

# COMARRA

TELECOM TRANSMISSION SOLUTION



**16 Port, T1**

---

**Digital Access Cross Connect Switch  
MegaConnect - Jr. T1 DACS**

---

**Product Brochure & Data Sheet**

**COMARRA**

**E-Mail: [info@comarra.co.uk](mailto:info@comarra.co.uk)**

**Web Site: <http://www.comarra.co.uk>**

## INDEX

S No	Particulars	Pg. No.
1.	Introduction	3
2.	Features And Highlights	7
3.	External Interfaces	7
4.	Shelf Description	8
5.	Accessing VCL-MegaConnect-Jr T1 DACS	9
6.	System Description And Specifications	10



## INTRODUCTION

The VCL-MegaConnect-Jr. 16 Port, T1 Digital Cross Connect Switch, is an T1 digital cross-connect switch, which presents its user an easy to use, yet a sophisticated platform to cross-connect up to 16, T1 ports. The VCL-MegaConnect-Jr., 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 VCL-MegaConnect-Jr., 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 48VDC 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 external audio and visual alarms.

The VCL-MegaConnect-Jr., T1 Digital Cross Connect Switch also has an optional TCP - IP Access feature which allows the DACS to be connected on a TCP - IP network (10/100 BaseT Interface) for Remote access for configuration and monitoring.

The VCL-MegaConnect-Jr., T1 Digital Cross Connect Switch can also be ordered for special non - intrusive (Hi-Z) monitoring applications in which (pre-assigned monitoring ports) T1 ports can be connected to monitoring/billing equipment for Live Traffic monitoring (non intrusive monitoring).

## APPLICATIONS:

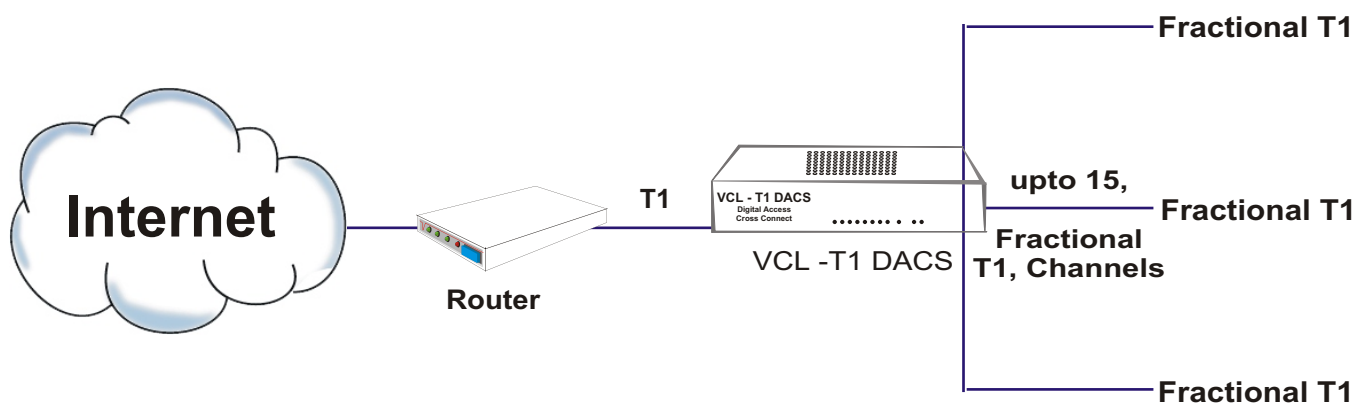
- ISP - Providing Fractional T1s to Subscribers
- Data - Aggregating Fractional T1 Data Circuits
- Monitoring & Billing - Non-Intrusive Line Traffic Monitoring for "Listen-Only" and Billing Applications
- Cellular - Extending Fractional T1 ports from MTSO to Cell-Sites.

