The 4220 Access Multiplexer

WAN access with intelligence.

Main Benefits:

- Reduces cost of access by balancing voice and data over available bandwidth

- Reduces network downtime and maintenance costs through integrated troubleshooting features

- Provides full network monitoring capabilities

- Supports service level agreement (SLA) verification

The demand for network intelligence is becoming pervasive. Every piece in the WAN access chain needs to provide creative and cost-effective management solutions that allow users to better monitor their network traffic. That's why Quick Eagle Networks has introduced the 4220 Access Multiplexer™. Here is an access device that is available with full monitoring capabilities, enabling you to take control of your network performance.

Besides this need for intelligence, access products have to provide an answer to two other key business challenges: the ability to make better use of available bandwidth, and the need to drive down total cost of ownership. The 4220 Access Multiplexer addresses both of these business concerns.

To maximize bandwidth usage, the device integrates data from one or two external routers, together with voice traffic from a digital PBX, onto a fractional to full T1/E1 WAN connection. Bandwidth allocation for the two data ports and the drop-and-insert voice port is configurable through software.

The 4220 Multiplexer helps to reduce total cost of ownership for access devices through its software-driven architecture that enables the device to be configured, troubleshooted, monitored, and upgraded all from a remote location, meaning that you don't need to employ expensive resources at every location or send your engineering staff all over the world just to keep your network running at peak performance.

The 4220 Access Multiplexer – a more intelligent approach to WAN access.
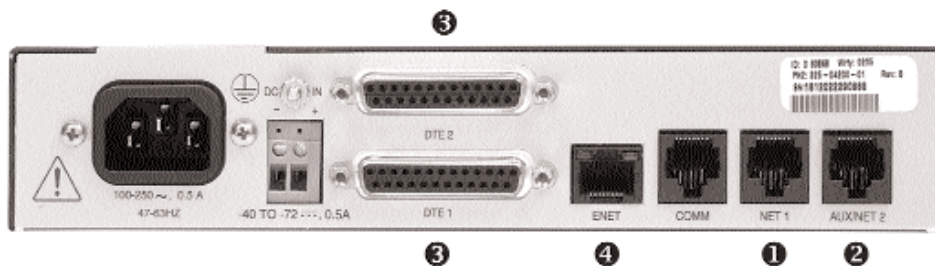
Quick Eagle Networks
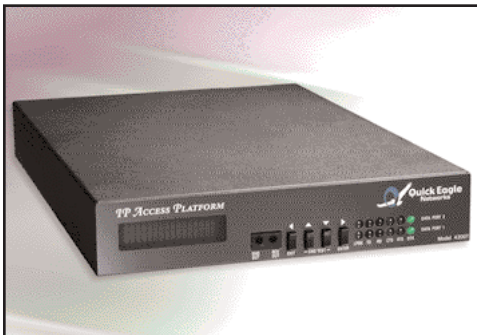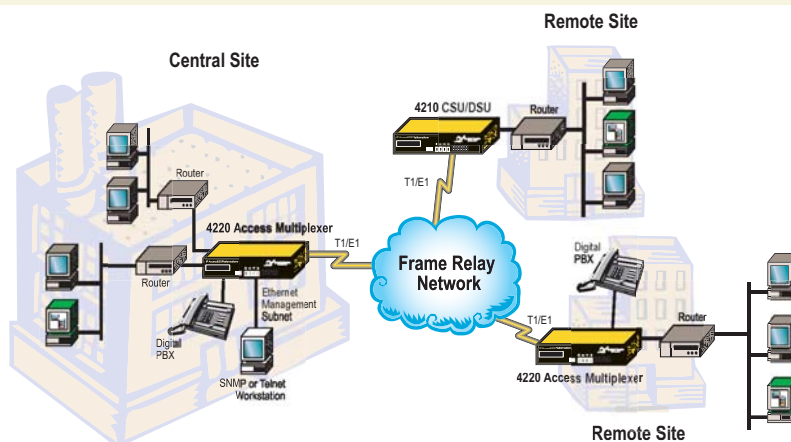
A more intelligent approach to WAN access.

