



ORION TELECOM NETWORKS INC.

16 Port T1 VCL-MegaConnect-Jr Digital Access Cross Connect Switch (DACS)

Product Brochure & Data Sheet

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Introduction

The 16 Port T1 DACS - VCL-MegaConnect-Jr, is a T1 digital cross connect switch, presents its user an easy to use, platform to cross connect up to 16 T1 ports. The VCL-DACS, 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 (10/100 base interface) for remote access for configuration and monitoring.

16 Port T1-Digital Access Cross Connect VCL-MegaConnect-Jr™



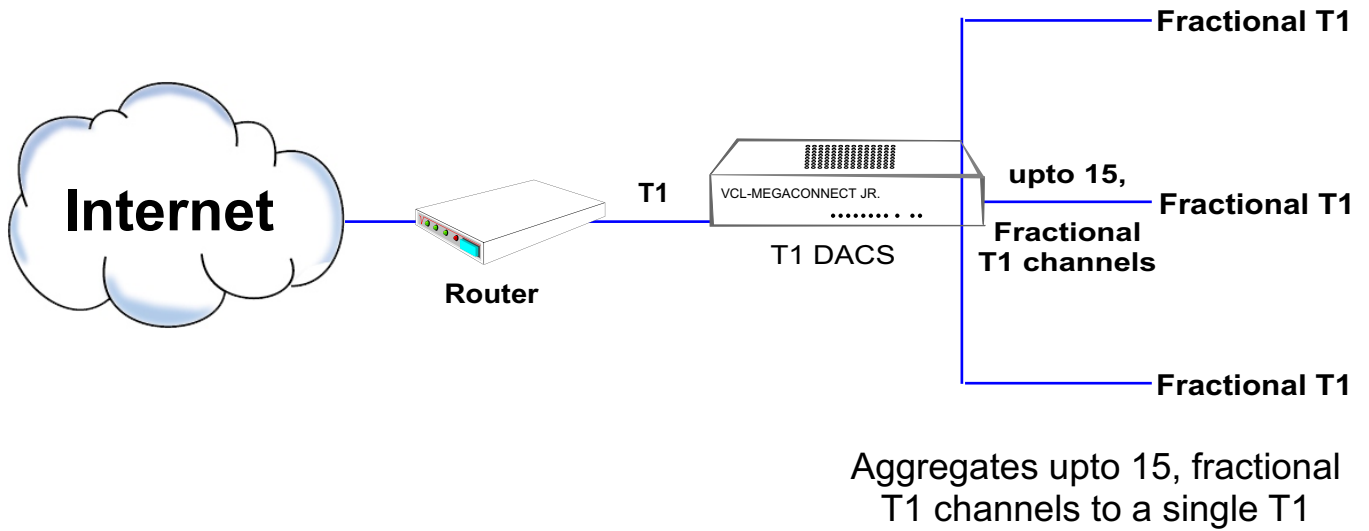
Applications

- Providing fractional E1s to subscribers
- Data aggregation from fractional T1 channels
- Cellular extending fractional T1 ports from MTSO to cell-sites

