AceCom Networks

MegaConnect
64 Port E1/T1/10 BaseT Ethernet
Digital Access Cross Connect

Product Brochure & Data Sheet

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multiplexers channel banks
dcme optical transmission voice compression echo canceller

64 Port E1/T1/ 10 BaseT Ethernet Digital Access Cross Connect

Description

The MegaConnect, 64 Port E1/T1/10 BaseT Ethernet Digital Cross Connect Switch is a E1/T1/10 BaseT Ethernet digital cross connect switch, which presents its user an easy to use, yet a sophisticated platform to cross connect up to 64, E1/T1/10 BaseT Ethernet ports. The MegaConnect, 64 Port E1/T1/10 BaseT Ethernet Digital Cross Connect Switch offers full cross connect functionality to cross connect, and/or aggregate DS-0s, "n"x64Kbps consecutive data channels and, fractional E1/T1 channels to full E1/T1 channels or between the 64, E1/T1/10 BaseT Ethernet ports.

The MegaConnect,64 Port E1/T1/10 BaseT Ethernet Digital Cross Connect Switch occupies only a 6U high rack-space, and is a complete 19-inch stand-alone unit that provides connectivity for up to 64 Port E1/T1 ports. The unit operates on a -48VDC input power supply (AC input adapter is optional for AC mains operation).

