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

Product Brochure & Data Sheet

U.K.

Valiant Communications (UK) Ltd
Central House Rear Office
124 High Street, Hampton Hill
Middlesex, TW12 1NS, U.K.
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: getinfo@valiantcom.com

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.

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

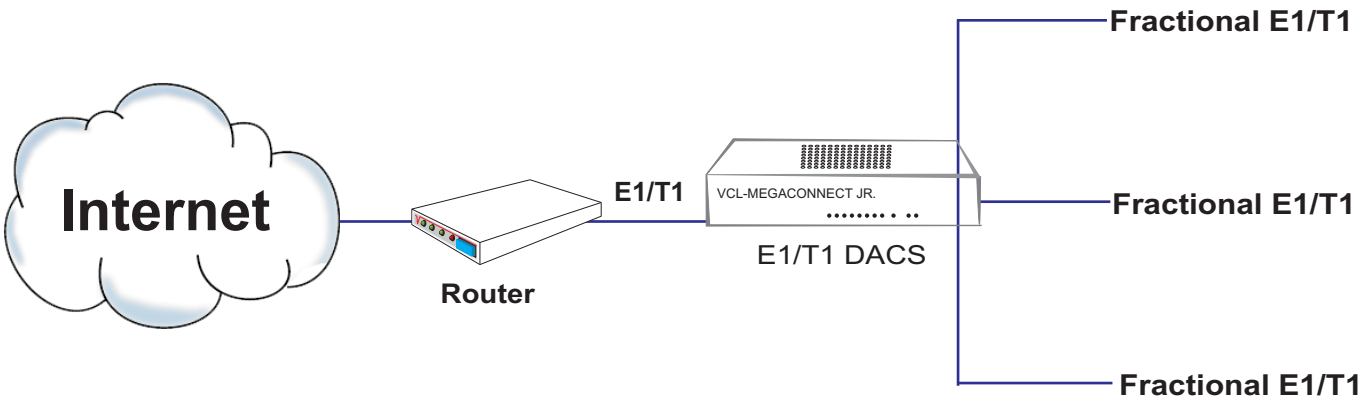
- ISP providing fractional E1/T1s to subscribers
- Data aggregating fractional E1/T1 data circuits
- Cellular extending fractional E1/T1 Ports from MTSO to cell-sites
- DS-0 (64 Kbps) time-slot cross connect between E1 and T1 Ports.
- Interface conversion (only interface, frame and line-code conversion) 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 remote access
- Available in 16 E1/T1 Ports (8 E1 interfaces and 8 T1 interfaces) configuration
- 1+1 -48V DC Input Power Supply Redundancy (Dual Power Input allows the equipment to be powered from two separate -48V DC sources)
- SNMP traps
- Maintains Access Security Log
- USB and RS232, interface for local connection through the serial interface to the "Network Control and Management Software”
- User Selectable Internal, External and Loop-timed clock synchronization priority options
- Local and remote loopback facility.

