Ethernet hubs
BayStack
250 series 10/100 autosense hubs

Data Sheet

Highly Affordable

10/100 Autosensing on Every Port

Web-Based Network Management

Year 2000 Compliant

The BayStack* 250 Series 10/100 Autosense Hubs deliver high-performance and flexible Ethernet connectivity for power workgroups — all at an unprecedented price-per-port value. All BayStack 250 Series 10/100 Autosense Hubs support 10/100 autosensing on all ports, enabling seamless migration from 10 Mbps to 100 Mbps connections. Equally important, they do so without requiring time-consuming trips to the wiring closet whenever end stations are upgraded to Fast Ethernet. A built-in two-port switch in the BayStack 250, 253, 254, and 255 Hubs provides high-speed connectivity between 10 Mbps users and 100 Mbps users. The built-in two-port switch allows for greater performance through segmentation. This eliminates the need for an external switch to communicate between 10 Mbps users and 100 Mbps users.

Versatile and flexible, BayStack 250 Series 10/100 Autosense Hubs satisfy a range of needs: from small, unmanaged LANs to large, feature-rich managed networks. Single hubs provide a high-performance, low-cost solution for supporting 12 users (with the BayStack 254 10/100 Hub), or 24 users (with the BayStack 255 10/100 Hub). As demands grow, users can stack up to five hubs. The stack will function as a single managed unit, providing a scalable solution that enables networks to grow incrementally for a very affordable investment.

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Users can easily add extensive network management capabilities as well. These include support for four Remote Network Monitoring (RMON) groups and full Simple Network Management Protocol (SNMP) functionality. The BayStack 250 Series' SNMP capabilities are robustly supported by Optivity,* Nortel Networks' industry-leading family of network management applications. To gain these abilities, users need only add a 12-port BayStack 250 10/100 Autosense Hub/Network Management Module (NMM) or a 24-port BayStack 253 10/100 Autosense Hub/NMM with integrated network management.

The BayStack 250 Series 10/100 Autosense Hubs are a key part of the Nortel Networks workgroup Ethernet strategy. Combined with other BayStack products, including hubs, switches, routers, and Internet access equipment, the BayStack 250 Series 10/100 Autosense Hubs deliver a robust, high-performance solution for workgroups. Working seamlessly with other standards-based Nortel Networks products, the BayStack family contributes to the industry's most cost-effective end-to-end Ethernet solution.

FEATURES AND BENEFITS

Highly Affordable

The BayStack 250 Series 10/100 Autosense Hubs offer excellent affordability to those who are building their networks with future growth in mind.

10/100 Autosensing on Every Port

Every port on a BayStack 250 Series Hub uses autosense technology to automatically detect and support the speed of a connected device. As network performance requirements increase, the BayStack 250 Series Hubs will automatically support any equipment upgrades — without requiring repeated trips to the wiring closet.

Web-Based Network Management

The BayStack 250 10/100 Hub/NMM and BayStack 253 10/100 Hub/NMM include Web-based network management software. This allows network administrators to easily access such key information as device summary, configuration, fault management, statistics, applications, and support. Network managers can access data about their network and individual hubs via the local corporate intranet, or from any World Wide Web-connected PC, anywhere in the world.

Built-In Two-Port Switch

A two-port switch built into the BayStack 250, 253, 254, and 255 Hubs provides high-speed connectivity between 10 Mbps users and 100 Mbps users. No external switch is required to provide data transfers between the 10BASE-T and 100BASE-T segments. It's like having two managed hub stacks with a switch to segment traffic into two smaller collision domains for faster performance.

Easy Stackability

Users can stack up to five BayStack 250 Series Hubs, thus linking up to 120 unmanaged or managed ports in a single hub stack. This ability makes BayStack 250 Series Hubs a simple, scalable and cost-effective solution for supporting growing network environments.

Built-In Network Management Module

A single BayStack 250 or BayStack 253 10/100 Autosense Hub/NMM can manage an entire stack of BayStack 250 Series 10/100 Hubs, providing complete management for up to 120 ports. Users get simple and affordable full-stack manageability for a growing network.

NETWORK MANAGEMENT CONFIGURATIONS

Table 1: Port and Network Management Configurations of the BayStack 250 Series 10/100 Autosense Hubs.

BayStack 250 Series 10/100 Autosense Hubs	Autosense 10BASE-T/ 100BASE-TX Ports	MDA Slot	Built-in 2-Port 10/100 Switch	Built-in Network Management Module (NMM)
BayStack 250	12	–	Yes	Yes
BayStack 253	24	1	Yes	Yes
BayStack 254	12	–	Yes	–
BayStack 255	24	1	Yes	–

Fully Integrated into Optivity Network Management Software

The BayStack 250 Series 10/100 Autosense Hubs are fully integrated into Optivity network management software, enabling complete SNMP and support for four RMON groups. Network administrators can use Optivity to manage their entire network, including all hubs, switches, and routers, from a single management station. By using Optivity, network administrators can dramatically reduce the total cost of network ownership.

