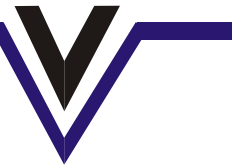


VALIANT COMMUNICATIONS LIMITED



Gigabit Ethernet (Wire Speed) Optical Multiplexer with 16 E1

Product Brochure & Data Sheet

INDIA

Valiant Communications Limited

71/1, Shivaji Marg, New Delhi - 110015, India
Phone: +91-11 4105 5601, +91-11 4105 5602,
+91-11 4105 5603, +91-11 2592 8415,
Fax: +91-11 4105 5604, +91-11 2543 4300
E-mail: getinfo@valiantcom.com
Website: <http://www.valiantcom.com>

U.S.A.

Valcomm Technologies Inc.

4000 Ponce de Leon, Suite 470
Coral Gables, FL 33146
United States of America
E-mail: fl@valiantcom.com
Website: <http://www.valiantcom.com>

U.K.

Valiant Communications (UK) Ltd

1, Acton Hill Mews, 310-328 Uxbridge Road,
London W3 9QN
United Kingdom
E-mail: uk@valiantcom.com
Website: <http://www.valiantcom.com>

U.A.E.

Valiant Communications FZE

P.O. Box No. 121523 SAIF Zone,
Sharjah,
U.A.E.
E-mail: uae@valiantcom.com
Website: <http://www.valiantcom.com>

Product Overview

Valiant Gigabit (Wire-Speed) Optical Multiplexer with 16 E1 interfaces is a unique Gigabit multi-service optical fiber transport solution which transmits both Gigabit Ethernet (Gigabit Wire Speed) data along with upto 16 E1 (TDM) channels over an optical fiber link.



Gigabit Ethernet (Wire Speed) Optical Multiplexer with 16 E1

1+1 optical fiber redundancy is also available for minimizing the possibility of transmission loss due to an optical link failure.

The Gigabit (Wire-Speed) Ethernet traffic along with 16 E1's are multiplexed into 1.25Gbps optical link to provide a compact, high performance, high throughput and cost effective broadband network access solution.

Features:

- 1U height, 19-Inch standard rack-mountable chassis
- Wire-Speed Gigabit Ethernet traffic with 16 E1 data are transported simultaneously
- 1 Gbps data throughput for aggregate Ethernet traffic
- Supports jumbo frame size (9000 bytes) transmission
- Supports 1+1 optical link protection
- MSA compliant SFP (Small Form-Factor) based design for improved and easy serviceability. SFP based design provides the flexibility to the customer to change service distance and support different types of optical fiber
- Supports Automatic Laser Shutdown (ALS) option for added safety
- Performance analysis of optical ports Optical Transmission Failure, Loss of Optical Link, Loss of Frame and Errors (E-3 / E-6)
- Performance analysis of E1 ports Loss of Signal and Code Violation
- Performance Analysis of GigE port - All Received Packets, All Received Bytes, Received Broadcasts, All Transmitted Packets, All Transmitted Bytes, Transmitted Broadcasts, Received Error Packets
- Provides Engineering Order Wire (EOW)
- Remote access and management. Supports SNMP V2 monitoring and traps
- Supports Telnet (CLI text commands) for easy configuration
- GUI for easy configuration
- Network Management System for monitoring multiple units from a single, central location
- Remote Power Down detection (RPD) alarm. Allows the local end to detect if the remote unit is unavailable due to optical link failure or due to power down
- Remote software upgradable
- AC and DC power redundancy (-48V DC, 110-230V AC options available)
- EMI/EMC compliance
- Complies to electrostatic discharge immunity (ESD) IEC 61000-4-2 level 2
- RoHS compliant

Highlights

- Gigabit (Wire Speed) data transmission
- Gigabit multi-service fiber optic transport solution - Transmits both E1s and Gigabit Ethernet data over an optical fiber link / or over 1+1 redundant optical fiber links for added protection against link failures
- Compact, high performance, high throughput and cost effective broadband network access solution
- SFP based design for customer convenience, flexibility to change services distance and serviceability
- Optical distance support for 15Kms, 40Kms, 80Kms, 120Kms, 160Kms and 210Kms
- Supports remote power down detect function
- Complies to IEEE 802.3, IEEE 802.3u, IEEE 802.ab, IEEE 802.3x recommendations
- Supports auto-negotiation function, and can work in 10M full/half duplex, 100M full/half duplex, 1000M full duplex mode (1000M half duplex is not supported)
- Ethernet Transmission media is Category 6 UTP, RJ-45 connector (electrical) for Gigabit Ethernet channel with upto 1000Mb/s data rates
- Ethernet Transmission media is optical fiber pair, LC connector, (optical) for Gigabit Ethernet fiber channel with up to 1000Mb/s bandwidth
- Engineering Order Wire (EOW)
- Supports Command Line Interface (CLI) for configuration and management
- Supports TELNET for remote configuration and management
- Supports SNMP V2
- Network Management (NMS)
- Supports multiple type of alarm notifications
- Supports E1 and optical loop back configuration, etc.
- 1U (44mm) high 19 Inch Rack Mount standard rack design
- Available with Single 110V-220V AC and / or -48V DC power supply
- Supports 110V-220V AC and -48V DC redundant power supply
- Low power consumption (Less than 11W)
- Provides E1's with 120 Ohms (RJ-45) or E1's with 75 Ohms (BNC) connections
- E1 G.703, G.703 channels support all protocols sent over it, like SS7 signalling, PRI for PABX interconnection
- Support for Base Station backbone development for CDMA, GSM, 3G and other applications where E1 G.703 channels and Gigabit Ethernet data are required to send over the same fiber link.

