

# AIRPAIR™ 50

## High Capacity Wireless Ethernet

**Air Pair 50** provides best-in-class, high capacity wireless Ethernet connections for synchronous and IP based applications. AirPair 50 delivers a 100 BaseTx user network interface to provide committed full duplex data rates of 50 Mbps over distances of up to 50 Km (31 mi).

The AirPair 50 accommodates a variety of International licensed and unlicensed frequency plans including the new 24 GHz unlicensed spectrum. The AirPair 50 - 24 GHz product provides near interference free operation. The product was designed to overcome the uncertainty of service with the congested 2.4 GHz ISM and 5.8 GHz U-NII bands, while offering the benefits of license exempt rapid deployment.

AirPair 50 supports traditional TDM services through DragonWave's optional APX modules. The APX provides service adaptation of T1/E1 traffic to be transported seamlessly over AirPair's native Ethernet platform, enabling Service Providers a seamless migration to native IP networks, while still supporting legacy TDM services.

AirPair 50 provides carrier class performance through support of point-to-point, hub, ring and mesh configurations, enabling network availability of 99.999%, as well as extremely low latency.

The compact system is designed for all-outdoor or split indoor/outdoor mounting, and is very simple to install and commission. Plug and play commissioning combined with a PDA configuration tool enables rapid deployment with minimal training.

## Key Features

- › Wire-speed 50 Mbps full duplex performance
- › Transparent TCP/IP link extension with native Ethernet
- › Virtually zero delay for multimedia applications
- › 99.999% availability through mesh and ring support
- › Rapid installation and commissioning using PDA and PC-based tools
- › In-or-out-of band remote SNMP management
- › Up to 4 x T1/E1 wayside channel options
- › T1/E1 support through service adaptation to native Ethernet
- › Licensed frequency bands from 18 to 26 GHz
- › License exempt ETSI & FCC 24 GHz frequency band; 6 channels available
- › Supports Link distances up to 50 km (31 mi) with Licensed bands and 10 km (6 mi) with Unlicensed\*
- › Rack Mountable Indoor (IDU), or all-outdoor (ODU) option

(\*based on 99.95% link availability, Rain Region E, Los Angeles)



Bold new ideas in broadband wireless  
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### MECHANICAL

Radio (without antenna)	12 cm x 17.1 cm (diameter)
	4.75 in x 6.75 in (diameter)
Modem (ODU)	40 cm x 19.6 cm x 8.1 cm
	15.7 in x 7.7 in x 3.2 in
Modem (IDU) - Rack Mountable	4.3 cm x 15.4 cm x 42.5 cm
	1.7 in x 6 in x 16.7 in
Radio Weight	3.2 kg (7 lbs)
Modem (ODU) Weight	5.4 kg (12 lbs)
Modem (IDU) Weight	4.1 kg (9 lbs)
Mounting	Mast or Rack

### ANTENNAS

Type	Parabolic Reflector
Size	30 - 180 cm (12-72 in) diameter
Polarization (Licensed)	Horizontal or Vertical
Polarization (Unlicensed)	T/R Cross Polarized
Wind Loading	
Operational	110 kph (70 mph)
Survival	200 kph (125 mph)
Mount Adjustment	
Azimuth	+/- 45°
Elevation	+/- 22°

### PAYLOADS

Capacity	50 Mbps
Interface	Fast Ethernet
T1/E1 (Optional)	4 x T1/E1 extension ports with optional APX-104 T1/E1 Unit
Latency	<400µs, Typical < 200µs

### POWER

Input	-36 VDC to -60 VDC
Optional Adapter	110/240 VAC
Consumption	50 Watts (per link end)

### RF SYSTEM

Dispersive Fade Margin	>43 dB
Frequency Stability	<10 PPM

### CONNECTIONS ODU

Power	-48V, Cable Supplied
Payload	MIL Circular (outdoor) RJ45 (indoor)
Craft Terminal	RS 232
IF Cable	N-Type Connector

### CONNECTIONS IDU

Power	Dual 48V
Payload	RJ45 (100 BaseT)
Craft Terminal	RS 232
IF Cable	N-Type Connector
NMS	RJ45 (10 BaseT)

### NETWORK MANAGEMENT (NMS)

Alarm Management	SNMP Agent, SNMP Traps, Enterprise MIB, Settable Alarm Window in EMS, History file - with polling
History	OpenView, or any SNMP based network manager
NMS Compatibility	3 Level Authentication; Any, NOC, Unique Peer to Peer
Security	Remote update to flash, via management channel
S/W Update	Supplied, PC Application, connect locally or through network
EMS	

### STANDARDS

System	FCC Part101, FCC Part 15, ETSI EN 300-431, EN 300-198 Class 4, EN 300 440-1v1.3.1
EMC	EN 301 489, EN 300 385,
Safety	IEC 950, FEC 60950, CSA 22.2

### INDICATORS

LEDS (ODU):	Power, Link, Traffic, Duplex, RF On, ModSync, Fault
LEDS (IDU):	Power: Link, Activity, Duplex, RF On, ModSync, Fault, Fan Alarm

### ENVIRONMENTAL

Operating Temperature	-40°C to + 50°C (-40°F to +122° F)
Humidity	100 % Condensing
Altitude	4500 m (14,760 ft)

Bands	Regional Compliance	Frequency Range (GHz)	T/R Separation	Channel Bandwidth (MHz)	RF Power (dBm Max)	Threshold @10 <sup>-6</sup> BER	Modulation	Antenna Gain (dBi) / Beamwidth (°)				
								30 cm/12" Antenna	60 cm/24" Antenna	91 cm/36" Antenna	121 cm/48" Antenna	182 cm/72" Antenna
18 GHz	FCC/IC	17.7-19.7	1560 MHz	40	17	-81	QPSK	N/A	38.6 / 2.0	42 / 1.3	44.5 / 1.2	48 / 0.7
18 GHz	ETSI	17.7-19.7	1010 MHz	27.5	13	-77	16 QAM	N/A	38.6 / 2.0	42 / 1.3	44.5 / 1.2	48 / 0.7
23 GHz	FCC/IC	21.2-23.6	1200 MHz	50	17	-81	QPSK	35.1 / 2.7	40.2 / 1.7	43.7 / 1.1	46.2 / 0.8	N/A
23 GHz	ETSI	22.0-23.6	1008 MHz	28	13	-77	16 QAM	35.1 / 2.7	40.2 / 1.7	43.7 / 1.1	46.2 / 0.8	N/A
24 GHz NA UL	FCC/IC	24.05-24.25	X Polarized	40	+5/0/-3**	-78	QPSK	35.3 / 2.6	40.7 / 1.4	44.2 / 1.0	N/A	N/A
24 GHz ETSI UL	ETSI	24.05-24.25	X Polarized	40	-19/-24/-27**	-77	QPSK	35.3 / 2.6	40.7 / 1.4	44.2 / 1.0	N/A	N/A
24 GHz DEMS	FCC/IC	24.25-25.25	800 MHz	40	17	-81	QPSK	35.7 / 2.6	41.1 / 1.4	44.6 / 1.0	N/A	N/A
26 GHz	ETSI	24.5-26.5	1008 MHz	28/56	13/17	-77/-81	16 QAM/QPSK	35.7 / 2.6	41.1 / 1.4	44.6 / 1.0	N/A	N/A
28 GHz	FCC/IC	25.35-28.35	450 MHz	50	17	-81	QPSK	36.1 / 2.2	42.5 / 1.3	N/A	N/A	N/A

\*\*For Antenna Sizes of 30 cm (12"), 60 cm (24") and 91 cm (36")

Specifications subject to change without notice



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