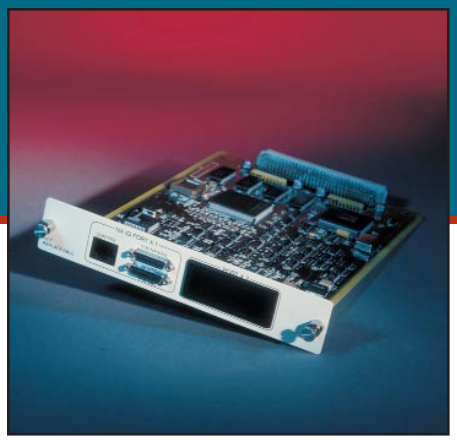

NxIQ MODULE

NX FRAME RELAY MONITORING FOR TSU MULTIPLEXERS

ADTRAN's industry-leading and award-winning DSU/CSU family continues to provide more flexibility with the NxIQ module. The NxIQ module installed in a TSU multiplexer provides the visibility and control you need for both the physical and logical connections made in Frame Relay networks. This intelligent solution for managed Frame Relay access allows you to enjoy the monetary savings of Frame Relay without giving up management visibility and control.

Real-time measurements of Frame Relay metrics are stored in the NxIQ module. These metrics include statistics on throughput and utilization per port and PVC, availability, utilization by protocol, top talkers, lost frames and PVC state, excess bursting above CIR, network congestion (FECN, BECN, and DE), and end-to-end delay on any or all PVCs. This data is crucial for pinpointing specific traffic demands and problem sources in the network, for analyzing traffic patterns, and for general maintenance and troubleshooting of the Frame Relay circuit.

The statistics are stored in the NxIQ Module in a standard ASN.1 format making the statistics available to any SNMP management platform or trend analysis package. ADTRAN® offers IQ View®, a powerful Windows-based network management system. IQ View combines the features of a complete SNMP management platform and network trend analysis tool in one easy-to-use, low-cost package.

The NxIQ module supports multiple ways to access the collected performance data. This management flexibility accommodates both the service provider and the end user in any type of network configuration. Options include simple VT 100 connection, front panel, management access through inband dedicated or shared PVCs, SLIPP/PPP or ethernet (when installed in an "e" series TSU multiplexer), and combination management. Combination management allows for simultaneous and independent management by the service provider and the end user.

The IQ family provides automatic dial backup upon interruption of Frame Relay services. The NxIQ monitors both the physical link and the Frame Relay signal to determine if an interruption has occurred. Once detected, the unit automatically initiates a dial-up call around the Frame Relay network. A host IQ unit initiates and accepts calls to and from IQ units at remote sites. Once connected, the host unit merges backup traffic with the primary traffic still being received from unaffected remote sites. The router or Frame Relay device connected to the NxIQ module still receives all data as Frame Relay traffic over the primary connection, allowing a virtually transparent transition. Once the failed condition has been cleared and the Frame Relay interruption is over, the IQ unit automatically restores traffic to the primary link.

Additional features such as an easy-to-use front panel interface and dial backup combined with the quality, service and support that ADTRAN is known for, makes the IQ Probe the obvious choice for Frame Relay monitoring. The IQ series also includes the IQ Probe, DSU IQ™, TSU IQ™, and the TSU IQ+™.

PRODUCT FEATURES

- Real-time measurement of throughput, bandwidth utilization, bursting, congestion, and network delay on each PVC
- Bandwidth utilization by protocol and top talkers
- End-to-end network delay measurements for network optimization
- IQ View® provides a cost-effective, easy to use management platform
- True non-intrusive in-band transmission of statistics
- Embedded SNMP and Telnet through SLIP/PPP port
- Optional Dial Backup to avoid service interruption
- Standard V.35 DTE Interface
- Easy configuration from Front Panel, SNMP, Telnet or VT 100
- Standard 5 year warranty

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Canada
800 232-6811
Caribbean/Latin America
954 746-5355
All other International inquiries
256 963-2500

Product Specifications

OPERATING MODES
- 100 DLCIs supported
- FT1-T1 Frame Relay, mixed mode networks with frame relay on assigned DS0s

FRAME RELAY STATISTICS

Access Line Statistics
- T1 BPVs, CRCs, ES, SES, UAS, %AS, %EFSEC, alarm, errors
- Telco loop test in progress

PVC Statistics
- PVC state
- Bytes Tx/Rx; frame Tx/Rx
- Frames with BECN/FECN/DE
- Max/Min/Avg frame size
- Throughput/bandwidth utilization per PVC
- Lost frames/sequence check
- Continuous PVC delay measurement
- Max/Min/Avg end-to-end PVC delay
- Burst rate
- Congested seconds

Port Statistics
- Byte Tx/Rx; frame Tx/Rx
- Throughput
- Utilization
- Frame size violations (invalid frames)
- CRC errors
- Abort frames
- Non-octet aligned frames

LMI Statistics
- LMI state/state changes
- Polls in; responses in
- Timeouts
- Link integrity frames
- Full status response
- Polls with protocol error

LAYER 3 STATISTICS
- Monitor protocols on port & pvc
- *Protocols supported:* IP/IPX, ARP, SNA, other
- Top Talkers

DIAGNOSTICS

Frame Relay
- PVC loopback w/ test pattern and sequence check
- PVC round trip delay

Network
- CSU loopbacks

DTE/DBU INTERFACE
- *26-pin Mini-Din:* V.35 electrical
- DTE data rates 56k to 1.536 Mbps (Nx56/64)

CONFIGURATION
- Front Panel
- Local and Remote VT 100 terminal via the Control port
- Remote configuration via frame relay network connection
- Telnet and SNMP

VT 100/CONTROL PORT INTERFACE
- *RJ-48C:* EIA-232 electrical, 8-pin
- *Data rates:* async 2.4 to 38.4 kbps

SNMP/TELNET
- Embedded SNMP and Telnet inband access through shared or dedicated PVC
- Integrated SLIP/PPP (async) port
- MIB II RFC 1315 compliant
- ADTRAN Enterprise MIB for frame monitoring and control

AGENCY APPROVALS
- FCC Part 68, Part 15 Class A
- Industry Canada CS03
- UL and CUL

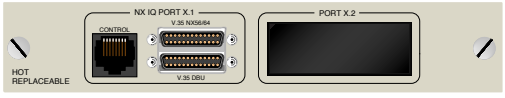
ENVIRONMENT
- *Operating Temperature:* 0° to 50° C, (32° to 122° F)
- *Storage Temperature:* –20° to 70° C, (–4° to 158° F)
- *Relative Humidity:* Up to 95%, non-condensing

PHYSICAL
- Standard TSU Expansion Module
- Plug-in (accepts most Plug-Ons)
- *Weight:* 1.5 lbs

PRODUCT INCLUDES
- Two 8-pin to 8-pin modular cables, one mini-Din to V.35 adapter cable, modular to female DB-25 adapter and user manual

Ordering Information

EQUIPMENT	PART #
NxIQ module	1200255L1
DBU Cable (male V.35 adapter cable)	1200167L3



Specifications subject to change without notice.