

Eclipse Solutions

Powers Wireless Backhaul Networks

Eclipse combines all PDH, SONET and Ethernet point-to-point wireless applications into a single product platform to dramatically reduce the total cost of using wireless backhaul, and change the way networks are planned, deployed and maintained.

Eclipse is the leading wireless backhaul solution available, combining a number of compelling features:

Software Defined

A highly scalable, software-driven architecture gives operators total control over their networks, so they can adapt to changing conditions and anticipate future needs.

Optimized Wireless Nodes

The Eclipse nodal solution supports multiple outdoor units (ODUs) with built-in traffic routing, add-and-drop, aggregation and concentration, and selectable traffic interfaces, including DS1, DS3, OC3 and 10/100 Base-T and Gigabit Ethernet.

Efficient Terminal Options

Eclipse supports a number of simple, application-specific Indoor Units to provide cost-efficient terminal solutions for the transport of DS1, OC3 and Ethernet data.

Scalable Capacity Architecture

Only pay for the capacity you need today. Super-PDHTM capacity migration enables smooth network upgrades and expansion at minimal cost and service disruption.

High-Speed Data Transport

Eclipse 'Liquid Bandwidth' supports high-speed Ethernet plus TDM traffic over a single radio channel, configurable bandwidth assignment up to 311 Mbit/s with low latency, built-in Layer 2 operation, service differentiation and QoS features.

Control and Intelligence

The Eclipse software suite enables advanced network control and intelligence through a suite of Java-based Local and Network Management tools.

Product Datasheet



Features:

- **Direct Mount Antenna**
- **Compact Outdoor Unit**
- **Low- cost Coaxial Cable Interface**
- **Modular Nodal Indoor Unit**

Product Datasheet

Eclipse Outdoor Units

Eclipse ODU's are compact, fully environmentally sealed units that are entirely independent of link capacity and payload. Wideband diplexers also provide a wide tuning range via software to increase flexibility and minimize sparing.

ODU options are available with differing maximum capacity and RF performance specifications. All ODU's are designed to mount directly to the antenna, and connect to the INU/IDU by a single coaxial cable.

ODU300

Delivers High Performance operation with QPSK to 256 QAM modulation and scalable capacity up to 127xDS1, 2xOC3, or 360Mbit/s of Ethernet data in licensed frequency bands from 5 to 23 GHz.

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General ODU Specifications

GENERAL ODU300	
Frequency Band Options	5, L6, U6, 7, 8, 10, 11, 15, 18, 23 GHz
Capacity Support	4, 8, 16, 28, 32, 56, 61, 70, 84, 100, 127x DS1 1 to 6x DS3 1 to 2x OC3 6 - 360 Mbit/s Ethernet
Modulation Support	QPSK, 16, 32, 64, 128, 256 QAM
Lightning Protection	ODU300hp: standard internal; ODU300ep: optional external
IF SPECIFICATIONS	
Intermediate Frequency	Transmit – 311 MHz Receive – 126MHz
INU/IDU to ODU IF Cable, recommended	CNT-300 Type – 0.3 inch/copper braid/solid copper centre conductor, 50Ω Maximum IF Cable length 150 meters (500 ft) CNT-400 Type – 0.4 inch/copper braid/copper clad aluminum centre conductor, 50Ω Maximum IF Cable length 300 meters (1,000 ft)
ODU INTERFACES	
IF Cable Connector	N-Type
AGC Monitor Point	BNC
Antenna Port Interface	5 GHz – Coax, 7/16 DIN F
Antenna Port Interface	6-23 GHz – Standard EIA rectangular waveguide, refer to ODU System specifications
Polarisation, Field Selectable	Vertical (standard) or Horizontal
Antenna Mounting	5 GHz, Standard – Remote mount via coax connection Standard – Proprietary direct mount for antenna diameters 0.3 to 1.8m (1 to 6ft), Remote mount for antenna diameters >1.8m (>6ft) Optional – Remote mount via flex/elliptical waveguide
GENERAL TRANSMITTER SPECIFICATIONS	
Transmit Power Tolerance	5 to 23 GHz ±2 dB
Transmitter Source	Synthesized
Frequency Stability	± 10 ppm
Manual Transmitter Power Control Range	5 GHz , 6-23 GHz QPSK, 30 dB, 20 dB, 16 QAM, 26 dB, 18 dB, 32 QAM, 25.5 dB, 17.5 dB 64 QAM, 25 dB, 17 dB, 128 QAM, 24 dB, 16 dB, 256 QAM, 22 dB, 14 dB Resolution – 0.1 dB steps, Accuracy - ± 2 dB
Automatic Transmitter Power Control	Range – Configurable over full available manual attenuation range Resolution/Speed – 0.1 dB steps / 6 dB per second
Transmitter Mute	>50 dB
Channel Selection	By software control within tuning range of ODU
Synthesizer Resolution	0.25 MHz
GENERAL RECEIVER SPECIFICATIONS	
Receiver Source	Synthesized
Frequency Stability	± 10 ppm
Receiver Overload	BER = 1x10 ⁻⁶ , -22 dBm
Residual (Background) Bit Error Rate	Better than 10 ⁻¹³
RSSI Accuracy	-40 to -70 dBm, 0 to +35°C, ± 2 dB -25 to -85 dBm, -33 to +55°C, ± 4 dB
ADDITIONAL PROTECTION LOSSES	
Coupler Option	Frequency Band - 5 GHz / 6 to 18 GHz / 21 to 23 GHz Main Channel – 1.5 dB / 1.6 dB / 1.8 dB Protection Channel – 6.4 dB / 6.6 dB / 6.8 dB
ELECTRICAL	
ODU 300 Power Consumption, Nominal	Frequency band – 5 GHz / 6-23 GHz Protection Channel – 40 W / 30 W
MECHANICAL	
ODU300, 5 GHz	287mm (11.3 in) x 287mm (11.3 in) x 175mm (6.9 in), 8.3 kg (18.7 lb)
ODU300, 6-23 GHz	287mm (11.3 in) x 287mm (11.3 in) x 119mm (4.7 in), 6.4 kg (14 lb)
ODU Protection Splitter/Coupler (RW)	555mm (22.0 in) x 215mm (8.5 in) x 75mm (3.0 in), 7.5 kg (16.5 lb)
ODU Protection Splitter/Coupler (P)	535mm (21.0 in) x 210mm (8.25 in) x 100mm (4.0 in), 9.0 kg (19.8 lb)