# VALIANT COMMUNICATIONS LIMITED

## 64 Port E1 / T1 / 10 BaseT Ethernet Digital Access Cross Connect

Product Brochure & Data Sheet


**U.K.**

Valiant Communications (UK) Ltd
1, Acton Hill Mews,
310-328 Uxbridge Road,
London W3 9QN, United Kingdom

**E-mail:** gb@valiantcom.com

**U.S.A.**

Valcomm Technologies Inc.
4000 Ponce de Leon, Suite 470
Coral Gables, FL 33146
U.S.A.

**E-mail:** us@valiantcom.com

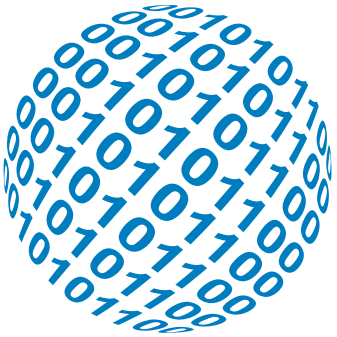
**INDIA**

Valiant Communications Limited
71/1, Shivaji Marg,
New Delhi - 110015,
India

**E-mail:** mail@valiantcom.com

# VCL - MEGA-CONNECT™

## 64 Port E1 / T1 / 10 BaseT Ethernet Digital Access Cross Connect





**Description:**

The VCL-MEGA-CONNECT, 64 Port E1 / T1 / 10 BaseT Ethernet Digital Cross Connect Switch, is a E1 / T1 / 10 BaseT Ethernet digital cross-connect switch, which presents its user an easy to use, yet a sophisticated platform to cross-connect up to 64, E1 ports. The VCL-MEGA-CONNECT, 64 Port E1/ T1 / 10 BaseT Ethernet Digital Cross Connect Switch offers full cross-connect functionality to cross-connect, and / or aggregate DS-0s, "n"x64Kbps consecutive data channels and, fractional E1 / T1 channels to full E1 / T1 channels, between the 64 E1 / T1 Ports.

The VCL-MEGA-CONNECT, 64 Port E1 / T1 / 10 BaseT Ethernet Digital Cross Connect Switch, occupies only a 6U high rack-space, and is a complete 19-inch stand-alone unit that provides connectivity for up to 64 Port E1 / T1 ports. The unit operates on a -48VDC input power-supply (AC input adapter is optional for AC mains operation).

The system is supplied with an easy to use Windows (95, 98, Me, XP) Graphical User Interface that provides the USER a complete control to prepare multiple configuration "*maps*" and store them as easy to read data files. It may also accessed using CLI (Command Line Interface) through a Serial (COM) Port of a PC using HyperTerminal text commands. Dry contact relay alarms are also available at rear of the system to connect the system to external audio and visual alarms outputs.

The VCL-MEGA-CONNECT, 64 Port E1 / T1 / 10 BaseT Ethernet Digital Cross Connect Switch also has a TCP - IP Access feature which allows the DACS to be connected on a TCP - IP network (10/100 Base Interface) for remote access for configuration and monitoring using Telnet.

