VCL-MegaConnect-Jr.
16 Port E1/T1 Mixed Configuration DACS and Interface Converter

Product Brochure & Data Sheet

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Introduction

VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter shall allow the user to cross connect between E1 and T1 interfaces at DS-0 (64 Kbps time-slot) level and use it for interface, frame and line-code conversion between 8 E1 interfaces and 8 T1 interfaces.

VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter

The VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter occupies only a 2U high rack-space and is a complete 19-inch stand-alone unit that provides connectivity of up to 16 E1/T1 Ports. The unit operates on a - 48V DC input power-supply (AC input adapter is optional).

The system is supplied with a CLI text-based, easy-to-use interface that offers the user complete control to prepare multiple configuration maps (and store them as data files) and the ease of downloading them from a PC. Dry contact relay alarms are also available at rear of the system to connect the system to an external alarm.

The VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter 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.

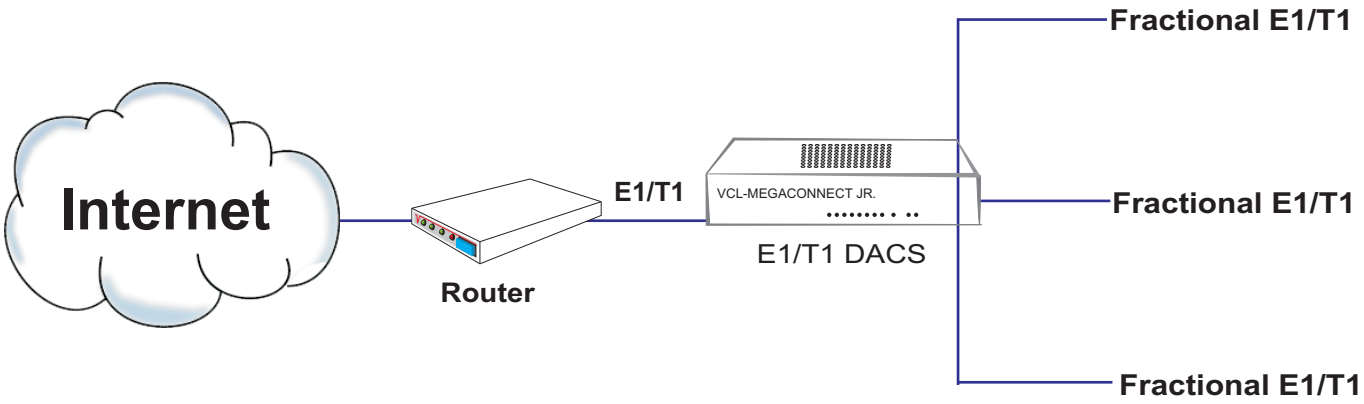
Applications

- ISP providing fractional E1/T1s to subscribers
- Data aggregating fractional E1/T1 data circuits
- Cellular extending fractional E1/T1 Ports from MTSO to cell-sites
- DS-0 (64 Kbps) time-slot cross connect between E1 and T1 Ports.
- Interface conversion (only interface, frame and line-code conversion) between E1 and T1 Ports

Highlights

- Stratum 3 clock
- Remote TCP/IP access for configuration and monitoring
- Text based user friendly CLI for easy configuration
- Telnet option
- Available in mixed 16 E1/T1Ports (8 E1 interfaces and 8 T1 interfaces) configuration
- Allows cross connect between E1 and T1 interfaces at DS-0 (64Kbps) time-slot level.

