

PAVLight 4 -16E1

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PAVLight 4-16E1 is a free space optical system designed to enable high speed communication of voice, data and video over distances up to 4km between link heads which have a clear line of sight between them.

This system is designed to conform to the 4-16 E1 2Mbps G.703 communications protocol and is available in 500m, 2km or 4km configurations. The 500m and 2km systems use one laser transmitter and one receiver, while the 4km system uses three transmitters to provide extra power for the greater distance. In addition, the system can be set up as a 4 -12E1 +10Mbps Ethernet configuration.

Benefits

- Simple rapid installation within hours
- No frequency license allocation required
- Modular design - modules easily changed
- High availability
- High bandwidth
- Redeployable – moves with your network
- Interfaces with fibre optic or copper cable
- High security system – inherent in FSO technology
- Full technical support provided
- Warranty extension available
- Compact all weather design for permanent outdoor use
- Rapid payback (ROI)
- No ongoing leasing costs or licensing costs
- No environmental disruption for infrastructure
- 10 BaseT compatible

Features

The 500m configuration uses a pin diode in the receiver while the 2km and 4km configurations use APDs.

- Digital electronics
- Indicator LEDs on link head and on the PAVMUX 01 indoor unit
- Safety interlocks designed to ensure greater safety for installers
- Clear LED information and Alarm relay output
- Integrated retiming (CDR without IDU)



The PAVMUX 01 4-16 E1 Multiplexer



The PAVLight Linkhead (Outdoor Unit)

Applications

- Wireless backhaul for mobile operators
- Substitution for fibre optic cable or copper cable
- Broadband internet access
- Integration of voice, data and video on a single link

PAVMUX-01

The PAVMUX-01 is a single unit (1U), 19" rack mountable, E1/T1 multiplexer that transmits over a single fiber optic link. The PAVMUX-01 features a modular design that provides a wide variety of customized user configurations. The optical fibre interface module is available in a number of standard fibre connections and with standard or optional redundant optical connections.

The PAVMUX-01 chassis is available with universal AC power supply or in DC models for -48VDC or +24VDC and supports one(1) to four(4) Line Interface cards. Each Line Interface Card supports four(4) link interfaces and are available for E1 or T1 configurations with connections for RJ-45 (E1/T1 balanced) or BNC (E1 un-balanced), for a total of 4, 8, 12, or 16 E1 or T1 links. All line cards provide completely transparent transmission of E1 or T1 regardless of frame mode, line code, or timeslot assignment. Optional hardware cards are also available for external clock, performance monitor SNMP and Ethernet. The standard PAVMUX-01 configuration may be viewed or set via the front panel LCD/menu keys, serial terminal connection or optionally by SNMP.

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Specification for PAVLight 4-16E1

Outdoor unit (ODU)		1 Tx System	3 Tx System
Product Code		PL E1-16E1-1TX	PL E1-16E1-3TX
Performance	Effective Data Rate	n x E1 Mbps	n x E1 Mbps
	Range (metres)	2000	4000
	Bit Error Rate	>10E ⁻¹⁰	>10E ⁻¹⁰
	MTBF (hours)	105,000	105,000
Transmitter	Number of Transmitters	1	3
	Light Source	Laser Diode	Laser Diode
	Laser Class	1M	3B
	Wavelength (nm)	910	910
	Output Power (dBm)	20	25
	NOHD/ENOHD@d63 (IEC60825-1) (m)	0/30	6/65
	NHZ/NHZ-Aided@d63 (IEC60825-12) (m)	0/30	6/65
Beam Divergence (mrad)	11	11 x 3	
Receiver	Detector Type (2km/500m)	APD / PD	APD
	Field of View (2km/500m)	15°	15°
	Sensitivity (2km/500m) (dBm)	-45 to -10 / -35 to +20	-45 to -10
Interface to PAVMUX 01	Presentation	Fibre Optic	
	Connectors Cable	Dual SC Multimode or Single Mode Fibre	
Power Supply	Input Voltage	19.5 - 72 V DC	
	Power Consumption (Watts)	10	15
Environmental Information	Operating Temperature (°C)	-40 to +65	
	Operating Humidity	95% (non condensing)	
	Enclosure	IP66	
Mechanical Design	Link Head Dimensions W x L x H (mm)	350 x 550 x 198	350 x 550 x 390
	Mounting bracket	200 x 200 x 76	200 x 200 x 76
	Height including mounting bracket	274	469
	Weight (kg)	8.5	14.9
PAVMUX-01			
ODU Interface	Presentation	Fibre Optic	
	Connectors Cable	Dual SC Multimode or Single Mode Fibre	
Client Interface	Presentation	BNC, RJ45 (Ethernet optional)	
	Connectors Systems Cable	BNC, RJ45, E1/T1 Coax or UTP	
Power Supply	Input Voltage (V)	100-240VAC, 20 -60VDC	
	Power Consumption (Watts)	40VA	
Environmental Information	Operating Temperature (°C)	0 to +50	
	Operating Humidity	90% (non condensing)	
	Enclosure	IP30	
Mechanical Design	Dimensions W x L x H (mm)	435 x 44 x 253	
	Weight (kg)	4.5	
Indicators	Indicator LEDs	Optical and Channel Status Indicators	
	Alarm LEDs	Minor/Major, Far end, Near end, System and Optical	

PAV Data Systems maintain a continuous process of research and development, and as such, all specifications within this document are subject to change without notice.