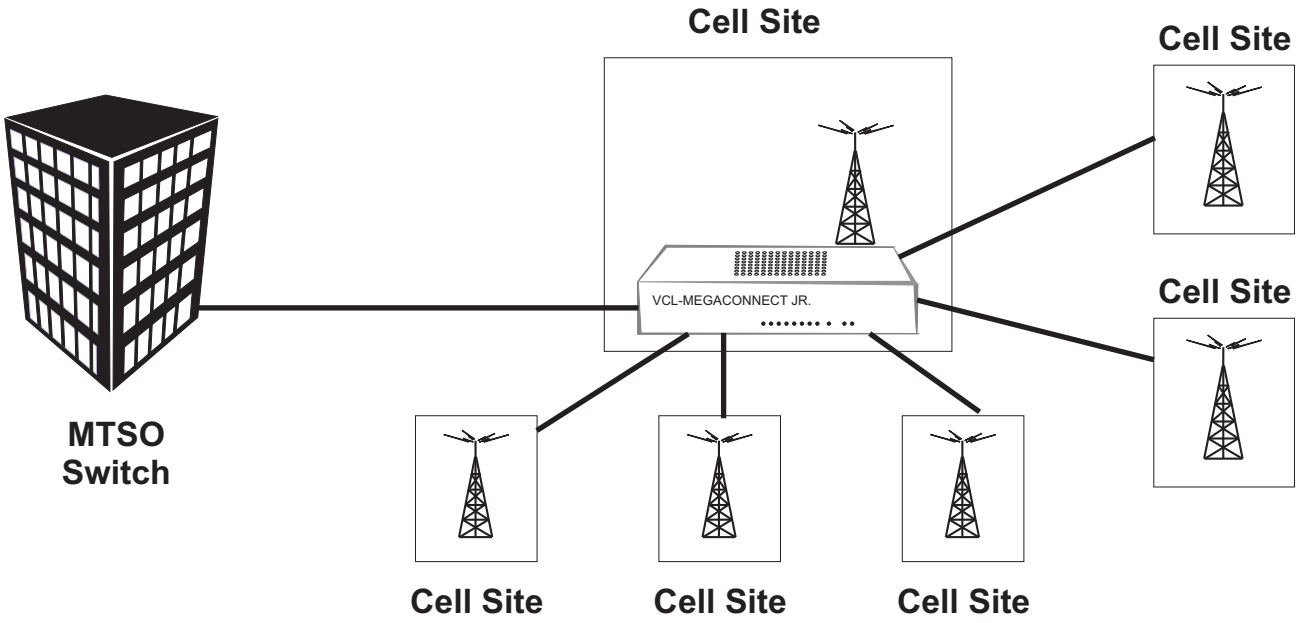
ISP Digital Cross Connect Application

Application 1: providing fractional E1/T1s' to subscribers

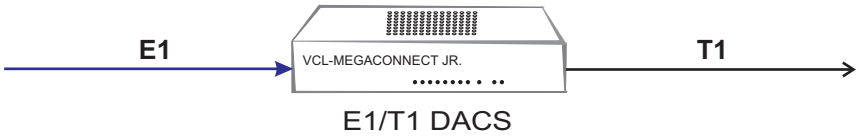


Aggregates multiple E1/T1 Ports to a single E1/T1 Port

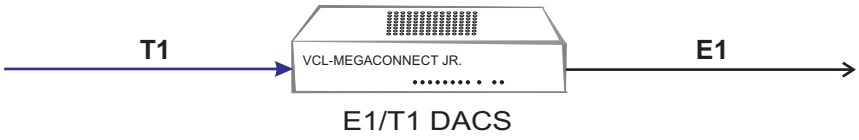
Application 2: Backhaul-Cellular Application using E1/T1 DACS



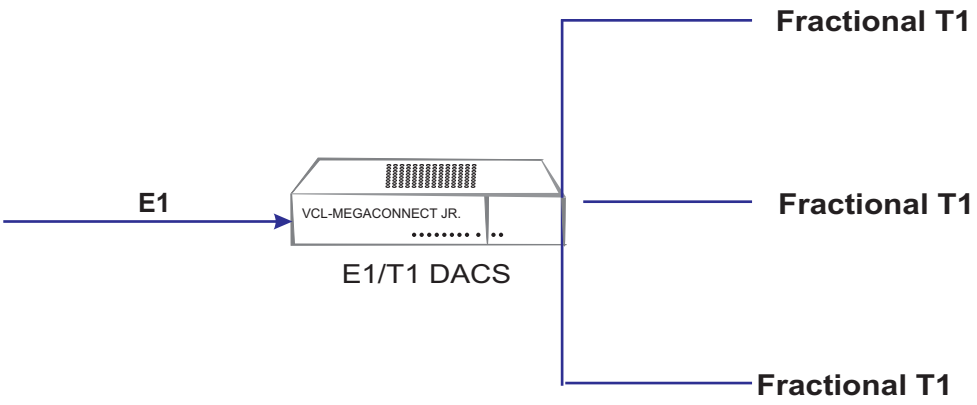
Application 3: Providing E1 interface to T1 interface conversion



