VALIANT COMMUNICATIONS

16 Port T1 VCL-MegaConnect-Jr.

Digital Access Cross Connect Switch (DACS)

Introduction:

The 16 Port T1 DACS - VCL-MegaConnect-Jr. is an T1 digital cross connect switch, presents its user an easy to use platform to cross connect up to 16 T1 ports. 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 T1 channels to full T1 channels.

The 16 Port T1 Digital Cross Connect Switch occupies only a 2U high rack-space and is a complete 19-inch stand-alone unit that provides connectivity of up to 16 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 16 Port T1 Digital Cross Connect Switch also has a TCP-IP Access feature which allows the DACS to be connected on a TCP-IP network (10/100BaseT interface) for remote access for configuration and monitoring.

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 T1 ports 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.

Features:

- Provides DS0, "n"x64Kbps and fractional T1 grooming for up to 16 T1 ports
- Rear access
- User friendly CLI (text-based) commands
- RS232 serial, USB serial interfaces for local terminal access
- 10/100BaseT Ethernet Interface for remote access over an IP network
- Encrypted Password Protection
- Telnet – Remote access over IP links
- SSH – Secured remote access using Secure Shell Protocol over IP links
- SNMP Traps and NMS for real-time remote monitoring and management over an IP network
- Easy to install
- Configurable from 2 T1 ports to 16 T1 ports depending on user requirements
- LED indications on the front panel for alarms and status.

Benefits:

- Reduce access costs by combining partially loaded T1s to a single T1
- Rear access wiring improves wiring and cable management
- Support Nx64kbps fractional T1 operation and grooming
- Easy to install and simple to use

OAM: Operation and Management Ports

- RS232 Serial Port
- USB COM Port
- 10/100BaseT Ethernet for remote access.

Applications

- Providing fractional T1s to subscribers
- Data aggregation from fractional T1 channels
- Cellular extending fractional T1 ports from MTSO to cell-sites

Programming Features

- Specifying the priority sequence for clock selection
- Enabling or disabling 1.5 Mbps Ports (masking) of the 1.5 Mbps ports that are not in use creating a cross connect between T1s at DS-O level (single time-slot level) using the easy-to-use CLI (text-based) commands.

Status Monitoring:

- Clock Selection
- Status of alarms
- Enabled/Disabled status of 1.5Mbps ports
- Monitoring of the 16 Port VCL-MegaConnect-Jr. status and configuration

Alarm status, monitoring

- Loss of incoming signal at all 1.5 Mbps ports
- Configuration error alarm

In addition to the above monitoring facilities, 16 Port T1 DACS - VCL-MegaConnect-Jr. is provided with LEDs, which indicate various fault conditions.

LED indications

- 1 to 16 T1 Ports LED indicators
- +3 V DC present
- -48 V DC present
- Configuration error

Technical Specifications

T1 Interfaces

Number of T1 Ports	16
Line Rate	T1 (1.544 Mbps ± 50 bps)
Available Time-Slots per	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 / cross - connect:

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

Clock:

Internal	Stratum3 level
Loop-timed	From any T1 Port (with automatic fallback)
External	75 Ohms - 2.048 Mhz 100 Ohms - 1.5 Mbps

System Access, Control and Management Options

- Telnet
- SSH
- CLI Control Interface (HyperTerminal or VT100)
- SNMP V2 Traps (MIB File provided)
- GUI (Graphical User Interface).

Security and Protection

- Secured Access via SSH V2
- Password Protection: Password Protection in compliance with the mandatory clauses of the GR-815-CORE-2 specifications for secured access control.
- Logging: Maintains a log of all successful and un-successful attempts.
- Logged information includes the ID and the IP address of the accessing entities. Alerts the administrator if the un-successful logging attempts exceed 3.
- Security Audit: All access logs for atleast last 1000 entries that are maintained in the system non-volatlie memory for security audit purposes.
- Security log entry of any request or activity including that user-ID (including IP address, if applicable), to establish user
- Security Administration.

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

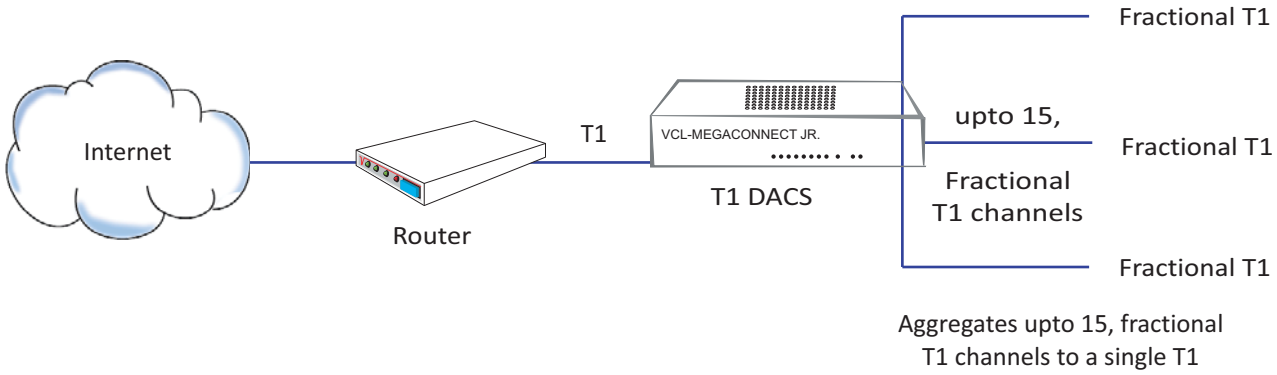
H x W x D	90 x 480 x 280 mm
Weight	5 kg.