## HIGHLIGHTS:

- 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

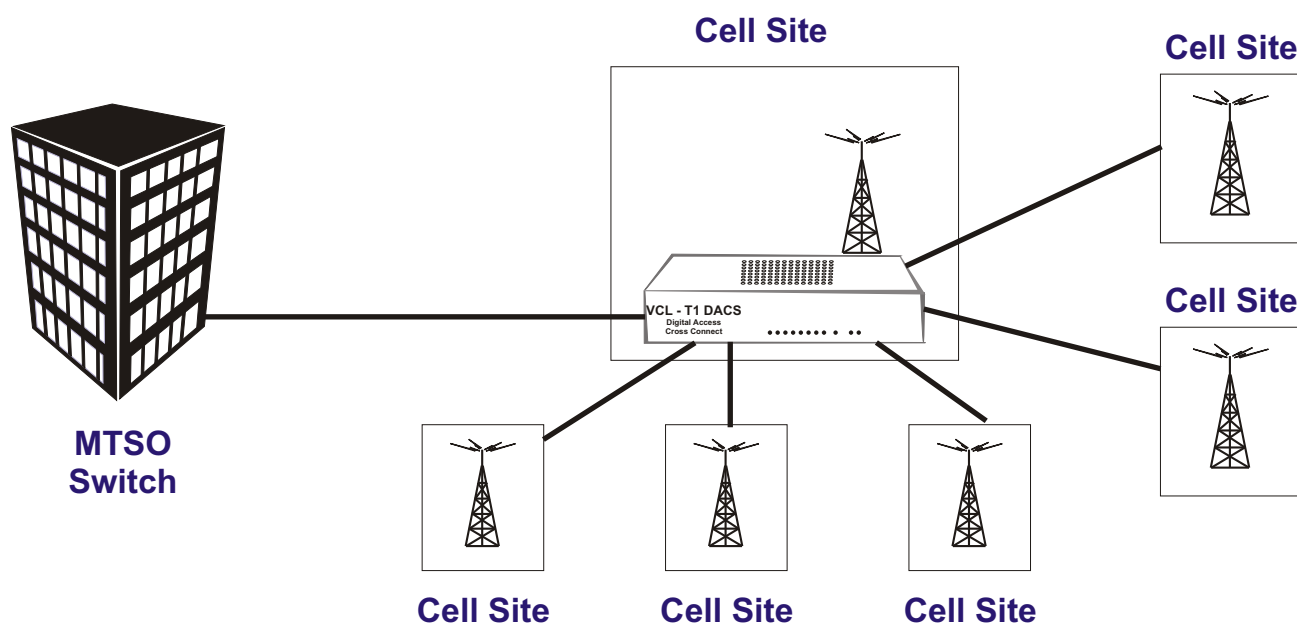
## ISP Digital Cross Connect Application Providing Fractional T1s' to Subscribers



