



AUSTRALIA'S MICROWAVE LINK MANUFACTURER



E200 EtherMux® -PTP Links

Ethernet Microwave Terrestrial Links
Enabling Wireless Communications of Voice, Data and Multimedia

Data Rates from 40Mbps and 100Mbps Full Duplex

Frequency Bands 8, 10.5, 11, 13, 18 and 23GHz

Path Lengths from 1 km to 100km

Specialising in Long Difficult Paths (over water)

Ethernet Interface 100BaseTx per IEEE 802.3

24/7 On-Line Monitoring

Australian Design, Manufacture and Support



RF Unit Specifications	8GHz 100M	10.5GHz 40M	11GHz 100M	18GHz 100M	23GHz 100M
Frequency Band (GHz)	7.725 to 8.275	10.500 to 10.676	10.7 to 11.7	17.700 to 19.700	21.2 to 23.6
RF Bandwidth (MHz)	27	13.5	40	27	28
Transmitter Power at Antenna for QAM (dBm)	25	18	21	17	15
Transmitter Power at Antenna for QPSK (dBm)	31	20	27	24	22
Receiver Threshold at Antenna for BER = 1E-6 QAM (dBm) ¹	-71	-72	-70	-70	-70
Receiver Threshold at Antenna for BER = 1E-6 QPSK (dBm) ¹	-82	-81	-82	-82	-82
Residual BER at Input to Antenna (dBm)	< 1E-12 (-55)	< 1E-13 (-60)	< 1E-13 (-55)	< 1E-12 (-55)	<1E-12 (-55)
Receiver Overload Threshold at Antenna (dBm)	-20	-20	-20	-30	-30
Max. Allowable In-Band Interference (dBc) ²	-20	-20	-20	-20	-20
Max. Allowable Adjacent Channel Interference (dBc) ²	+10	+10	+10	+10	+10
Max. Allowable Non-Adjacent Channel Interference (dBc) ²	+25	+25	+25	+25	+25
ODU IP Rating	IP65				
Temperature Range	-10°C to 50°C Ambient in Direct Solar Exposure (60°C Ambient without Solar Exposure)				
Lightning Protection	Surge Protection Isolation 800V; Surge Current 10kA; Antenna must be earthed to structure				

Modem Unit Specifications	40M	100M
Modulation Standard	16QAM	32QAM
Modulation Adaptive	QPSK	QPSK
Ethernet Bit Rate Full Duplex (Standard)	>38Mbps	>96Mbps
Ethernet Bit Rate Full Duplex (Adaptive)	>19Mbps	>38Mbps
Data Port	100Base-Tx, RJ-45 Full Duplex Only (no autonegotiation)	
Ethernet WAN	Non-filtered version suitable for VLAN, Supports Jumbo Ethernet Frames up to 4090 bytes	
Latency End-to-End (Max)	< 5ms for 96Mbps; others can be calculated as follows: 5ms x 96/Bit Rate (i.e. 5 x 96/38 = <13ms for 38Mbps)	
Compliances	IEEE 802.3, Flow Control (Ingress Rate Controlled by MAC Pause per Annex 31B); EMI Emissions AS/NZS 3548	
Network Management	E200 Graphical User Interface (GUI); SNMPv1; Serial Terminal Remote/Local; Ports: 100Base-Tx, RJ-45; Local RS232, D9(f)	
Auxiliary Serial Channel	Clear Bi-Directional RS232 with Handshaking, 19.2kbps, D9(f)	
Two Optional Auxiliary Channels	E1 G.703 BNC(f), 75 Ohm Separate Tx and Rx	
Power Supply	100-260VAC, 50/60Hz (65 Watts) or -48VDC	
Mechanical and Environmental	IEC 1RU IP51 x 170mm Deep; 0°C to 50°. All exposed PCBs are conformal coated per MIL-I-46058C Typ AR	
Cabling for Split Systems	Single cable for IF, Power and Supervisory; N-Type (f) 50 Ohm; Max Loss < 10dB at 670MHz; Max DC Loss < 1.3 Ohm	
Lightning Protection	Surge Protection Isolation 800V; Surge Current 10kA; No Protection on Customer Interfaces	

1. Recommend Operating at 5dB higher than Receiver Threshold to achieve BER = 1E-10.
2. Interferer signal is assumed to be similar carrier, and the interference levels are with respect to the wanted signal level. (i.e. relative not absolute levels). The interferer causes the BER to increase from E-11 to E-10.
3. All Antennas have a wind loading rated to Region C per AS1170.