

PAVLight 2 x E1 Free Space Optical System

PAVLight 2 x E1 FSO Communications System

The PAV 2 x E1 system is designed to transmit dual E1 traffic over a single PAV FSO system at distances up to 4km between link heads which have a clear line of sight between them.

This system can receive two independently clocked E1 2.048 Mbps data streams over a single UTP RJ45 connection and is available in 2km or 4km configurations. The 2km system uses one laser transmitter and one receiver, while the 4km system uses three transmitters to provide extra power for the greater distance.



The PAVLight Linkhead (Outdoor Unit)

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

Features

- Digital electronics
- Transparent to protocol i.e. G.704
- Indicator LED's on link head
- Safety interlocks designed to ensure greater safety for installers
- Clear LED information and Alarm relay outputs
- AIS generation on E1 channels in fault conditions or LOS

Applications

- Building to building connectivity
- Wireless backhaul for mobile operators
- Voice and Data
- LAN extension
- Broadband internet access
- Integration of voice, data and video on a single link
- Disaster Recovery / Business Continuity

Overview

The PAV 2E1 system has been designed after specific GSM market feedback to provide dual E1 channels with simple and speedy installation whilst eliminating spectrum congestion. With the added flexibility of incorporating two independently clocked E1 2.048 Mbps data streams over a single twisted pair cable it requires no additional real estate within the BSC/BTS.

SNMP Management system

An optional SNMP Management Interface board is available for those customers who require SNMP management of the link.

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Specification for PAVLight 2 x E1

Outdoor unit		1 Tx System	3 Tx System
Product Code		PL 2E1 1TX	PL 2E1 – 155 3TX
Performance	Effective Data Rate	2 x 2.048 Mb/s	2 x 2.048 Mb/s
	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	PD	APD
	Field of View	15°	15°
	Sensitivity (dBm)	-35 to +20	-45 to -10
Client Interface	Presentation	120 Ohm Balanced (Optional 75 Ohm)	
	Connectors Standards Cable	RJ45 (BNC) G.703 UTP (BNC)	
Power Supply	Input Voltage	18V DC (Optional 20 – 72)	
	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
Indicator LEDs	1 x E1 Present (Green 3mm)	Aggregate LOS Power Input	(Red 3mm)
	2 x E1 Present (Green 3mm)		(Red 5mm)
	System Standby (Yellow 5mm)	System Receive	(Green 5mm)
	System Transmit (Orange 5mm)		

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.