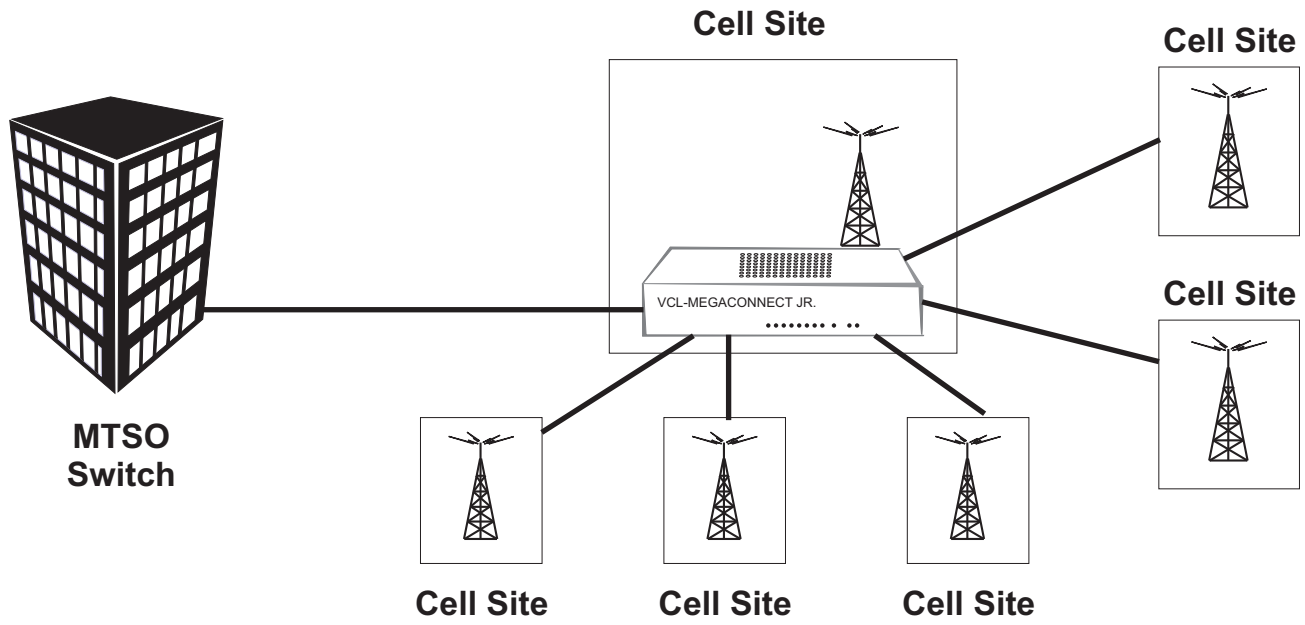
ISP Digital Cross Connect Application
providing fractional E1/T1s' to subscribers