Alarm and Indicator Monitoring

- Power Indicator
- Current Status (integrity and activity) Indicator
- General Alarm Indicator (any alarm)
- Working Optical Link Indicator
- Optical Signal Loss Alarm Indicator
- Remote Device Power-Down Indicator
- Ethernet Link Indicator
- Ethernet Speed Indicator
- E1 Signal Loss Alarm Indicator
- Frame Loss Indicator
- Optical Errors (E-3 / E-6) Indicator
- Audible Buzzer Alarm
- SNMP V2 Diagnostic and Monitoring

Technical Specifications

Electrical Interface	E1
Channel capacity	16 E1
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	RJ-45 connectors (120 Ω balanced) or Male DB37 interface with BNC coaxial connectors (75 Ω unbalanced)

Gigabit Optical (network transmission side) Interface options (SFP options)

S. No.	Wave Length	Output Power	Receiver Sensitivity	Distance	SFP Standards
1.	850nm-LD	-9 ~ -3 dBm	-18dBm	550m	1. Supports 1.25Gbps bit rate.
2.	1310nmFP-LD	-9 ~ -3 dBm	-20dBm	15m	2. Connector type is LC
3.	1310nmDFB-LD	-2 ~ +3 dBm	-23dBm	40m	3. MSA (INF-8074i) Compliant
4.	1550nmDFB-LD	-4 ~ +1 dBm	-20dBm	40m	4. SFF-8472 v9.3
5.	1550nmDFB-LD	-2 ~ +3 dBm	-23dBm	80m	5. IEEE802.3z Gigabit Ethernet
6.	1550nmDFB-LD	-0 ~ +3 dBm	-31dBm	120m	6. DDM, RoHS & WEEE
7.	1550nmDF0B-LD	-1 ~ +5 dBm	-36dBm	160m	7. International Class 1 laser safety certified (IEC 60825)
8.	1550nmDFB-LD	-5 ~ +8 dBm	-36dBm	210m	8. Complied to GR-468-CORE

Safety

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

Gigabit Ethernet (customer side) Interface 10/100/1000BaseT (Electrical)

Number of Interfaces	1
Interface	RJ-45 Ethernet 10/100/1000BaseT (auto sensing) Full/Half Duplex
Interface Rate	Upto 1000 Mbps Ethernet data transmission rate
Connector	RJ-45

Configuration, Maintenance and Management Interfaces

Serial Management Port - RS232 interface (COM Port)
TCP/IP - 10/100BaseT for remote management over a LAN / TCP/IP network
SNMP V2 (MIB File provided with the equipment)
Telnet - CLI (Command Line Interface)
Windows XP and Windows 7 compatible Graphical User Interface (GUI)
Network Management System (to monitor multiple units from a single central location).

Power Supply

Power Input	AC, DC, AC + DC
DC power	DC - 48V (Input range -36~-72V) - Standard DC 24V (Input range -18~-72V) - Optional
AC power	AC 110~240V, 50/60Hz
Power consumption	< 11 Watts

Environment

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

Mechanical Specifications

Width	440 mm.
Depth	210 mm.
Height	44 mm.
Weight	2.7 kg
Rack Type	EIA 19 inch

Technical specifications are subject to changes without notice.
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INDIA**Valiant Communications Limited**

71/1, Shivaji Marg, New Delhi - 110015, India
Phone: +91-11 4105 5601, +91-11 4105 5602,
+91-11 4105 5603, +91-11 2592 8415,
Fax: +91-11 4105 5604, +91-11 2543 4300
E-mail: getinfo@valiantcom.com
Website: <http://www.valiantcom.com>

U.K.**Valiant Communications (UK) Ltd**

1, Acton Hill Mews, 310-328 Uxbridge Road,
London W3 9QN
United Kingdom
E-mail: uk@valiantcom.com
Website: <http://www.valiantcom.com>

U.S.A.**Valcomm Technologies Inc.**

4000 Ponce de Leon, Suite 470
Coral Gables, FL 33146
United States of America
E-mail: fl@valiantcom.com
Website: <http://www.valiantcom.com>

U.A.E.**Valiant Communications FZE**

P.O. Box No. 121523 SAIF Zone,
Sharjah,
U.A.E.
E-mail: uae@valiantcom.com
Website: <http://www.valiantcom.com>