



## Network Exchange 2510

### High-Performance, Multi-Service Network Switch

- **Multi-service IP, ATM, Frame Relay, X.25, TDM and ISDN**
- **Exceptional scalability with software-defined ports**
- **Broad range of port speeds—From 600 bps to 45 Mbps**
- **Fully redundant processors, interfaces and power for maximum network availability**
- **Superior distributed management and diagnostics over public, private or hybrid networks**
- **Dynamic bandwidth allocation for highest efficiency**
- **Up to 1.2 Gbps system capacity**

The Network Exchange (Nx) 2510 combines IP, ATM, Frame Relay, X.25, TDM and ISDN for data, voice and image applications. Functioning as either an enterprise backbone or a carrier edge switch, the Nx2510 provides cost-effective bandwidth management of public, private and hybrid networks, with extensive network management and diagnostic capabilities.

The Network Exchange Nx2510 provides support for IP, ATM, Frame Relay, X.25, TDM and ISDN network services. Software selectable transmission technologies allow the Nx2510 to provide superior cost-effective leased line, public, or hybrid networking solutions for data, voice and image applications. Implementation of Switched Virtual Circuits (SVCs), in accordance with Frame Relay Forum Implementation Agreement FRF.4 and ITU Q.933 makes switched voice a practical and efficient reality.

The Nx2510 maximizes bandwidth utilization by dynamically sharing framed, packet and circuit traffic. Bandwidth efficiency is enhanced by combining data, compressed voice and image traffic. Sophisticated processing, priority and fairness algorithms allow delay-sensitive voice and SNA traffic to co-exist with other forms of data transmission. Over public networks, unique logical port capabilities allow multiple traffic types to traverse a single virtual circuit, eliminating charges for additional virtual circuits. Bandwidth-on-demand capabilities allow additional capacity to be added automatically, via ISDN or other dial services, based on traffic conditions or at predetermined times. An extensive array of utilization statistics allows network planners to design for average use and employ dial-up services for peak periods, thus minimizing network costs.

The fully fault tolerant hardware and software architecture of the Nx2510, combined with dynamic adaptive routing, allows implementation of a self-healing network, ideal for the most critical applications. Hardware components and internal data paths, including individual port cards, can be configured for full redundancy. Individual modules may be replaced while the switch is on-line, without service interruption. Software fault tolerance is enhanced by distributing tasks among multiple processors. Should a processor fail, its tasks are automatically reassigned to other processors in the node.

The Nx2510 is a member of the extensive NSGDatacom range of products that are used worldwide for network solutions that scale from low-speed traffic to high-speed, ATM services.

*Communication solutions from*

# **NSGDatacom**

***extend. evolve. innovate.***



## Network Exchange 2510

# Product Features



### Common Equipment

- **Switching and Processing Module (SPM)**
  - Provides an integrated ATM, Frame Relay, X.25 switch and non-blocking circuit switch/multiplexer
  - Multiple SPMs provide increased throughput and scalable redundancy
  - Maximum 3 per chassis
- **Power Supply**
  - A single auto sensing 90-250 VAC supply can operate a fully loaded 2510
  - Load-sharing redundancy is optional
- **Clock Card**
  - Allows node synchronization to an internal or external clock source
  - Holdover mode maintains network synchronization during temporary loss of clock source
- **Disk Assembly**
  - Store system software and statistical and accounting data
  - Maximum 2 disks @ 1.2 Gbytes each
- **Connector Module Link Card (CML)**
  - Connects 2510 base unit to remote connector modules
  - Supports two separate sets of daisy-chained Connector Modules
- **Connector Module Processor (CMP)**
  - Resides in Connector Module, providing an interface to the CM, or additional Connector Modules.
- **Connector Modules (CM)**
  - Houses Connector Cards, providing power and electrical connections to the main switch.
  - CM-1 provides 19 universal slots (ideal for sub-T1 connector cards).
  - CM-3 provides 15 universal slots
  - CM-3 acts as three independent 5-slot CMs.
  - CM-3 offers cost-effective support for T1, E1 and Nx64 connections

### Standards Conformance

- **Frame Relay**
  - ANSI T1.606 (including Addendum), T1.617.a (including Annex G), T1.618 and ITU 1.233, 1.370
  - Q.922 Annex A, Q.933 (PVC & SVC Management)
  - FRF.4, FRF.5, FRF.8
- **X.25/X.75/X.121**
  - ITU 1980, 1984 and 1988 recommendations
- **AT&T Interface & Framing**
  - DSX-1
  - D4, ESF
  - AMI, B8ZS
  - Diagnostics & Alarms per AT&T TR 62411
- **International Standards**
  - CEPT
  - G.703, G.704, G.732 at 2.048 Mbps, G.804
- **DS3 & E3**
  - Compatible with ATM Forum and associated specifications
  - ANSI T1.646-1995
  - ITU G.804
- **ISDN**
  - ETSI and AUSTEL for E1 PRI
  - National Standard 1 ISDN for T1 PRI
  - NT and TE modes supported
- **IP**
  - RIPv1/2, OSPF, Static Routing, SNMP

### Connector Cards

- **DS3 Connector Card**
  - Standard ATM Cell DS3 Interface
  - ANSI T1.107 & T1.107a or M13 framing
  - 75 Ohm BNC coax female connector
  - Local and Remote loopbacks
- **E3 Connector Card**
  - Standard E3 framing
  - HDB3 line coding
  - 75 Ohm BNC coax female connector
  - Local and Remote loopbacks
- **T1 (DSX-1) Connector Card**
  - Standard AT&T DSX-1 interface
  - D4 & Extended Superframing
  - AMI & B8ZS line coding
  - Full Alarms per AT&T TR 62411
  - Unbalanced 75 Ohm or balanced 120 Ohm impedance interface
- **2 Mbps/G.703**
  - CEPT G.703/G.732 interface
- **V.35**
  - Speeds to 64 kbps
  - Standard 34-pin female connector
- **Nx64 V.35**
  - 32 kbps to 2.048 Mbps
  - User-selectable DTE or DCE
- **Nx64 V.11/X.21/EIA-530**
  - Software selectable between X.21 or EIA-530
  - 32 kbps to 2.048 Mbps
  - User-selectable DTE or DCE
- **V.11/X.21**
  - Synchronous speeds to 64 kbps
  - CCITT X.21bis
  - Standard 15-pin female connector
  - User-selectable DTE or DCE
- **RS-232/V.24**
  - Synchronous operation 600 bps to 19.2 kbps
  - Asynchronous operation 75 bps to 19.2 kbps
  - DB-25 female connector
  - User-selectable DTE or DCE
- **Ethernet**
  - 10/100BaseT Auto sensing

Physical & Environmental		
	2510	CM
<b>Cabinet</b>	10.5"H x 19"W x 22.1"D (26.7cmH x 48.3cmW x 56.1cmD)	5.25"H x 19"W x 15"D (13.3cmH x 48.3cmW x 38.1cmD)
<b>Weight</b>	49 lbs (22.2 kg)	25 lbs (11.3 kg)
<b>Input Voltage</b>	100/240 VAC 1 Phase	100/240 VAC 1 Phase
<b>Power</b>	5 amps @ 100/120 VAC or 2 amps @ 220/240 VAC 0.5 KVA	4/2 amps. 0.24 KVA
<b>Temperature</b>	50-104°F (10-40°C)	50-104°F (10-40°C)
<b>BTUs per Hour</b>	1,706	1,640

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