Aggregates upto 15, Fractional T1 Channels to a Single T1

2

## Backhaul - Cellular Application using VCL-DACS

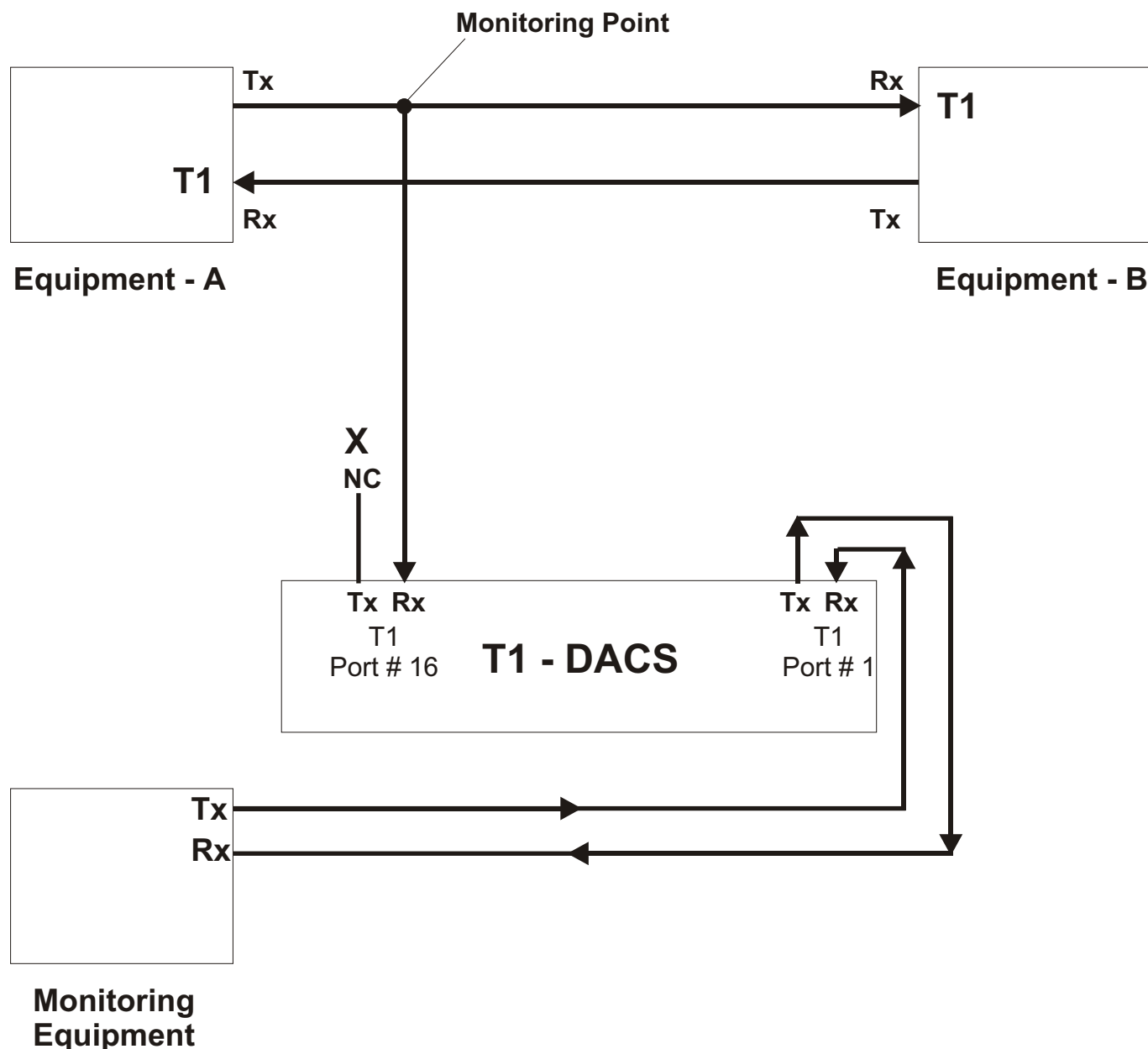


③

Combine traffic from fractional T1's to a single fully utilized T1

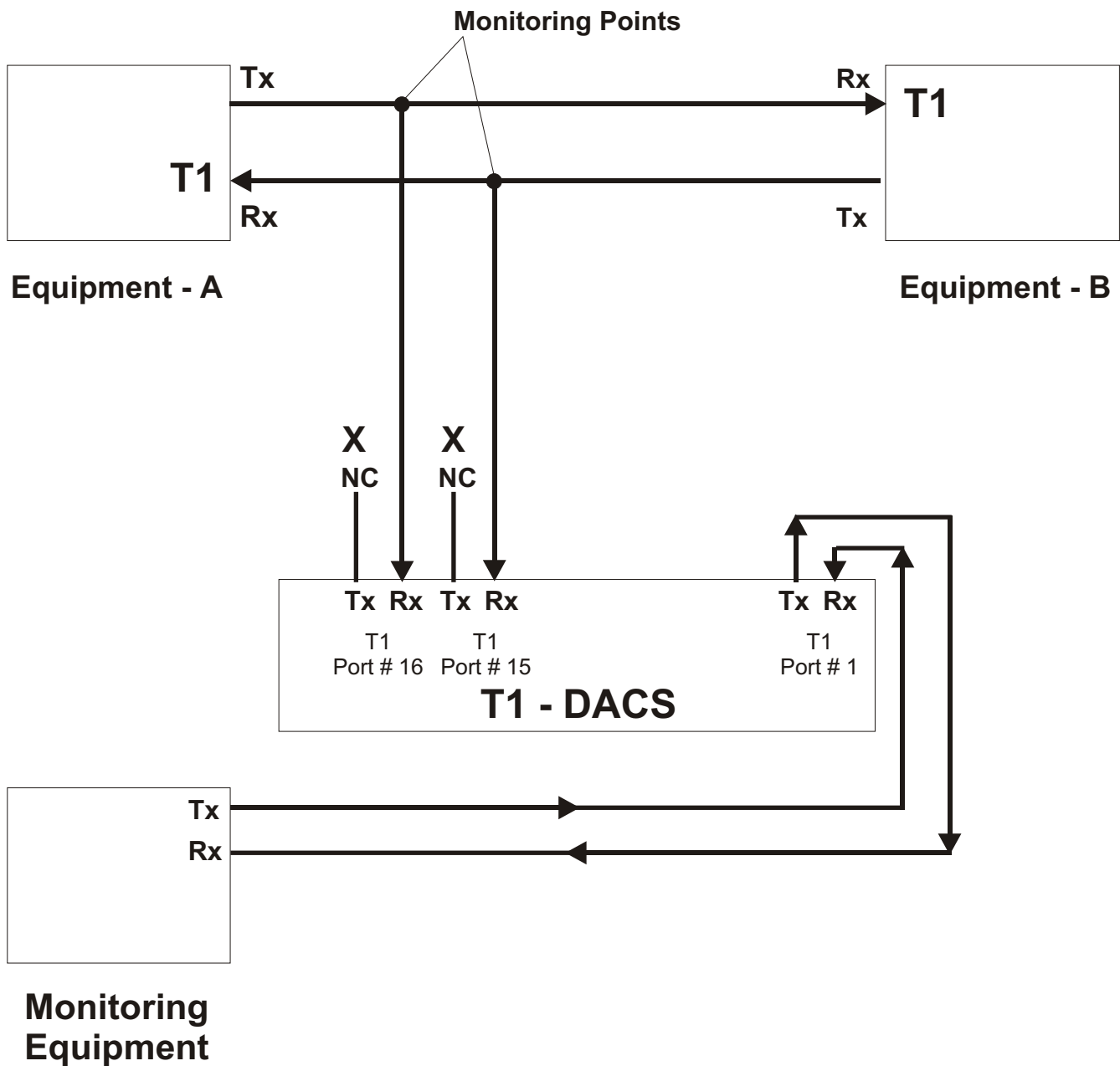
## Hi-Z Non - Instructive Monitoring Application

### Hi-Z Uni-directional Monitoring



To monitor T1 links in a single direction, you will need to connect ONE high impedance T1, RX pair of the DACS, as it is only the Rx (RECEIVE) pair that is capable of listening. Please leave the Tx (TRANSMIT) pair un-connected.

## Hi-Z Bi-directional Monitoring



To monitor T1 links in both directions, you will need to connect TWO high impedance T1, RX pairs of the DACS, i.e. use 1, Hi-Z T1 ports.

A total of 7 T1 links can be monitored bi-directionally and aggregated to 2 T1's.

## 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) option
- 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.
- Can be ordered for (non - intrusively) connecting to monitoring/billing equipment for Live - Traffic monitoring and cross connect functions.
- Easy to install and simple to use.