High-Speed Fiber Connectivity

The BayStack 253 and 255 Hubs have a slot for an optional 100BASE-FX media dependent adapter (MDA). The BayStack 250-1FX MDA allows full-duplex fiber connectivity to higher end solutions such as the BayStack 450 Switches and the Accelar* routing switches.

Advanced Analysis and Monitoring with RMON and StackProbe

Advanced Analyzer* management is available with Nortel Networks' StackProbe* RMON probe, which provides full RMON and RMON2 capabilities. Two PassThru* ports on the StackProbe provide in-line monitoring. Application support for StackProbes is incorporated within the Optivity network management system. Network administrators can easily gain advanced network management features without the need for additional wiring.

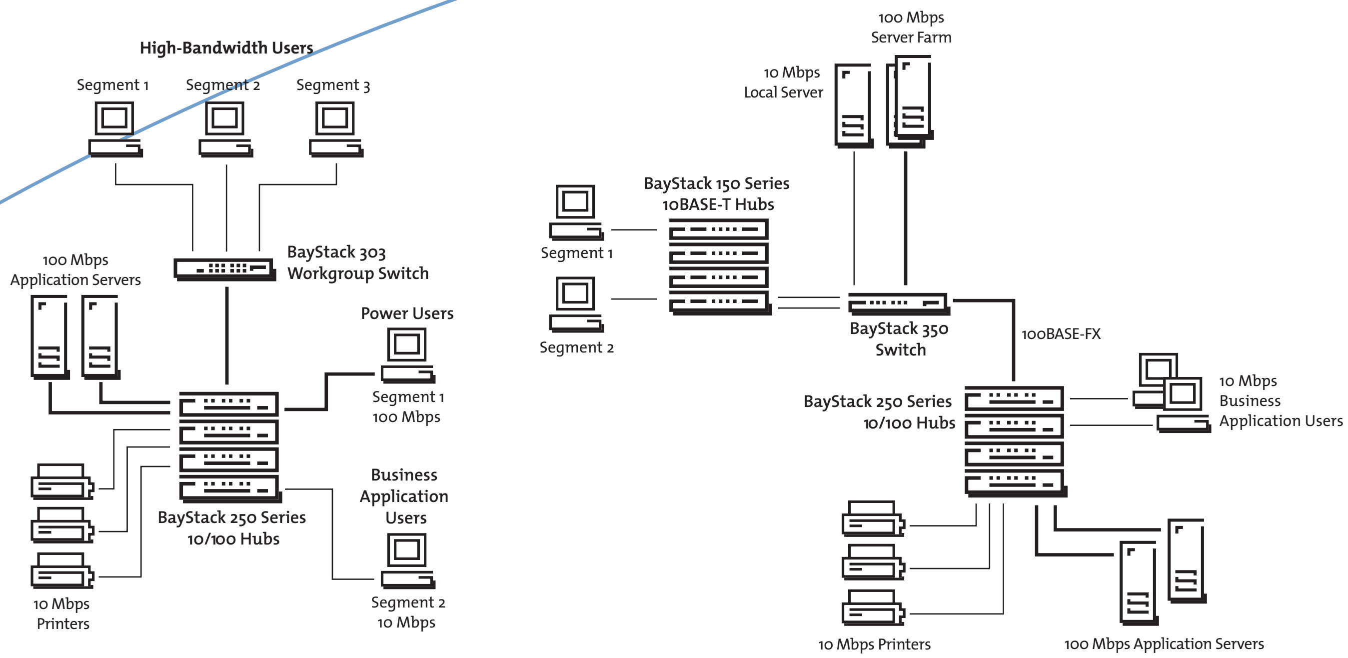
Fail-Safe Features

The automatic bypass feature automatically bypasses any hub in the stack that fails or loses power. SmartSwap* non-volatile configuration memory automatically saves and restores the configurations of all hubs in the stack through power cycles and hub replacements. This ensures that the network remains operational under demanding conditions. Automatic hub-settings restoration saves time-consuming manual network administration.

Real-Time Hub Status at a Glance

The BayStack 250 Series 10/100 Hubs feature an easy-to-read front-panel LED that shows hub and segment status at a glance, with real-time network monitoring of power, status, collision, and network usage. The displays also enable hub and network operational status to be determined immediately, right in the wiring closet, without the use of network management software. Table 1 shows port and management configurations.

Figure 1: Example Configurations of the BayStack 250 Series 10/100 Autosense Hubs.



Backed by Warranty

All BayStack 250 Series 10/100 Hubs have a limited lifetime warranty, including power supply. This ensures years of worry-free operation.

Slimline 1 "U" Height

BayStack 250 Series 10/100 Autosense Hubs are only one standard unit (1.68 inches) high, which means easy stackability and higher port density in less rack space.

Figure 1 shows example configurations of BayStack 250 Series 10/100 Autosense Hubs.

