Integrated Multiservice Access Platform

Version 1.1– June 04

IX 4200-28

OC3/STM1 Access, DS3 Access, CSU/DSU, E1/T1 Converter, & DACS

Features

- 28 low speed plug-in slots.
- 3 high speed plug-in slots for dual redundant OC3/STM1, DS3, or E3 services.
- Multiple plug-in types :
  - ◊T1, E1 interface cards
  - ◊V.35, EIA530, RS232, X.21 interface cards
  - ◊QFXS, QFXO, E&M interface cards
  - ◊MDSL, G.SHDSL interface cards
  - ◊T1/ E1 ATM Frame Relay interface cards
  - ◊Router interface card with Subnet management (SNMC)
  - ◊Terminal server interface card
  - ◊OCU DP interface card

  More are being developed.
- Support STM1 1+1 protection
- Support 1:6 T1/E1 interface card protection or 1:6 line protection
- Usable as an OC3/STM1 Access device, CSU/DSU, E1 to T1 converter, multiple CSUs, or a DACS.
- DS3 Interface supports G.747
- DCS between plug-in ports
- Full TSI capability among all low speed slots in main unit.
- Full time-slot assignment from low speed to high speed ports.

IX4200-28 IMAP series is available in two kinds of shelf: IX4200-28, which is ANSI standard with connectors front and back, and IX4200-28ET, which is ETSI standard with all connectors and plug-ing access from the front. IX4200-28 is a versatile device with 3 high speed and 28 low speed slots. IX4200-28ET supports all plug-in cards to be on one side. With one MUX card and one relay card, IX4200-28ET supports STM1 1+1 protection function, 1:6 T1/E1 interface card protection or 1:6 line protection function.

Depending on the plug-in cards selected, this unit can be configured (a) as an OC3 (STM1/STS3) access device, (b) as a T1/E1 CSU/DSU with drop and insert and voice capabilities, (c) as an E1 to T1 converter (or fractions of them), (d) as a digital cross-connect system (DACS), and (e) as a channel bank. As a CSU/DSU, data from the V.35 or X.21 port can occupy any fraction of an E1 or T1 port. As an E1 to T1 converter, A to m law coding and signaling conversions are correctly handled. For both E1 and T1 ports, continuous error checking, performance polling, and in-service diagnostics are provided. In any of the above combinations, full time slot interchange (TSI) among the ports are possible, making the IX4200-28 series a small DACS (digital access cross-connect system). All the low speed ports can be muxed to the high speed ports.

The IX4200-28 series supports local control and diagnostics by usi ng a VT-100 terminal connected to the console port. The IX4200-28 also series supports Ethernet, Telnet, and SNMP, so it can be controlled and diagnosed from remote locations. The IX4200-28 series also supports inband Management, where management data is carried the same way as user data, traversing national networks. Multicolor LEDs provide status indication for power, test condition, and alarm for each of the ports. Internal firmware is stored in flash memory for upgrading firmware by download.

- Remote diagnostic capabilities.
- Management through Console port, Ethernet port, Telnet and SNMP agents.
- Support In-band management and out-band management
- Optional Sub-Net Management facility for remote, inband, management through national networks.
- Multicolor LED indicators for each of the ports.
- Redundant power supply, redundant CPU.
- Firmware field upgradable through download.