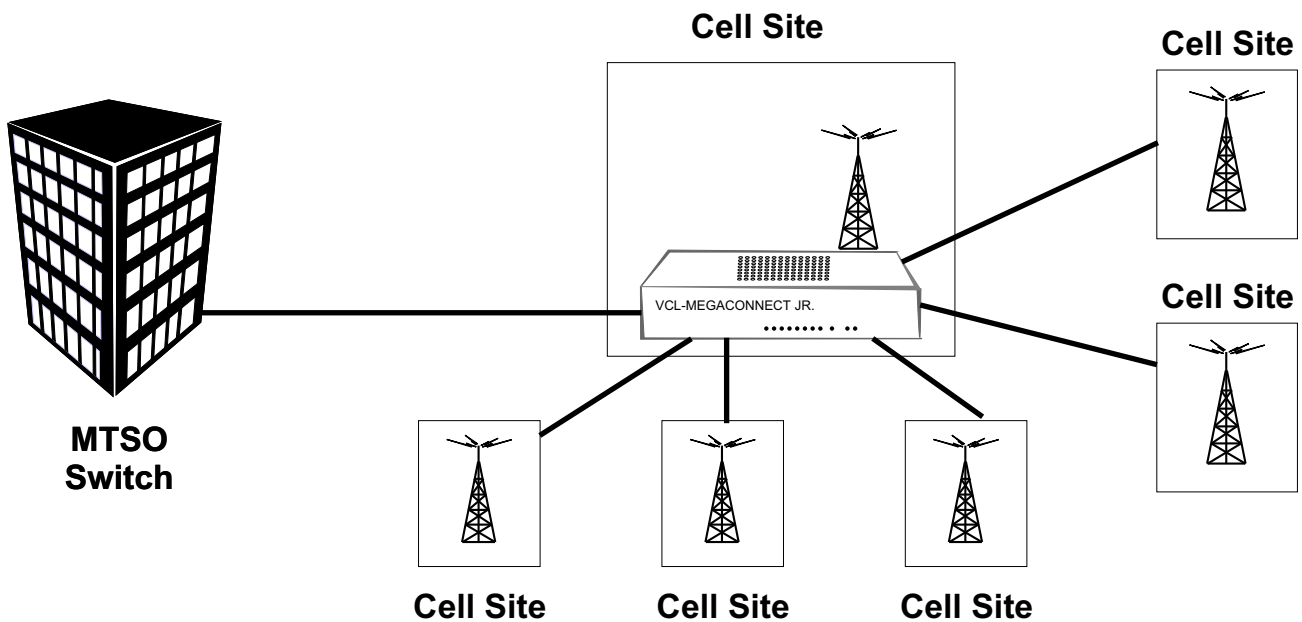
Highlights

- Stratum 3 clock
- Remote TCP/IP access for configuration and monitoring
- Text based user friendly CLI for easy configuration
- Telnet option
- Available in 16 T1 ports configuration

1 **ISP Digital Cross Connect Application**
providing fractional T1s' to subscribers



2 **Backhaul-Cellular Application using T1-DACS**



Features

- Provides DS0, "n"x64Kbps and fractional T1 grooming for up to 16 T1 ports
- Rear access
- User friendly CLI (text- based) commands
- Telnet (10/100 BaseT)
- 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

