



ORION TELECOM NETWORKS INC.

VCL - 16 E1 + Ethernet PDH Optical Multiplexer

Product Brochure & Data Sheet

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Product Description

VCL - 16 E1 + Ethernet PDH Optical Multiplexer is a point to point high performance optical line transmission equipment, combines 16, ITU-T G.703 compliant standard electrical E1s **plus** 100BaseT ethernet signal into an optical data stream for transport over fiber optic pairs. Several transmitter options for different cable types and wave-lengths are available. 1+1 optical path redundancy is offered and available as an option.

VCL - 16 E1 + Ethernet PDH Optical Multiplexer

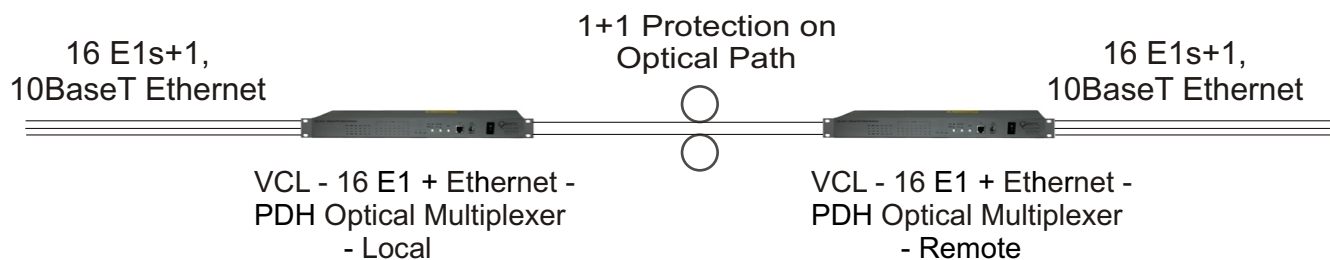


Front View

Features and Highlights

- Integrated E1 Plus Ethernet Optical Multiplexer
- Compact design that performs E1 and Ethernet channel multiplexing & de-multiplexing to an optical output
- Provides visible and audible alarm indication
- Provide Remote power detection (RPD)
- Low power consumption
- Orderwire (EOW) channel for end to end installation and maintenance
- Local and remote loop back test for diagnostics
- 1+1 Fiber Path protection
- ALS (Auto Laser Shutdown) facility for eye safety.
- 10/100M Ethernet Port - 100 Mbps Ethernet data transmission rate complies with IEEE 802.3
- E1 is available with 120 Ohms (RJ45) or 75 Ohms (BNC)
- Supports auto negotiation and flow control (pause)
- Clock options: internal/loop-timed

Application Diagram VCL - 16 E1 + Ethernet PDH Optical Multiplexer



Technical Specifications

Electrical Interface	E1
Channel capacity	Upto 16E1
Bit rate	2.048 Mbps $\pm$ 50 ppm
Line code	HDB3
Frame Structure	As per G.704
Electrical Interface	As per G.703
Nominal impedance	120 Ω balanced / 75 Ω unbalanced (optional)
Jitter character	ITU-T G.742, G.823 compliant
Connectors	DB37 interface with RJ-45 connectors (120 Ω balanced) DB37 interface with BNC coaxial connectors (75 Ω unbalanced)

Optical

Type of Transmitter	Class 1 Laser
Transmitter power	$\geq$ - 3dBm, $\geq$ - 6dBm, $\geq$ - 9dBm options, as ordered
Bit rate	155 Mbps
Wavelength	1310/1550nm (optional)
Optical connector	FC/PC
Receiver Sensitivity	$\leq$ - 36 dBm
Typical output power	$\geq$ -9dBm
Fully Compliant with ITU-T G.957, G.958 Specification	
Class 1 Laser Product, Compliant with IEC 60825-1	
Compliant with Telcordia (Bellcore) GR-468-CORE	

Safety

Class 1 Laser
Auto Laser Shut Down in the event of fiber break.

Ethernet Interface

10/100BaseT (optional)

Number of Interfaces	1
Interface	RJ45 Ethernet 10BaseT or 100BaseT-TX (auto sensing)
Compliance	Ethernet Version 2.0 IEEE802.3 10Base-T & 100Base-TX Activity, Full/half duplex.
Interface Rate	100 Mbps Ethernet data transmission rate
Connector	RJ-45
Flow Control	Pause

Order Wire Interface

Phone set	Standard 2-wire phone set
Bandwidth	64Kb/s
Coding	PCM

Power Supply

Power Input	AC, DC, AC + DC
DC power	DC - 48V(-36~-72V) / DC 24V optional
AC power	AC 220V (185~265V)
Power consumption	18 Watts maximum

Environment

Temperature	- 5°C ~ +55°C for operation - 40°C to +70°C for storage
Humidity	5% to 95% (35°C)

Physical

Width	440 mm
Depth	202 mm
Height	43.5 mm
Weight	2 kg.
Rack Type	EIA 19-Inch

Ordering Information

S. No.	Product Description	Part No.
1.	VCL-16E1 + Ethernet PDH Optical Multiplexer 19" Metal box / case 1U High Rack Mount Version Supports : - 16 x E1 [120Ω OR 75Ω 2xDB37 (M)] - 1 x Ethernet [100Mbps, Electrical RJ45 (F)] - 2 x Optical [155Mbps, Duplex FC, 1310nm, 40Km, SMF] - 1 x 100-240V AC Power Supply Input - 1 x (-) 48V DC Power Supply Input - 1 x Systems Core Cables, Installation Accessories, Documentation, System User Manual etc (Set)	2161:1-16E1-ETH-ACDC-1310-040

Cables and Accessories Options

Description	Part No.
8E1 75 Ohms Connectorized Cable [DB37F-16BNCf]	VCL-HRNS 1246
8E1 120 Ohms Connectorized Cable [DB37F-8RJ45F]	VCL-HRNS 1255
Optical Patch Cord Connectorized Cable [FC-FC, 10m, SM]	VCL-HRNS 1240
Optical Patch Cord Connectorized Cable [FC-LC, 10m, SM]	VCL-HRNS 1242
Optical Patch Cord Connectorized Cable [2FC-2LC, 10m, SM]	VCL-HRNS 1243
Optical Patch Cord Connectorized Cable [2FC-2SC, 10m, SM]	VCL-HRNS 1257
Connector (Attenuator LC-LC (20 db.))	VCL-ECON 1173
Connector (Attenuator FC-FC (20 db.))	VCL-ECON 1187
Connector (Attenuator SC-SC (20 db.))	VCL-ECON 1198

Technical specifications are subject to changes without notice.

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