## VCL-DACS, T1 DIGITAL CROSS CONNECT SWITCH - SHELF DESCRIPTION:

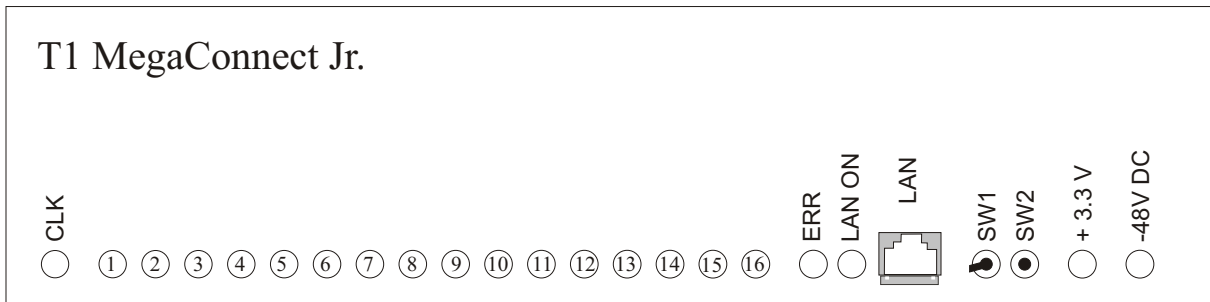
*2U high standalone system.*

The VCL-DACS, T1- Digital Cross Connect Switch unit is a 2U, 19 Inch Shelf, fitted with a backplane that provides rear access of all external interfaces. The 1.544Mbps electrical i/o, power input, alarm extension and the NMS port are all accessed from the backplane.