Aggregates multiple E1/T1 Ports
to a single E1/T1 Port

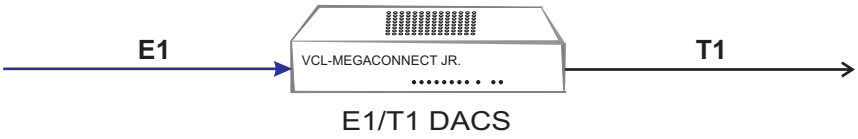
Application 1

Backhaul-Cellular Application using E1/T1 DACS



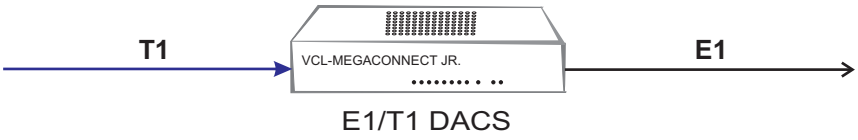
Application 2

Providing E1 interface to T1 interface conversion



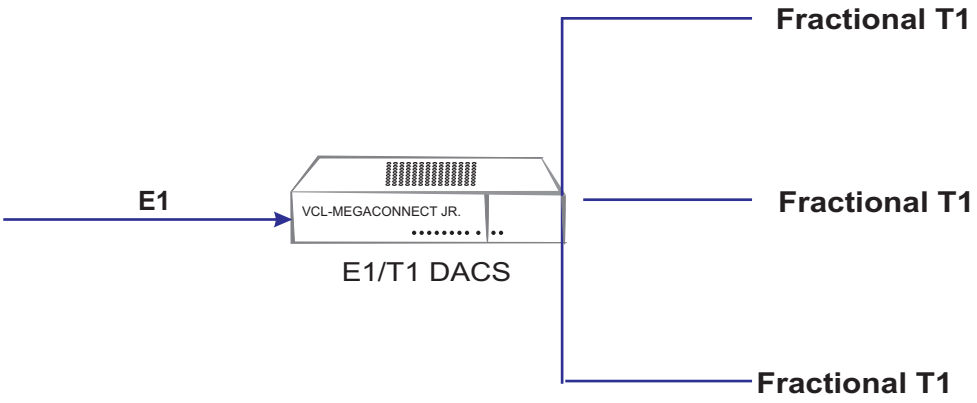
Application 3

Providing T1 interface to E1 interface conversion



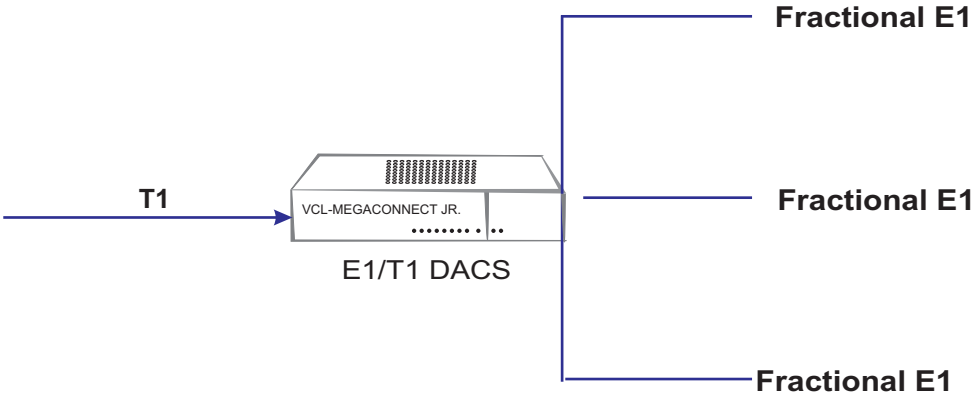
Application 4

Converting /Cross Connecting E1 Interface to multiple T1 Interfaces



Application 5

Converting /Cross Connecting T1 Interface to multiple E1 Interfaces



Application 6

Features and Uses

- Provides DS0, "n"x64Kbps and fractional aggregation between 8 E1 and 8 T1Ports
- Provides conversion between E1 and T1 interfaces
- Rear access
- User friendly CLI (text- based) commands
- Telnet (10/100 BaseT)
- Easy to install
- Configurable from 2 E1/T1 Ports to 8 E1/T1 Ports depending on user requirements
- LED Indications on the front panel for alarms and status.

Benefits

- Reduce access costs by combining partially loaded E1/T1 s to a single E1/T1
- Rear access wiring improves wiring and cable management
- Support Nx64kbps fractional E1/T1 operation and grooming
- Easy to install and simple to use.

VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter

Shelf Description

2U high standalone system

The VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter is a 2U,19 Inch Shelf, fitted with a backplane that provides rear access of all external interfaces. The 2 Mbps (E1) Ports and the 1.5 Mbps (T1) Ports, power input, alarm extension and the local configuration and management port are all accessible from the rear/system backplane.

The 2 Mbps, 8E1 Interfaces are, 120 Ohms twisted pair RJ-45 connectors.