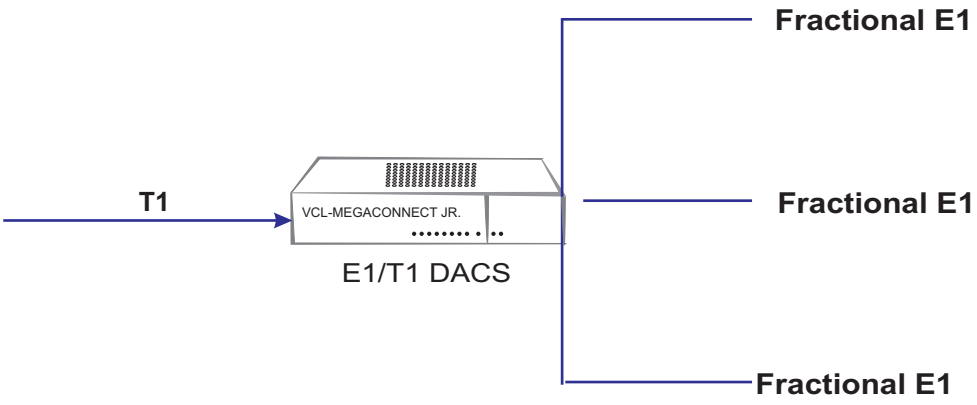
Application 4: Providing T1 interface to E1 interface conversion



Application 5: Converting /Cross Connecting E1 Interface to multiple T1 Interfaces



Application 6: Converting /Cross Connecting T1 Interface to multiple E1 Interfaces



Features and Uses

- Provides DS0, "n"x64Kbps and fractional aggregation between 8 E1 and 8 T1 Ports
- Provides conversion between E1 and T1 interfaces
- SNMP traps
- Maintains Access Security Log
- USB and RS232, interface for local connection through the serial interface to the "Network Control and Management Software"
- User Selectable Internal, External and Loop-timed clock synchronization priority options
- Local and remote loopback facility
- Stratum 3 clock
- Remote TCP/IP access for configuration and monitoring
- Text based user friendly CLI for easy configuration
- Telnet remote access
- Available in mixed 16 E1/T1 Ports (8 E1 interfaces and 8 T1 interfaces) configuration
- Allows cross connect between E1 and T1 interfaces at DS-0 (64Kbps) time-slot level.

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.

System Access, Control and Management Options

- Telnet
- CLI Control Interface (HyperTerminal or VT100)
- GUI (Graphical User Interface).