Based on Quick Eagle Networks' sophisticated 4200 WAN Access Platform architecture, this new device provides:

- Fractional to full T1/E1 support

- Frame Relay, Cisco HDLC, and Protocol Transparent support

- Two serial DTE ports

- Drop-and-insert port for voice integration from PBX

- A full range of troubleshooting features, enabling:

  - LMI conditioning

  - Link-based testing and delay monitoring

  - In-band Management

- Optional RMON-1 (frame-relay adapted) statistics

- Optional RMON-2 protocols and applications statistics

- Optional FRF.13 Frame Relay Service Level Agreement (SLA) Verification

The following figure shows the backpanel of the 4220 Access Multiplexer:

The following diagram shows a typical application supported by the 4220:

4220 Multiplexer

Access Speed	T1	E1
Network Interface		
Network Port	1 T1 ANSI 403 port	1 E1 G703/G704 port
Line Rate	T1 (1.544 Mbps ± 50 bps)	E1 (2.048 Mbps ± 50 bps)
Connector Type	100 ohm RJ-48C socket	120 ohm RJ-48C socket or 75 ohm BNC
Line Code	AMI or B8ZS	HDB3
Framing	D4 or ESF	ITU-T G.704/CTR 12
Output Level	0 db, -7.5 db, or -15 db LBO	ITU-T G.703/CTR 12
Input Level	0 to -26 db	0 to 20 dB
System Timing	Network, DTE, Aux, internal	Network, DTE, Aux, internal
Drop-and-insert Interface		
Line Rate	T1 (1.544 Mbps ± 50 bps)	E1 (2.048 Mbps ± 50 bps)
Connector Type	100 ohm RJ-48C socket	120 ohm RJ-48C socket or 75 ohm BNC
Line Code	AMI or B8ZS	HDB3
Framing	D4 or ESF	ITU-T G.704/CTR 12
Data Interface		
Interface Types	RS-449/EIA-530 or V.35	RS-449/EIA-530, V.35, or X.21
DTE Port 1, DTE Port 2	DB-25 socket	DB-25 socket
Data Rates	Nx56/64 kbps (N=1 through 24)	Nx64 kbps (N=1 through 31) (structured), 32x64 kbps (unstructured)
Management Connectors		
COMM Port	RJ-45 socket	RJ-45 socket
Ethernet	RJ-45 socket	RJ-45 socket
WAN Protocols	Frame Relay, Cisco-HDLC, and Protocol transparent support	Frame Relay, Cisco-HDLC, and Protocol transparent support
Power Requirements		
Voltage	100 VAC to 240 VAC, 50-60 Hz or -40 VDC to -72 VDC (both on the same platform)	100 VAC to 240 VAC, 50-60 Hz or -40 VDC to -72 VDC (both on the same platform)
Consumption	9 W maximum	9 W maximum
Regulatory	FCC Part 15, FCC Part 68, UL 1950 Third Edition, Industry Canada CS-03 VCCI Class 1 CAN/CSA C22.2 No. 950-95	European harmonized standards 73/23 EEC, 91.31/EED, 89/336/EED, 93/68/EEC, and 91/263/EEC; UL 1950 3rd Ed.; CAN/CSA C22.2 No. 950-95; Comision Federal de Telecommunicaciones; CISPR 22 Level B (EN 55022), RoHS compliant
Diagnostics		
Loopback Tests	T1 network, T1 payload, fractional T1 payload, loop-up/loop-down commands, DTE (full or fractional), NET/DTE	E1 network, E1 payload, fractional E1 payload, loop-up/loop-down commands, DTE (full or fractional)
Loopback Control	T1 set/reset codes, ESF FDL per AT&T 54016 and ANSI T1.403 Annex B	E1 set/reset codes
Test Patterns	1:1, 1:2, 1:4, 1:7, 3:24, QRW, all 0s, all 1s, smart jack, two user-programmable 24-bit patterns, bit error injection	1:1, 1:2, 1:4, 1:7, 3:24, QRW, all 0s, all 1s, two user-programmable 24-bit patterns, bit error injection
Network Alarms	Net carrier loss, net sync loss, net AIS received, net yellow received, CRC, BPV, OOF threshold	Loss of signal, loss of frame, remote alarm indication, alarm indication signal, CRC4, CV, FE
Data port alarms	RTS loss, DTR loss	RTS loss, DTR loss
Front-panel LEDs	Power/test, in-band, network status, network loopback, loopback acknowledge, DTE loopback, TD, RD,CTS, RTS, DTR	Power/test, in-band, network status, network loopback, loopback acknowledge, DTE loopback, TD, RD,CTS, RTS, DTR
Physical		
Dimensions	1 RU, rack mountable 22.3 cm (8.75 in) W, x 33 cm (13 in) D, x 4.13 cm (1.63 in) H	1 RU, rack mountable 22.3 cm (8.75 in) W, x 33 cm (13 in) D, x 4.13 cm (1.63 in) H
Weight	2.27 kg (5 lbs.)	2.27 kg (5 lbs.)
Environmental		
Operating Temperature	0° - 50° C	0° - 50° C
Storage Temperature	-20° - 60° C	-20° - 60° C
Relative Humidity	0 - 95% non-condensing	0 - 95% non-condensing
Maximum Altitude	4.6 Km (15,000 ft)	3048 m (10,000 ft)

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