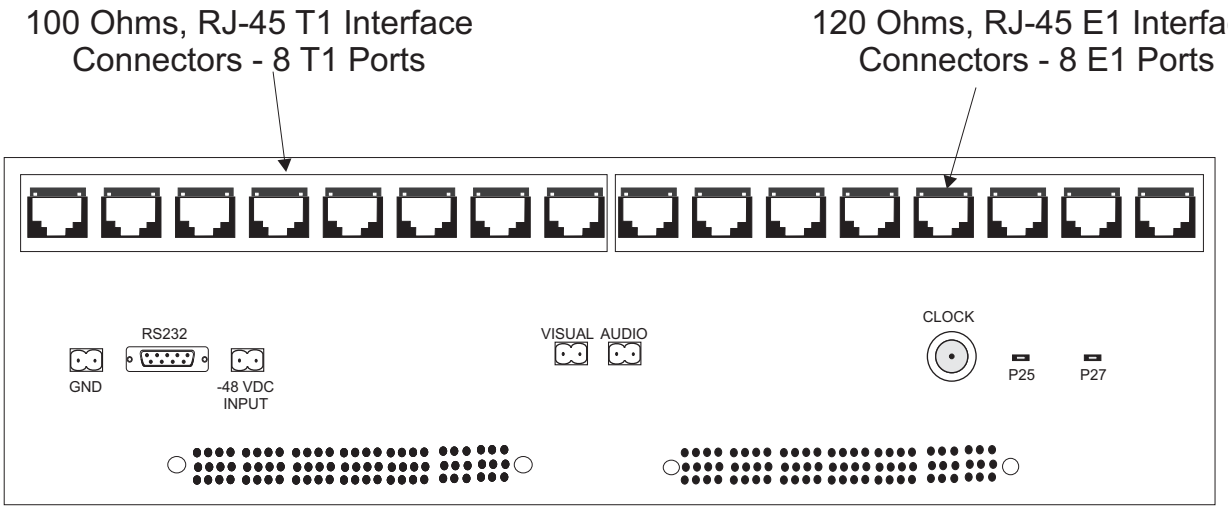
The 1.5 Mbps, 8T1 Interfaces are, 100 Ohms twisted pair RJ-45 connectors.

VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter

Front view of the shelf

Rear view of the shelf

RJ-45 Version



Alarm status, monitoring

- Loss of incoming signal at all E1/T1 Ports
- Configuration error alarm

In addition to the above monitoring facilities, VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converters is provided with LEDs, which indicate various fault conditions.

Monitoring VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converters via LED indications.

- 1 to 16 E1/T1 Ports LED indicators
- +3 V DC present (internal power supply)
- - 48V DC present (external power input)
- Configuration error

Technical Specifications

E1 interface

Available Time-Slots	1-31
Number of Ports	8
Conformity	G. 703
PCM sampling rate	8000 samples/ sec
Encoding law	A law as per CCITT G.711
Bit rate	2048kbps $\pm$ 50ppm
Code	HDB3
Nominal Impedance	120 Ω balanced
Peak Voltage of a mark For 120 Ω balanced interface	3.0 V $\pm$ 0.3 V
Connector	RJ-45 (F) for 120 Ω impedance
Peak Voltage of a space For 120 Ω balanced interface	0 V $\pm$ 0.3 V
Nominal Pulse Width	244ns
Pulse Mask	As per CCITT rec. G.703

Technical Specifications

T1 interface

Line Rate	T1 (1.544 Mbps ± 50 bps)
Number of Ports	8
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 Ohms
Connector	RJ-45 (F)

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 (BNC Connector)

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)

Telnet specification and regulation compliance

Meets CE requirements
Complies with FCC, Part 68 and Part 15 sub part A specifications
Safety - UL 1459 Issue 2

Alarm contact closures

1 Alarm relay
Type - form "C" relay

Temperature

Operating	0°C to 50°C
Humidity	5% to 95% Non-condensing

Power consumption

Power consumption	5 Watts

Mechanical Specifications

Width	480 mm
Depth	280 mm
Height	90 mm
Weight	4.20 kg.

Ordering Information

VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter			
S.No.	**Part No.**	**Product Description**	**Qty**
1.	VCL-1249-8E1-8T1	VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter 19 inch 2U Rack Mount Version	1

Technical specifications are subject to changes without notice.
Revision 04 - March 25, 2015.

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