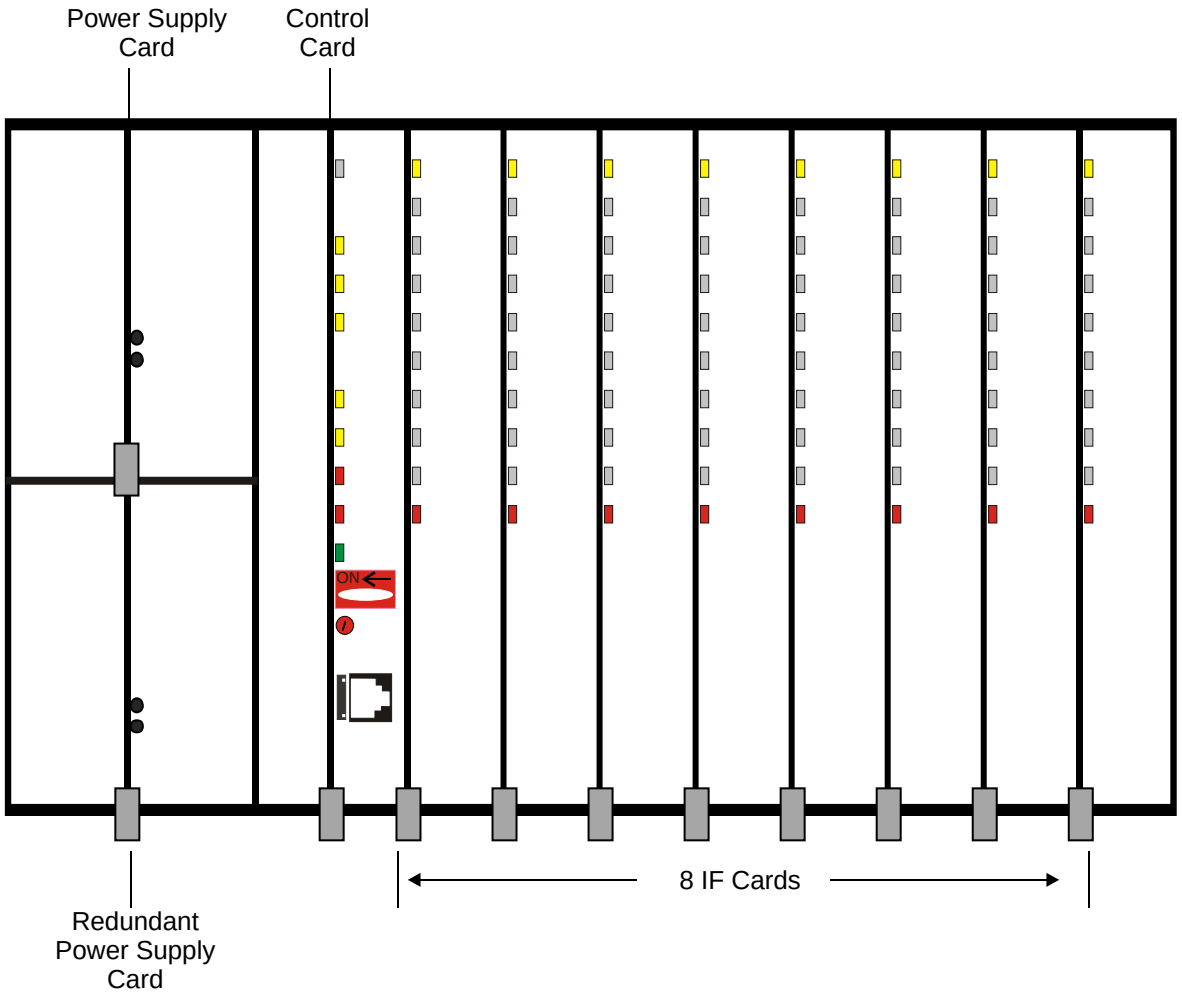
**Optional System Configurations:**

a) DS-0 Cross-Connect-64 Port E1 / T1 / 10 BaseT Ethernet Cross-Connect provides a full(non-blocking) cross-connect capability at DS-0 (64Kbps time slot level) between all E1s, T1s and 10/100 BaseT Ethernet Ports.

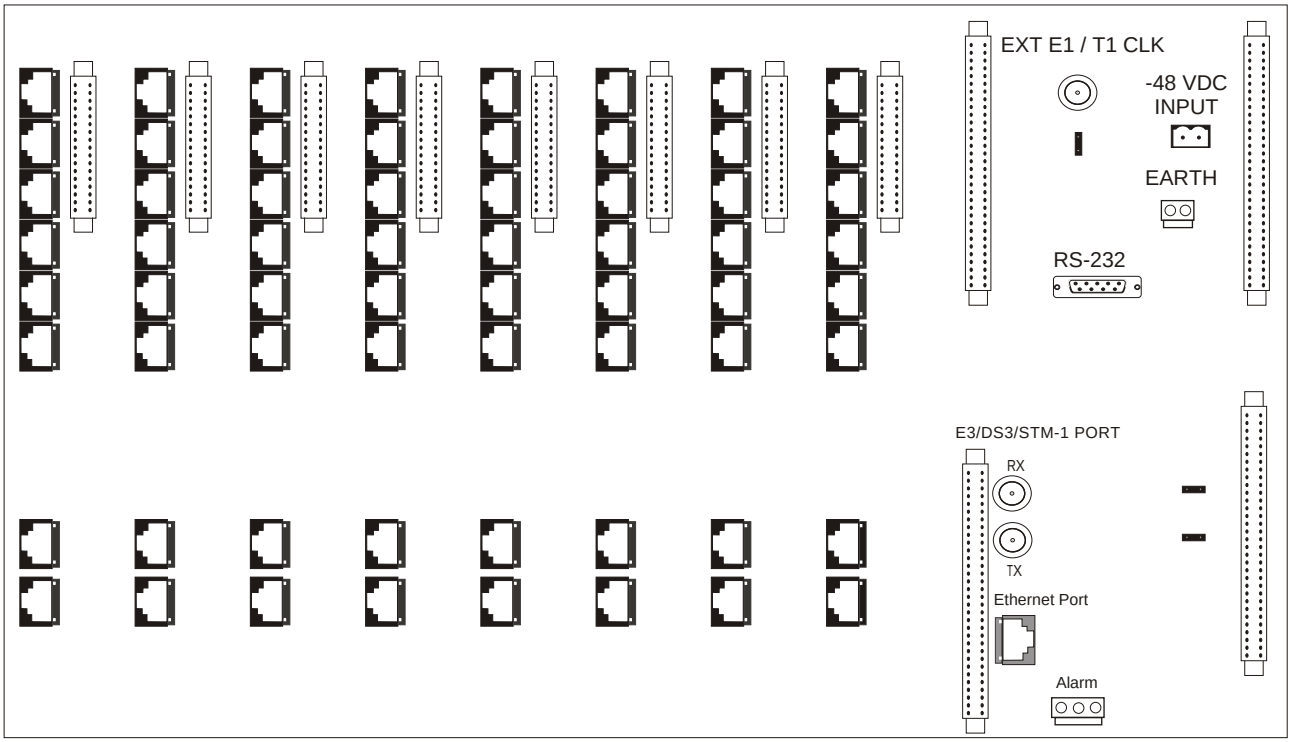
b) DS-0 Cross-Connect-48 Port E1 / T1 / 10 BaseT Ethernet Cross-Connect with and E3 Interface provides the capability to convert / cross-connect upto 48 E1s, T1s and 10/100 BaseT Ethernet Ports to an E3 interface. Useful for transporting E1s, T1s and Ethernet links over an E3 channel.