The system is supplied with an easy to use Windows (95, 98, Me, XP) Graphical User Interface that provides the user a complete control to prepare multiple configuration "*maps*" and store them as data files. It may be accessed using CLI (Command Line Interface) through a Serial (COM) Port of a PC using HyperTerminal text commands.   It may be also accessed remotely over a 10BaseT interface by assigning a unique IP Address to the DACS. Password protection to prevent un-authorised access is also available (*please see Note*[1]). Dry contact relay alarms are also available at rear of the system to connect the system to an external alarm output.
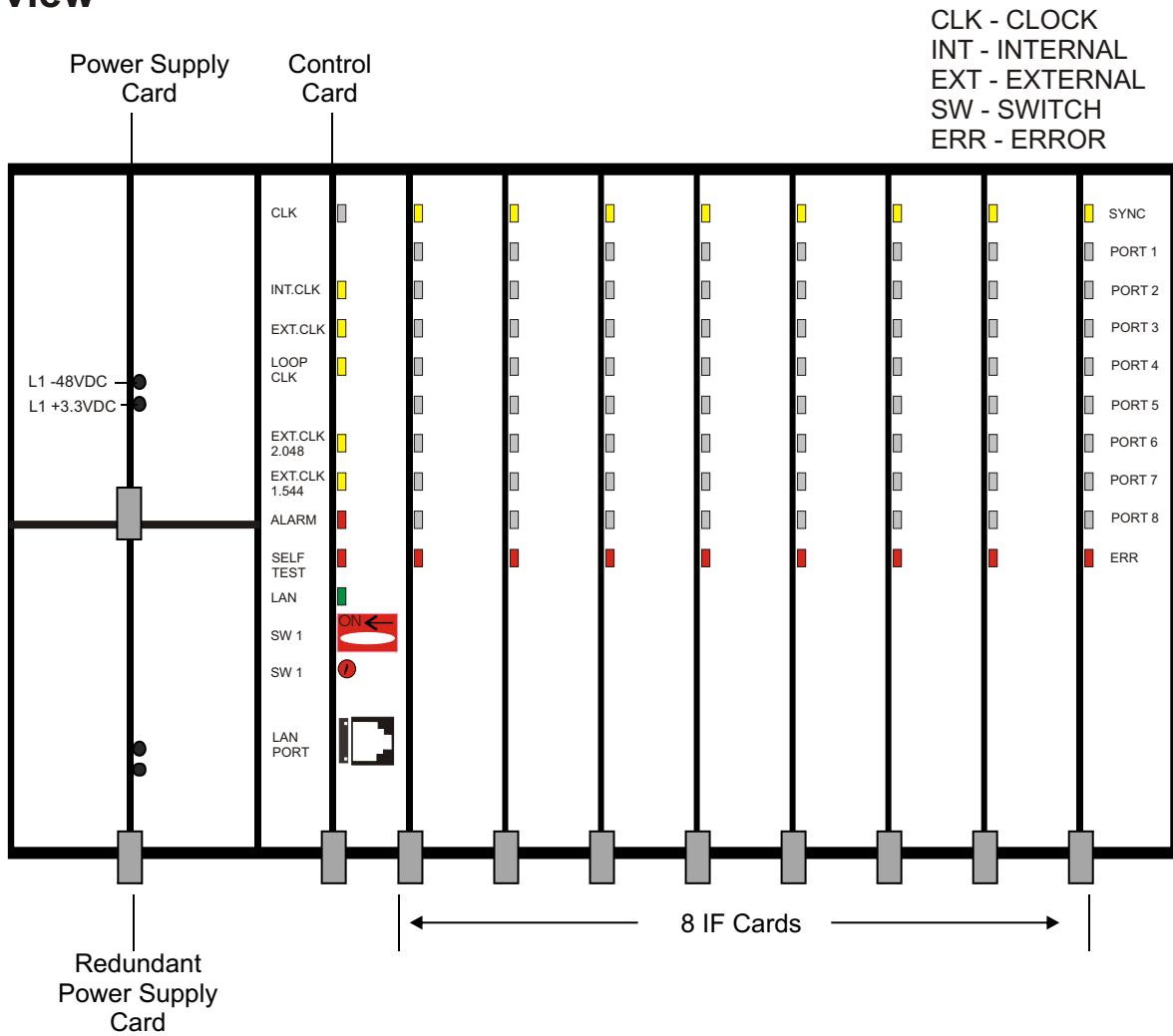
The MegaConnect, 64 Port E1/T1/10 BaseT Ethernet Digital Cross Connect Switch also allows remote access for configuration and monitoring using Telnet.
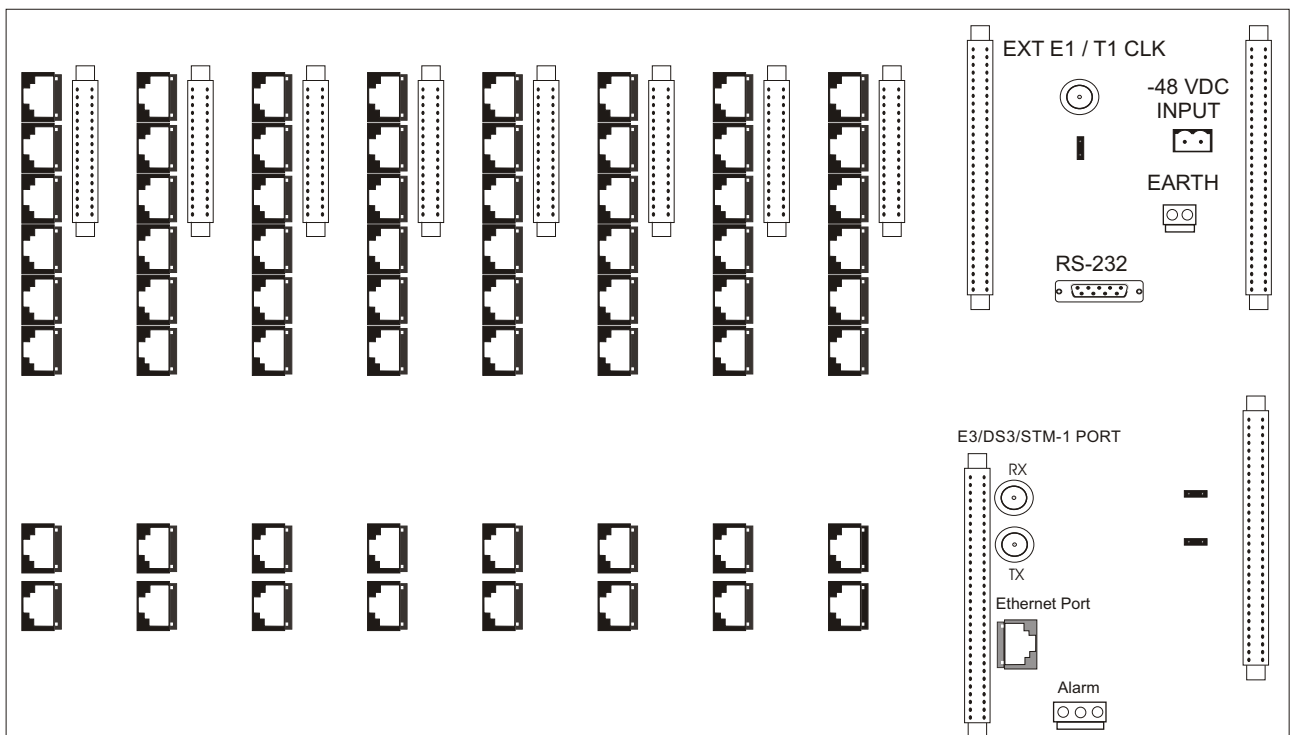
Optional System Configurations:

a) DS-0 Cross Connect 64 Port E1/T1/10 BaseT Ethernet Cross Connect provides a full (non-blocking) cross connect capability at DS-0 (64Kbps time slot level) between all E1s, T1s and 10/100 BaseT Ethernet ports.

b) DS-0 Cross Connect 48 Port E1/T1/10 BaseT Ethernet Cross Connect with and E3 Interface provides the capability to convert cross connect upto 48 E1s, T1s and 10/100 BaseT Ethernet ports to an E3 interface. Useful for transporting E1s, T1s and Ethernet links over an E3 channel.

c) DS-0 Cross Connect 32 Port E1/T1/10 BaseT Ethernet Cross Connect with a DS3 (T3) Interface provides the capability to convert cross connect upto 32 E1s, T1s and 10/100 BaseT Ethernet Ports to a DS3 interface. Useful for transporting E1s, T1s and Ethernet links over a DS3 (T3) channel.

Note[1]: This does not however substitute Firewall protection which must be installed separately.

Front view

Power Supply Card

Control Card

CLK - CLOCK
INT - INTERNAL
EXT - EXTERNAL
SW - SWITCH
ERR - ERROR

CLK

INT.CLK

EXT.CLK

LOOP CLK

L1 -48VDC
L1 +3.3VDC

EXT.CLK 2.048

EXT.CLK 1.544

ALARM

SELF TEST

LAN

SW 1

SW 1

LAN PORT

ON

SYNC
PORT 1
PORT 2
PORT 3
PORT 4
PORT 5
PORT 6
PORT 7
PORT 8
ERR

8 IF Cards

Redundant Power Supply Card

Rear view

EXT E1 / T1 CLK

-48 VDC INPUT

EARTH

RS-232

E3/DS3/STM-1 PORT

RX

TX

Ethernet Port

Alarm

Applications

- E1 Cross Connect
- T1 Cross Connect
- E1 to T1 Cross Connect (E1< >T1 Converter for data applications)
- E3 to E1/T1/10/100 BaseT Ethernet Cross Connect
- DS3 to E1/T1/10/100 BaseT Ethernet Cross Connect

Indications and Alarm Monitoring

- E3 Loss of signal
- DS3 Loss of signal
- Loss of incoming signal at any E1/T1 Port
- Configuration error alarm
- Clock status
- 1 to 8 channel LED indicators to indicate the status of each E1/T1 channel
- +3 Volts power supply
- -48VDC present
- Configuration error