Alarm Status and 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

Shelf Description: 2U high standalone system

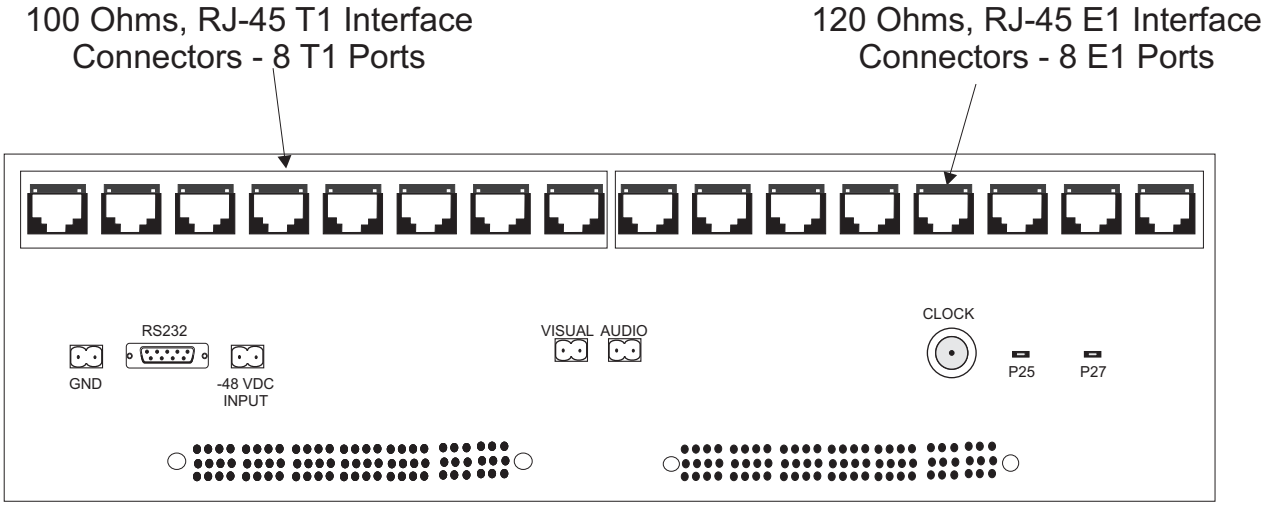
The VCL-MegaConnect Jr., 16 Port E1/T1 mixed configuration DACS and interface converter is a 2U,19 Inch Shelf, fitted with a backplane that provides rear access of all external interfaces. The 2 Mbps (E1) Ports and the 1.5 Mbps (T1) Ports, power input, alarm extension and the local configuration and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

Front View

Back View



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 ± 50ppm
Code	HDB3
Nominal Impedance	120 Ω balanced
Peak Voltage of a mark For 120 Ω balanced interface	 3.0 V ± 0.3 V
Connector	RJ-45 (F) for 120 Ω impedance
Peak Voltage of a space For 120 Ω balanced interface	 0 V ± 0.3 V
Nominal Pulse Width	244ns
Pulse Mask	As per CCITT rec. G.703

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)

System Access, Control and Management Options

- Telnet
- CLI Control Interface (HyperTerminal or VT100)
- SNMP Traps
- GUI (Graphical User Interface).

NMS Port Specification

Network interface	RJ-45 Ethernet 10BaseT or 100BaseT-TX (auto sensing)
Compatibility	Ethernet Version 2.0 IEEE802.3
Protocols supported	ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP
LEDs	10Base-T and 100Base-TX Activity, Full/half duplex
Management	SNMP, Serial login, Telnet login
EMI Compliance	- Radiated and conducted emissions complies with Class B limits of EN55022:1998 - Direct and Indirect ESD complies with EN55024:1998 - RF Electromagnetic Field Immunity complies with EN55024:1998 - Electrical Fast Transient/Burst Immunity complies with EN55024:1998 - Power Frequency Magnetic Field Immunity complies with EN55024:1998 - RF Common Mode Conducted Susceptibility complies with EN55024:1998

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^{o}C to 50^{o}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

Part No.	Product Description
VCL-1410-8E1-8T1	VCL-MegaConnect-Jr (VCL-DACS-8E1-8T1) 16 Port E1/T1 Mixed Configuration DACS & Interface Converter 19" Shelf 2U High Rack Mount Version Includes : – 8 x E1 120 Ohms RJ45 (F) – 8 x T1 100 Ohms RJ45 (F) – 2 x 48V DC Power Supply Input – OAM : 10/100BaseT Ethernet - RJ45 (SNMP, Telnet) and Serial Port (USB and DB-9 COM Port) – Installation Kit: System Core Cables, Mounting Hardware, Documentation, User Manual

Technical specifications are subject to changes without notice.
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U.K.

Valiant Communications (UK) Ltd
Central House Rear Office
124 High Street, Hampton Hill
Middlesex, TW12 1NS, U.K.
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: getinfo@valiantcom.com