c) DS-0 Cross-Connect-32 Port E1 / T1 / 10 BaseT Ethernet Cross-Connect with a DS3 (T3) Interface provides the capability to convert / cross-connect upto 32 E1s, T1s and 10/100 BaseT Ethernet Ports to a DS3 interface. Useful for transporting E1s, T1s and Ethernet links over a DS3 (T3) channel.

## Front View




## Rear View



## Applications:

- E1 Cross - Connect
- T1 Cross - Connect
- E1 to T1 Cross - Connect (E1 < > T1 Converter for data applications).
- E3 to E1 / T1 / 10 / 100 BaseT Ethernet Cross Connect
- DS-3 to E1 / T1 / 10 / 100 BaseT Ethernet Cross Connect

## Indications and Alarm Monitoring:

- E3 Loss of Signal
- DS-3 Loss of Signal
- Loss of incoming signal at any E1 / T1 Port
- Configuration Error Alarm
- Clock Status
- 1 to 8 channel LED indicators to indicate the status of each E1 / T1 channel
- +3 Volts Power Supply
- -48VDC present
- Configuration Error

## Programmable Features:

- Specifying the priority sequence for clock selection.
- Enabling or disabling E1 / T1 channels (masking) of the E1 / T1 channels that are not is use.
- Creating a cross - connect between E1s at DS-O level (Single time-slot level) using the Windows based, easy to use GUI.
- Telnet interface for remote programming.

## Status Monitoring:

- Clock Selection
- Status of alarms.
- Enabled / Disabled status of E1 / T1 channels.
- Monitoring of the VCL-MEGA-CONNECT status and configuration.

# Technical Specifications -

## E1 Interface

| | |
|---|---|
| Line Rate | E1 (2.048 Mbps ± 50 bps) |
| Available Time-Slots | 1-31 |
| Framing | G.704 |
| Electrical | G.703 |
| Jitter | G.823 |
| Impedance | 120 Ohm |
| Connector | RJ-45 (F) |
| Clock: | |
| Internal | (Stratum3 level) |
| Loop-Timed | |
| External | 75 Ohms - 2.048 Mhz |
| | - 1.544 Mhz |

## T1 Interface

| | |
|---|---|
| Line Rate | T1 (1.544 Mbps ± 50 bps) |
| Available Time-Slots | 1-24 |
| Framing Structure | as per ITU(CCITT) G.704 |
| Framing Options | D4, ESF (Selectable) |
| Line Coding | AMI, B8ZS (Selectable) |
| Electrical | ITU-T G.703 |
| Jitter | ITU-T G.823, ITU-T 1.431 |
| Impedance | 100 Ohm |
| Connector | RJ-45 (F) |
| Clock: | |
| Internal | AT&T TR62411, Telcordia GR-1244-CORE, Stratum 3, Stratum 4, Enhanced and Stratum 4, ETSI ETS 300 011, ITU-T G.813 Option 1 |
| Loop-Timed | |
| External | 75 Ohms - 2.048 Mhz |
| | - 1.544 Mhz |

