

## 5.8GHz Orthogon OS Spectra



Spectrum-Efficient, High-Availability Wireless Ethernet Bridges  
Reliable, High-Speed Solutions with More Range and Capacity for Challenging Non-Line-of-Sight and Long-Range Line-of-Sight Environments, Including Those Over Water

### Specifications:

#### Orthogon Spectra

Radio Specifications	
RF band	5.725 GHz – 5.850 GHz (ISM)
Channel Size	30MHz
Channel Selection / dynamic frequency control	By <i>intelligent</i> Dynamic Frequency Selection (i-DFS) or manual intervention; automatic selection on start-up and continual adaptation to avoid interference; 10MHz step size for WiMAX compatibility
Transmit power control	Varies with modulation mode and settings from 0 dBm to 25dBm
System gain	<b>Integrated:</b> Varies with modulation mode and antenna type between 163dB and 128dB with 23dBi integrated antenna <b>Connectorised:</b> Varies with modulation mode and antenna type between 76dB and 116dB with 8-foot antenna up to 197 dB gain is available
Receiver sensitivity	Adaptive varying between -91 dBm and -58dBm
Modulation	Dynamic; adapting between BPSK single and 256 QAM dual
Error correction	REC, ARQ
Duplex scheme	TDD ratio: Dynamic or Fixed: same or split frequency Tx/Rx
Antenna: type / gain / B / W	<b>Integrated:</b> Integrated flat plate 23dBi / 7° <b>Connectorised:</b> External antenna connected via 2xN-type female
Range	Up to 200Km (124 miles)
Security & encryption	Proprietary scrambling mechanism; optional AES 128 bit Encryption
Ethernet Bridging & E1/T1	
Protocol	IEEE 802.3
User data throughput	<b>OS-Spectra:</b> Dynamically variable up to 300 Mbps at the Ethernet (aggregate) <b>OS-Spectra Lite:</b> Dynamically variable up to 150 Mbps at the Ethernet (aggregate)

Latency	1 ms each direction typical
Interface	10/100/1000 BaseT (RJ-45) – auto MDI/MDIX, 1000Base SX option
Dual E1/T1 Interface	G703/G704; G823/G824

<b>Management &amp; Installation</b>	
LED indicators	Power status, Ethernet link status and activity
System management	Web or SNMP using MIBII, WiMAX and private MIB
Installation	Built-in audio assistance for link optimization
Connection	Distance between outdoor unit and primary network connection: up to 100 meters (330')
<b>Physical</b>	
Dimensions	<b>Integrated Outdoor Unit (ODU):</b> width 370mm (14.5"), Height 370mm (14.5"), Depth 95mm (3.75") <b>Connectorised ODU:</b> Width 309mm (12.2"), Height 309mm (12.2"), Depth 105mm (4.1") <b>PIDU Plus (Powered Indoor Unit):</b> Width 250mm (9.75"), Height 40mm (1.5"), Depth 80mm (3")
Weight	<b>Integrated ODU:</b> 5.5Kg (12.1lbs) including bracket <b>Connectorised ODU:</b> 4.3kg (9.1lbs) including bracket <b>PIDU Plus:</b> 864 g (1.9lbs)
Wind speed	242 kph (150mph)
Power supply	Integrated with Indoor unit
Power source	90-240 VAC, 50-60Hz/36-60V DC; redundant powering configurations supported
Power consumption	55W max
<b>Environmental &amp; Regulatory</b>	
Operating temperature	-40°C to +60°C, including solar radiation
Protection & safety	UL60950: IEC60950; EN60950: CSA-C22.2 No.60950
Radio	FCC Part 15, sub-part C 15.247, Eire ComReg 03/42, UK Approval to IR2007
EMC	USA-FCC Part 15, Class B, Europe-EN 301 489-4