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ORDERING INFORMATION

Model	Description	Note
Main Unit		
IX 4200-28CH	Main unit w/ 7-set of Mux cards, w/o CPU and power, ANSI	Basic Chassis
IX 4200-28-CHE	Main unit w/ one Mux card and one Relay card, w/o CPU and power, ETSI	
IX4200-28ET-MUX	MUX card for IX 4200-28-CHE only (+1 maxi)	
IX4200-28CC-T	CPU/DCS card w/ T1 External Clock	Order two for redundancy
IX4200-28CC-E	CPU/DCS card w/ E1 External Clock	
IX4200-28CC-SNMP	CPU/DCS card w/ SNMP and E1 External Clock	Order two for redundancy
High Speed Module		
IX4228-STM1-E	1310 nm STM1 interface w/ E1 l mapping	Other optical frequency and connector types are available. OC3 and T1 mapping
IX4228-STM1SEC-E	1310 nm STM1 interface w/ Shelf Expansion Card, w/ E1 mapping	
IX4228-STM1STC-E	STM1 interface w/ Shelf Terminator Card, w/ E1 mapping	
IX4228-CBL	Shelf Connection Cable supports up to 2 Expansion Shelves	
IX4228-HPCop	Hardware Protection Card for STM1/ OC3, w/ SC connector	Other connector types are available.
IX4228-HPCel	Hardware Protection Card for DS3/ E3	
IX4228-DS3-T	DS3 interface w/ T1 mapping	
IX4228-DS3-E	DS3 interface w/ E1 mapping	
IX4228-E3	E3 interface	

Low Speed Module (Select 1 to 28 cards.)

IX 4200-T1	T1 interface card	
IX 4200-E1	E1 interface card	
IX 4200-G703-64IC	G703 64K (J64) interface	
IX 4200-V35	V.35/DB25 interface card	
IX 4200-E530	EIA530 interface card	
IX 4200-RS232	RS232 interface card	
IX 4200-X21	X.21 interface card	
IX 4200-QFXS	Quad FXS voice card	■ For **AC**, **-48Vdc** power supply only.
IX 4200-QFXO	Quad FXO voice card	
IX 4200-PLAR	PLAR voice card	
IX 4200-Q2EM-**m**-T**n**	Quad 2 Wire E&M voice card	■For **AC**, **-24Vdc**, **-48Vdc** power supply only. ■ Where ■ = **B** for normal E&M, or TO = **A** for tandem operation ■ = **1** to 5 of E&M Signaling Type = **0** for TO
IX 4200-Q4EM-**m**-T**n**	Quad 4 Wire E&M voice card	

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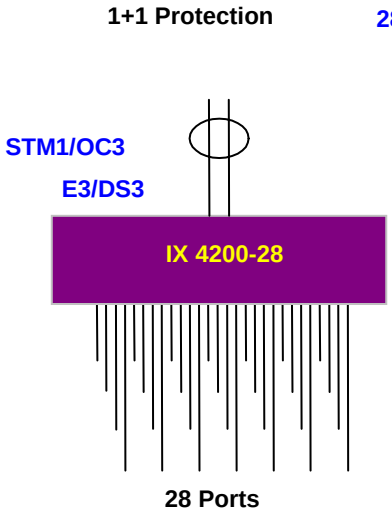
IX 4200-MDSL	Multi-rate SDSL	
IX 4200-GSHDSL	G.SHDSL interface card	
IX 4200-AFRE	E1 Frame Relay to ATM inter-working or Frame Relay to Frame Relay concentration	
IX 4200-RT	Dual LAN port (10 & 10/100 BaseT) Router card, w/ Subnet management (SNMC)	

