



ORION TELECOM NETWORKS INC.

VCL-MegaConnect - DS3 to E1/T1 Converter

Product Brochure & Data Sheet

Product Overview

The VCL-MegaConnect-DS3 to E1/T1 Converter and Digital Access Cross Connect Switch is a platform which presents its user an easy to use, yet a sophisticated platform to cross connect up to 32 E1/T1 Ports to an DS3 interface and vice versa . The VCL-DS3 to E1/T1 Converter, 32 Port E1/T1/ 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 or between the 32, E1/T1 ports.

The VCL-MegaConnect-DS3 to E1/T1 Converter, occupies only a 6U high rack-space, and is a complete 19-inch stand-alone unit that provides connectivity for up to 32 E1/T1 ports. The unit operates on a -48V DC input power supply.

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 data files. It may be accessed using CLI (Command Line Interface) through a Serial (COM) Port of a PC using HyperTerminal text commands. It may be also accessed remotely over a 10BaseT interface by assigning a unique IP Address to the DACS. Password protection to prevent un-authorised access is also available (*please see Note*¹). Dry contact relay alarms are also available at rear of the system to connect the system to an external alarm output.

Optional System Configurations:

- a) 32 Port E1/T1 Cross Connect provides a full (non-blocking) cross connect capability at DS-0 (64Kbps time slot) level between all E1/ T1 Port.
- b) 32 Port E1/T1 Cross Connect with a DS3 (T3) Interface provides the capability to convert cross connect upto 32 E1/ T1 Ports to a DS3 interface. Useful for transporting E1/ T1 link over a DS3 (T3) channel.

Note¹: This does not however substitute Firewall protection which must be installed separately.

Applications

- E1 Cross Connect
- T1 Cross Connect
- E1 to T1 Cross Connect (E1< >T1 Converter for data applications)
- DS3 to E1/T1 Cross Connect

Indications and Alarm Monitoring

- DS3 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
- -48V DC present
- Hardware error alarm

Programmable Features

- Specifying the priority sequence for clock selection
- Enabling or disabling (masking) of the E1/T1 channels that are not in use
- Creating a cross connect between E1s at DS-O level (single time-slot level) using the Windows based, easy to use GUI
- Creating a cross connect between DS3 to E1s at DS-O level (single time-slot level) using the Windows based, easy to use GUI
- Telnet interface for remote programming by using text commands

Status Monitoring

- Clock selection
- Status of alarms
- Enabled/Disabled status of E1/ T1 channels

Technical Specifications

DS3 (T3) Interface

Number of DS3 interfaces	1
Bit rate	44.736 Mbps
Bit rate tolerance	$\pm 20\text{ppm}$
Line code	B3ZS
Framing	* Meets ANSI T1.404 * 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	$\leq 20\text{mV}$
Signal level to clear loss of signal condition	$\geq 90\text{mV}$

E1 Interface

Line rate	E1 (2.048 Mbps \pm 50 bps)
Available Time-Slots	1-31
Framing	G.704
Electrical	G.703
Jitter	G.823
Impedance	120 Ohms
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 \pm 50 bps)
Available Time-Slots	1-24
Framing structure	As per ITU (CCITT) G.704
Framing options	SF, ESF (Selectable)
Line coding	AMI, B8ZS (Selectable)
Electrical	ITU-T G.703
Jitter	ITU-T G.823, ITU-T 1.431
Impedance	100 Ohms
Connector	RJ-45 (F)
Clock	
Internal	(Stratum3 level)
Loop-timed	
External	75 Ohms - 2.048 MHz - 1.544 MHz

Time-slot selection

Any-to-any through an internal, best byte, non-blocking TSI switch.

Power supply

Power supply	-48V DC (-40V DC to -60V DC)
Power supply	Redundant (1+1 Protected)
Power consumption	21 watts (maximum)

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	From E1/T1 Port
External	75 Ohms - 2.048 MHz - 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)

System Management

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

Ordering Information

S No.	Part #	Product Description	Qty
1	VCL-MC-1283	19" Shelf 6U High (Sub-Rack) fitted with 120 Ohm RJ45 (F) Connectorized Backplane Max. Four (4) slots meant for tributary cards (line cards)	1
2	VCL-MC-1295 -PSU-3.3	(-) 48V DC Input Power Supply Card may be used in a 1+1 redundant Configuration	2
3	VCL-1285-CC	DS3 & OAM Control Card	1
4	VCL-1292-E1/T1	8 Port E1/T1 Line Interface Card (4 Cards (Max) per Chassis)	4
5	UMIMCDS3E1T1	System Core Cables, Blank Space Blocking Plates, Installation Accessories, Documentation, System User Disk, etc [Set]	1

Technical specifications are subject to changes without notice.
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