**10/100BaseT Interface:**

| | |
|---|---|
| Number of Interfaces: | 8 per interface card |
| Interface Types | 10/100BaseT (optional)<br>100-FX (optional) |
| Standards Compliance | IEEE 802.3-2002<br>RFC1662<br>RFC2615<br>X.86<br>RMII |
| Interface Rate | Programmable in steps<br>of 512 Kbps upto 1920 Kbps<br>per 10/100BaseT Interface.<br>(512 / 1024 / 1536 / 1920 Kbps) |
| Protocol | User Programmable HDLC<br>And LAPS mapping |
| Connectors | RJ45 (10/100 BaseT Electrical)<br><br>SC, 1310nm (Optical 100-FX*)<br>(*100-FX = Ethernet over Fiber) |

**E3 Interface:**

| | |
|---|---|
| Number of E3 Interfaces: | 1 |
| Bit Rate | 34.368 Mbps |
| Bit Rate Tolerance | $^{+/-}$ 20ppm |
| Line Code | HDB3 |
| Frame Structure | as per G.751 |
| Interfaces | as per G.703 |
| Connectors | BNC, Co-axial Un-balanced |
| Impedance | 75 Ohms |
| Permissible Attenuation | 12dB @ 17184 KHz |
| Signal Level to declare Loss of Signal condition | -35dB (maximum) |
| Signal Level to clear Loss of Signal condition | -15dB (minimum) |

**DS3 (T3) Interface:**

| | |
|---|---|
| Number of DS3 Interfaces: | 1 |
| Bit Rate | 44.736 Mbps |
| Bit Rate Tolerance | $^{+/-}$ 20ppm |
| Line Code | B3ZS |
| Framing | * Meets ANSI T1.404<br>* M13 or C-bit parity |
| Pulse Shape | Meets ANSI T1.102-1993 and Bellcore GR-499-CORE |
| Connectors | BNC, Co-axial Un-balanced |
| Impedance | 75 Ohms |
| Signal Level to declare Loss of Signal condition | $\leq$ 20mV |
| Signal Level to clear Loss of Signal condition | $\geq$ 90mV |

**Power Supply:**

| | |
|---|---|
| Power Supply: | -48VDC (-40VDC to -60VDC) |
| Power Supply: | Redundant (1+1 Protected) |
| Power Consumption: | 21 Watts (maximum). |

**Chassis:**

6U High

19-inch rack-mounting shelf.

**Time-slot selection:**

ANY-TO-ANY through an internal, best byte, non-blocking TSI Switch.

**Clock:**

| | |
|---|---|
| Internal | (Stratum3 level) |
| Loop-Timed | |
| External | 75 Ohms - 2.048 Mhz<br>- 1.544 Mhz |

**Management and Control:**

| |
|---|
| Serial Management Port (RS232) - COM Port |
| 10/100 BaseT for Remote Management over a LAN. |
| 10/100 BaseT Telnet over a TCP-IP Network. |

**Command Language:**

| |
|---|
| Command Line Interface (english text commands) |
| Windows based GUI (optional). |

**CORE SYSTEM: All items of the CORE SYSTEM must be ordered and are being offered in a single head as the CORE SYSTEM:**

| | |
|---|---|
| a) | 19-Inch Chassis. |
| b) | Control Card and TSI with serial and LAN Management Ports. |
| c) | 2 x -48VDC Input Power-Supply Card(s) for REDUNDANT OPERATION. |
| d) | AC to -48VDC DC Converter for Universal AC Mains Input<br>(if required to connect the equipment on AC Mains). |
| e) | GUI - Configuration Software. |
| f) | User Manual. |

**INTERFACE CARDS**

| | |
|---|---|
| g) | 8 Port E1 / T1 Interface Card 120 ohms, balanced RJ-45. |
| h) | 8 X 10 / 100 BaseT Ethernet Interface Cards |
| i) | 2 X 10 / 100 BaseT Ethernet Interface Cards |

**System Management**

- Windows 95, Windows 98, Windows ME and Windows XP based GUI
- CLI (Command Line Interface)

Technical Specifications are subject to change without notice.



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**U.K.**

Valiant Communications (UK) Ltd
1, Acton Hill Mews,
310-328 Uxbridge Road,
London W3 9QN, United Kingdom

**E-mail:** gb@valiantcom.com

**U.S.A.**

Valcomm Technologies Inc.
4000 Ponce de Leon, Suite 470
Coral Gables, FL 33146
U.S.A.

**E-mail:** us@valiantcom.com

**INDIA**

Valiant Communications Limited
71/1, Shivaji Marg,
New Delhi - 110015,
India

**E-mail:** mail@valiantcom.com