The 1.544Mbps, T1 Interfaces are, 100 Ohms twisted pair RJ-45 connectors

### VCL-DACS, T1 Digital Cross Connect

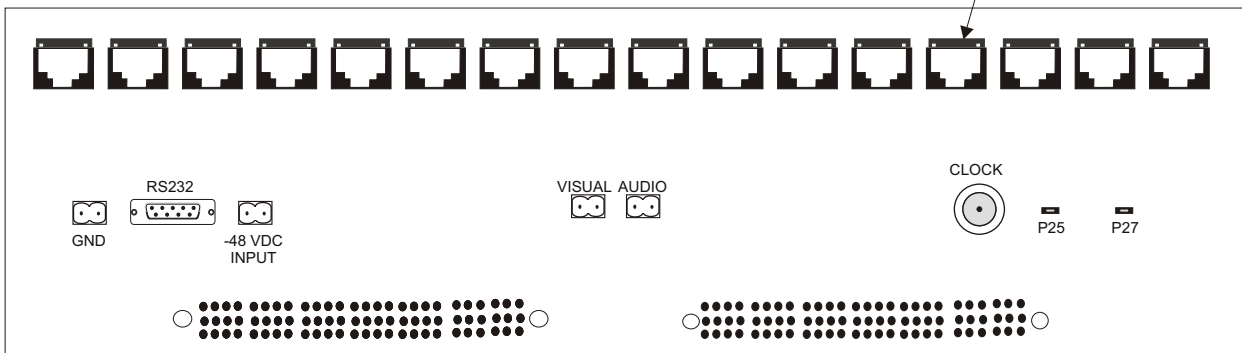
#### Front View of the Shelf



#### Rear View of the Shelf

##### RJ-45 Version

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

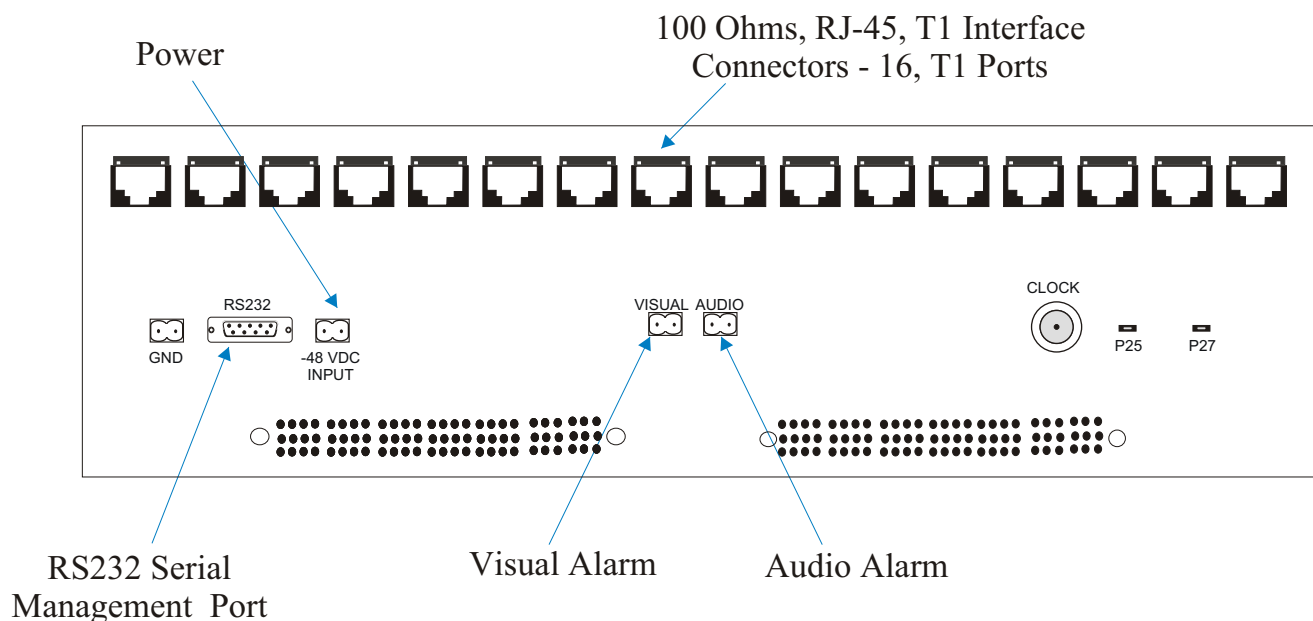




## ACCESSING VCL-DACS - STANDALONE SHELF

1.5Mbps, T1 streams are accessible at the backplane. Access is also available for 2 alarm extensions, -48V power input are 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-MegaConnect-Jr. unit.

### VCL-DACS Back View



VCL-MegaConnect-Jr. offers programming via an RS232 port for control and monitoring of the units.

### Programming Features:

- Specifying the priority sequence for clock selection.
- Enabling or disabling 1.5Mbps, T1 ports (masking) of the 1.5Mbps, T1 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, T1 ports.
- Monitoring of the VCL-MegaConnect-Jr. status and configuration.

## Alarm Status Monitoring

- Loss of incoming Signal at all 1.544Mbps ports
- Configuration Error Alarm.

In addition to the above monitoring facilities, VCL-MegaConnect-Jr. is provided with LED's, which indicate various fault conditions

## Monitoring VCL-DACS via LED Indications

- 1 to 16 T1 ports LED indicators
- +3 VDC present
- -48VDC present
- Configuration Error

## Technical Specifications -

### Mechanical Specification

Width :	480mm
Depth :	280mm
Height :	90 mm
Weight:	4.20 Kg.

## 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	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 - 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).

Telnet

## Specification and Regulation Compliance

Meets CE requirements

Complies with FCC, Part 68 and Part 15 subpart 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

Technical specification are subject to change without notice.

Revision 06. March 12th, 2006

# COMARRA

**E-Mail: [info@comarra.co.uk](mailto:info@comarra.co.uk)**

**Website: <http://www.comarra.co.uk>**