Power Module

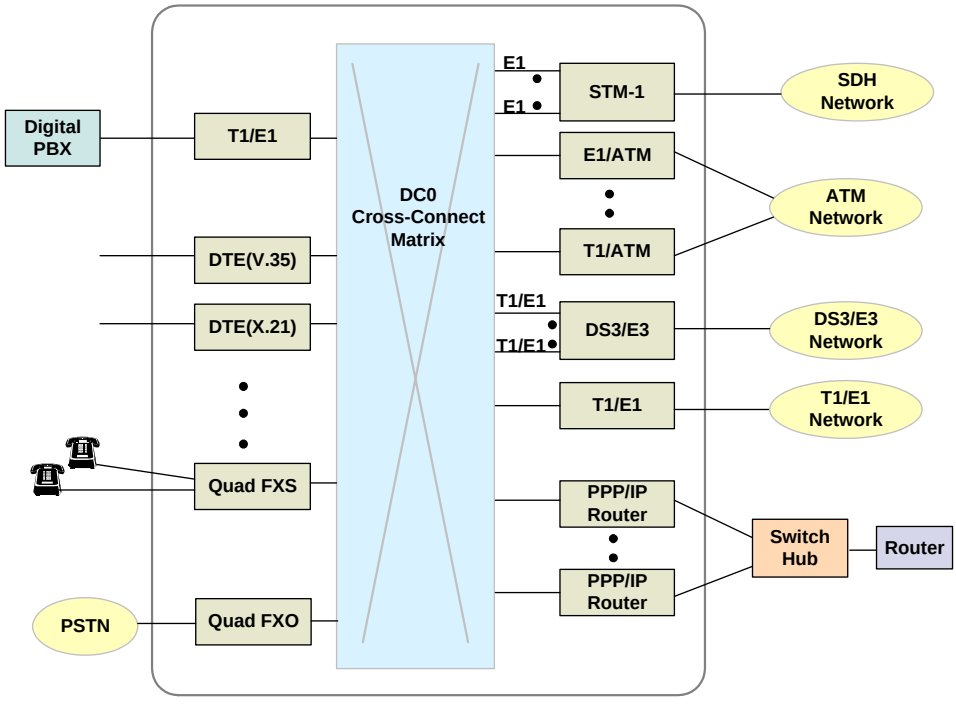
IX 4228-DC48	Single DC supply (48Vdc)	Order two for redundancy
IX 4228-AC	Single AC supply	

APPLICATION ILLUSTRATIONS



28 low speed plug-in slots for:

* T1/ E1 interface
* V.35, EIA530, RS232, X.21 interface
* MDSL, G.SHDSL interface
* T1/ E1 ATM Frame Relay interface
* Terminal server interface
* QFXS, QFXO, E&M interface
* Quad 2 Wire E&M voice interface
* Quad 4 Wire E&M voice interface
* Quad 2 Wire E&M TEL line interface
* Quad 2 Wire E&M TEL monitor interface
* OCU DP interface



IX 4200-28 Integrated Multiservice Access Platform Product Specification

NOTE: See separate data sheets for additional interface cards.

CPU & TSI

Optional redundancy

Time Slot Interchange

Less than 400 ms delay

Four available maps (Only one is active)

Voice Channel Conversion

A-law to m-law G.711
CAS Signaling Transparent, (A=0 from E1 becomes A=0 to T1, etc.)

Physical

Dimensions For V4200-28CH: 43.8 x 22 x 35 cm, 17.24" x 8.66" x 13.78", 10U x 5U x 8U (WxHxD)
For V4200-28ET-CH: 43.8 x 26 x 35 cm, 17.24" x 10.14" x 13.78", 10U x 6U x 8U (WxHxD)
Temperature Range 0 – 50 °C
Humidity 0 – 95% RH (non-condensing)
Mounting Desk-top stackable, 19/23 inch rack mountable
Weight 44.44 lb., (20 Kg) without plug-in cards

Electrical Power

Field changable AC or DC, optional redundant mixed AC or DC
200 Watts
DC : 48 Vdc
AC : 95 to 240 Vac, 50/60 Hz

Performance Monitor

Performance Store	The last 24 hours performance in 15-minute intervals
Monitor Registers	Line, user
Performance Reports	Date & Time, Errored Second, Degraded Minutes, Unavailable Second, Bursty Error Errored Second, Controlled Slip Second, and Loss of Frame Count
Alarm History	Date & Time, Alarm Type (i.e. Master Clock Loss, RAI, AIS, LOS, BPV, ES, CS)
Threshold	Bipolar Violation, Errored Second, Unavailable Second, Controlled Slip Second

Network Management

Connector	DB9 at front panel
Electrical	RS232 interface
Protocol	Menu driven VT-100 terminal

Ethernet Port (optional)

Connector	RJ45 at front panel
Protocol	Telnet and Embedded SNMP

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