-5295777



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