16 Port T1 DACS - VCL-MegaConnect-Jr

Shelf Description

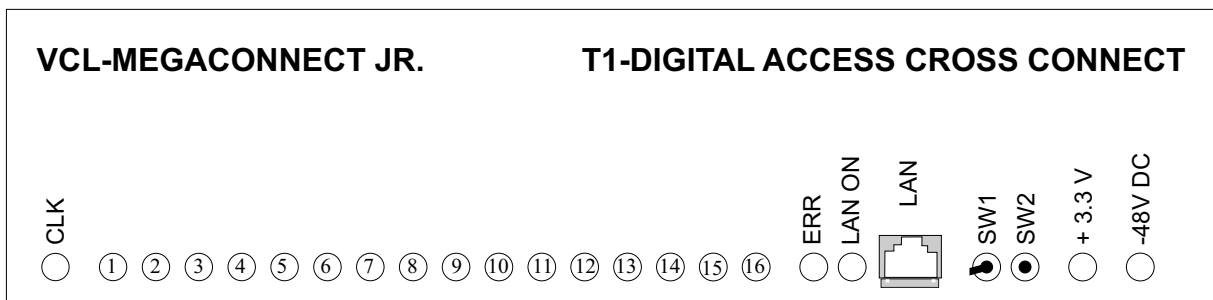
2U high standalone system

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

16 Port T1 DACS - VCL-MegaConnect-Jr

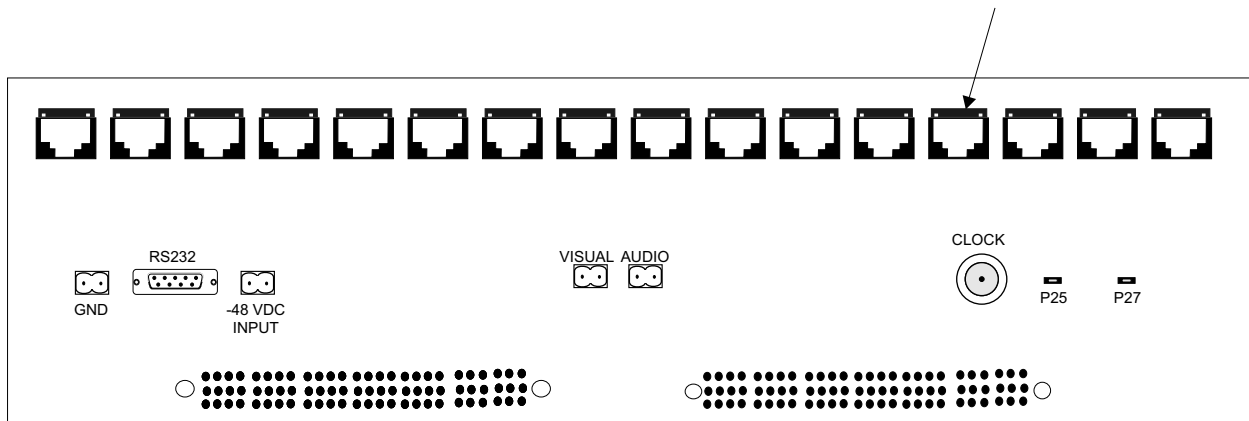
Front view of the shelf



Rear view of the shelf

RJ-45 Version

100 Ohms, RJ-45 T1 Interface Connectors - 16 T1 Ports

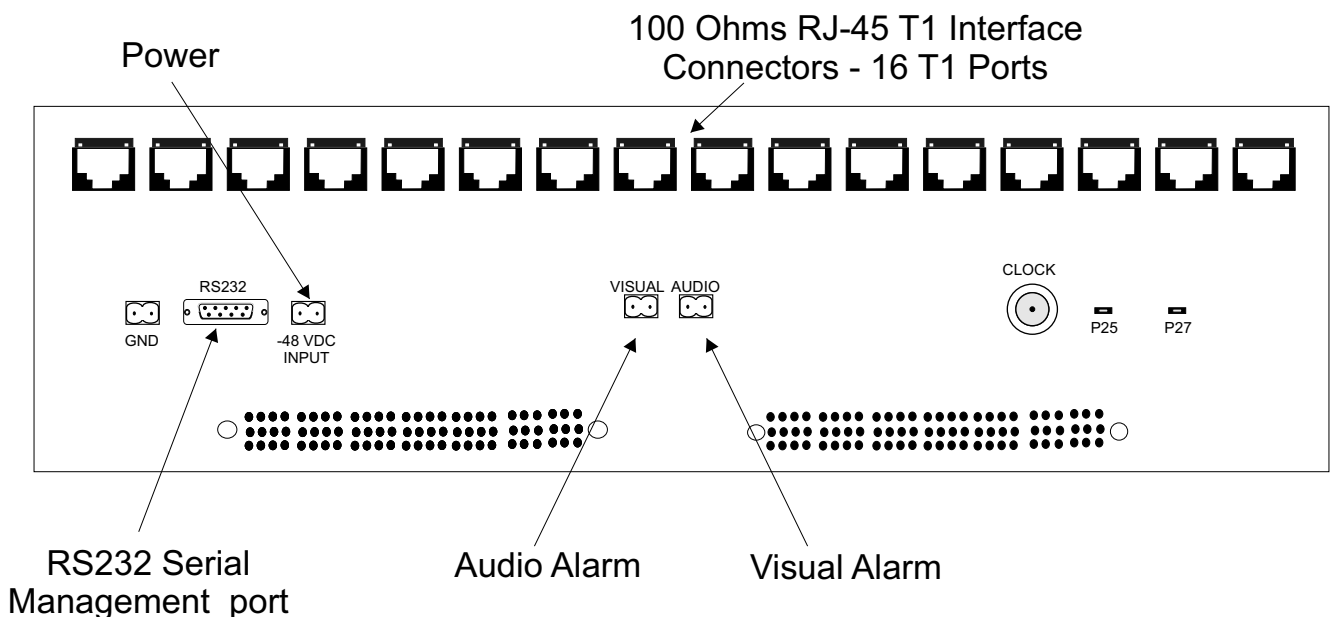


Accessing 16 Port T1 DACS -VCL-MegaConnect-Jr Standalone Shelf

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

Back view of shelf



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

Programming Features

- Specifying the priority sequence for clock selection
- Enabling or disabling 1.5Mbps Ports (masking) of the 1.5Mbps 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.

Monitoring 16 Port T1 DACS - VCL-MegaConnect-Jr via LED indications

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

Technical Specifications - T1 Interface:

Number of T1 Ports	16
Line Rate	T1 (1.544 Mbps ± 50 bps)
Available Time-Slots per T1	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 - 1.544 MHz

Management and Control

Serial management port (RS232)-COM Port
10/100 BaseT for remote management over a LAN
Telnet over a TCP/IP network

Command Language

Command Line Interface (English text commands)
Windows based GUI

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
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Mechanical Specifications

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

Ordering Information

16 Port T1 DACS - VCL-MegaConnect-Jr			
S.No.	Part No.	Product Description	Qty
1.	VCL-1249-16T1	16 Port T1 DACS - VCL-MegaConnect Jr Digital Access Cross Connect Switch (DACS) 19 inch 2U Rack Mount Version	1

Technical specifications are subject to changes without notice.
Revision 06 - August 20, 2008.

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