Programmable Features

- Specifying the priority sequence for clock selection
- Enabling or disabling E1/T1 channels (masking) of the E1/T1 channels that are not is use
- Creating a cross connect between E1s at DS-O level (single time-slot level) using the Windows based, easy to use GUI
- Telnet interface for remote programming by using text commands

Status Monitoring

- Clock selection
- Status of alarms
- Enabled/Disabled status of E1/ T1 channels
- Monitoring of the MegaConnect status and configuration

AceCom Networks multiplexers channel banks
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Technical Specifications

E1 Interface

Line rate	E1 (2.048 Mbps ± 50 bps)
Available Time-Slots	1-31
Framing	G.704
Electrical	G.703
Jitter	G.823
Impedance	120 Ohms
Connector	RJ-45 (F)
Clock 　　Internal 　　Loop-timed 　　External	 (Stratum3 level) 75 Ohms - 2.048 MHz 　　　　- 1.544 MHz

T1 Interface

Line rate	T1 (1.544 Mbps ± 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)
Clock 　　Internal 　　Loop-timed 　　External	 (Stratum3 level) 75 Ohms - 2.048 MHz 　　　　- 1.544 MHz

10/100BaseT Interface

Number of interfaces	8 per interface card
Interface types	10BaseT
Standards compliance	IEEE 802.3-2002 RFC1662 RFC2615 X.86 RMII
Interface rate	Programmable in steps of 512 Kbps upto 1920 Kbps per 10/100BaseT Interface (512/1024/1536/1920 Kbps)
Protocol	User Programmable HDLC and LAPS mapping
Connectors	RJ-45 (10/100 BaseT Electrical)

E3 Interface

Number of E3 interfaces	1
Bit rate	34.368 Mbps
Bit rate tolerance	$^{+/-}$20ppm
Line Code	HDB3
Frame structure	As per G.751
Interfaces	As per G.703
Connectors	BNC, Co-axial Un-balanced
Impedance	75 Ohms
Permissible Attenuation	12dB @ 17184 KHz
Signal level to declare loss of signal condition	-35dB (maximum)
Signal level to clear loss of signal condition	-15dB (minimum)

DS3 (T3) Interface

Number of DS3 interfaces	1
Bit rate	44.736 Mbps
Bit rate tolerance	$^{+/-}$ 20ppm
Line code	B3ZS
Framing	* Meets ANSI T1.404 * M13 or C-bit parity
Pulse shape	Meets ANSI T1.102-1993 and Bellcore GR-499-CORE
Connectors	BNC, Co-axial Un-balanced
Impedance	75 Ohms
Signal level to declare loss of signal condition	$\leq$ 20mV
Signal level to clear loss of signal condition	$\geq$ 90mV

Power supply

Power supply	-48VDC (-40VDC to -60VDC)
Power supply	Redundant (1+1 Protected)
Power consumption	21 watts (maximum)

Chassis

6U High
19-inch rack-mounting shelf

Time-slot selection

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

Clock

Clock	
Internal	AT&T TR62411, Telcordia GR-1244-CORE, Stratum 3, Stratum 4, Enhanced and Stratum 4, ETSI ETS 300 011, ITU-T G.813 Option 1
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)

Core System: All items of the Core System must be ordered. The Core System consists of:

a)	19 inch chassis
b)	Control card and TSI with serial and LAN management ports
c)	2 x -48VDC input power-supply card(s) for Redundant operation
d)	AC to -48VDC DC converter for universal AC mains input (if required to connect the equipment on AC mains)
e)	GUI - configuration software
f)	User manual

Interface cards

g)	8 Port E1 Ports/Interface card, 120 ohms, balanced RJ-45	1282-E1
h)	8 Port T1 Ports/Interface card, 100 ohms, balanced RJ-45	1282-T1
i)	8 X 10/100 BaseT Ethernet Interface cards	1412-1413-BaseT

System Management

- Windows 95, Windows 98, Windows ME and Windows XP based GUI
- CLI (Command Line Interface)

Technical specifications are subject to changes without notice.
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