Ordering Information

Part No.:	VCL-1410-16T1-100-RBS-DLX
Description:	VCL-MegaConnect-Jr 16 Port T1 DACS - Digital Access Cross Connect Switch 19" Shelf 2U High Rack Mount Version Supports: - 16 x T1 100Ω RJ45 (F) - 2 x -48V DC Power Supply Input - 1 x System Core Cables, Installation Accessories, Documentation, System User Manual / Disk etc (Set) - OAM : 10/100BaseT Ethernet - Rj45 (SNMP, Telnet) and Serial Port (USB and DB-9 COM Port)

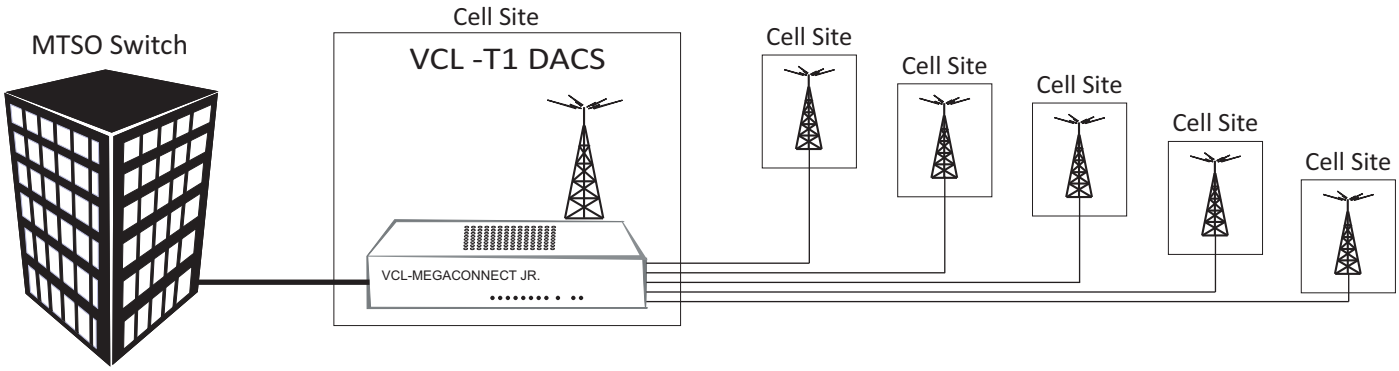
Application Digrams:

ISP Digital Cross Connect Application providing fractional T1s' to subscribers



Aggregates upto 15, fractional T1 channels to a single T1

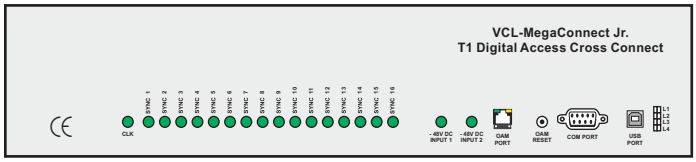
Backhaul-Cellular Application using T1-DACS



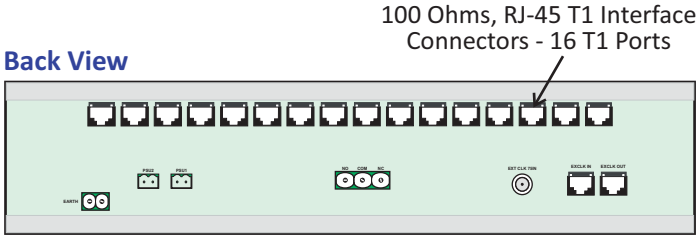
Shelf Description - 2U high standalone system

The 16 Port T1 DACS - VCL-MegaConnect-Jr. unit is a 2U, 19 Inch Shelf, fitted with a backplane that provides rear access of all external interfaces. The 1.5 Mbps electrical I/O, power input, alarm extension and the NMS port are all accessed from the backplane. The 1.5 Mbps, T1 Interfaces are, 100 Ohms twisted pair RJ-45 connectors.

Front View



Back View



1.5Mbps streams are accessible at the backplane. Access is also available for 2 alarm extensions 48V power input is provided at the rear of the 2U shelf. The RS232 interface for monitoring and control is also taken from the rear panel of the stand-alone VCL-DACS unit.

16 Port T1 DACS - VCL-MegaConnect-Jr. Offers programming via an RS232 port for control and monitoring of the unit.

Technical specifications are subject to changes without notice.
Revision 11A - August 25, 2025

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