BayStack 250 Series 10/100 Autosense Hub Applications

All BayStack 250 Series 10/100 Autosense Hubs support 10/100 autosensing on all ports. This enables seamless migration from 10 Mbps to 100 Mbps connections, without requiring time-consuming trips to the wiring closet whenever end stations are upgraded to Fast Ethernet.

The BayStack 250 Series 10/100 Hubs offer a high-performance desktop solution for network environments that quickly overwhelm legacy 10 Mbps solutions. The hubs also represent an important part of the Nortel Networks 100BASE-TX evolution strategy, extending the power and adaptability of the BayStack 350 Switches by filling a critical need in evolving networks.

Installed with the BayStack 350 or BayStack 450 10/100/1000 Switches, the BayStack 250 Series 10/100 Autosense Hubs play a key role in the evolution to Fast Ethernet, providing a cost-effective way to improve network response times. Linking a 10/100 hub or stack to a BayStack 350 or BayStack 450 Switch provides the power workgroup with a 100 Mbps connection to centralized resources such as high-utilization servers and routers. The BayStack 250 Series 10/100 Hubs can also be linked to 100BASE-TX router interfaces on Nortel Networks routers to create large-diameter Fast Ethernet networks. The BayStack 253 Hub and the BayStack 255 Hub with the 100BASE-FX MDA provides a full-duplex fiber connection to the network center up to two kilometers.

ORDERING INFORMATION

Table 2: BayStack 250 Series 10/100 Autosense Hubs Ordering Information.

Order Number	Description
AT2201?05	BayStack 250 12-port 10/100 Autosense Hub/NMM with Built-In Two-Port Switch
AT2201?08	BayStack 253 24-port 10/100 Autosense Hub/NMM with Built-In Two-Port Switch and 100BASE-FX MDA Slot
AT2201?09	BayStack 254 12-port 10/100 Autosense Hub with Built-In Two-Port Switch
AT2201?10	BayStack 255 24-port 10/100 Autosense Hub with Built-In Two-Port Switch and 100BASE-FX MDA Slot
AT2204003	BayStack 250-1FX 100BASE-FX MDA for BayStack 253 Hub and BayStack 255 Hub
AT2218002	Cascade Cable for BayStack 250 Series Hubs

TECHNICAL SPECIFICATIONS

Table 3: BayStack 250 Series 10/100 Autosense Hubs Technical Specifications.

Network Protocol	10 Mbps Ethernet 100 Mbps Ethernet
Standards Support	IEEE 802.3 CSMA/CD IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-T

Table 3: BayStack 250 Series 10/100 Autosense Hubs Technical Specifications (continued).

Electrical Specifications	
Input voltage	100-240 VAC
Volt amperes rating	250 VA
Power consumption	
BayStack 250	30 W
BayStack 253, 254, 255	50 W
AC line frequency	50 to 60 Hz
Thermal rating	
BayStack 250	103 BTU/hr maximum
BayStack 253, 254, 255	94 BTU/hr maximum
Physical Specifications	
Weight	
BayStack 250	6.2 lb. (3.0 kg)
BayStack 253	6.9 lb. (3.3 kg)
BayStack 254	6.1 lb. (2.9 kg)
BayStack 255	6.3 lb. (3.1 kg)
BayStack 250-1FX	.14 lb. (.064 kg)
Dimensions	
BayStack 250-255	(H) 1.73 in. x (W) 17.2 in. x (D) 8.48 in. [(H) 4.4 cm x (W) 44.1 cm x (D) 21.7 cm]
BayStack 250-1FX	(H) 1.5 in. x (W) 3.8 in. x (D) 3.9 in. [(H) 3.7 cm x (W) 9.7 cm x (D) 9.9 cm]
Rack space	One rack unit per hub (19 inch)
Environmental Specifications	
Operating temperature	0° to 50° C
Storage temperature	-20° to +65° C
Operating humidity	20% to 85% max. relative humidity, non-condensing
Storage humidity	5% to 90% max. relative humidity, non-condensing
Operating altitude	Up to 10,000 ft (3000 m)
Storage altitude	10,000 ft (3000 m)
Ventilation clearance	Minimum 2 in. (5.08 cm) on all sides (stacking OK)
Operating conditions	At least 6 ft. (1.83 m) to nearest source of electromagnetic noise
Power source availability	Adequate power source within 6 ft. (1.83 m)
Rec. wiring closet service clearance	5 in. (front); 7 in. (rear)

Table 3: BayStack 250 Series 10/100 Autosense Hubs Technical Specifications (continued).

Interface Options	
Connectors	RJ-45, DB-9 male, RS-232, SC (BayStack 250-1FX)
Cable	Category 5 UTP cable (2-pair wire)
	100-ohm STP cable (2-pair wire)
	150-ohm STP (with certified 100 Mbps media adapters)
	62.5/125 µm or 50/125 µm (BayStack 250-1FX)
Safety Agency Approvals	UL 1950
	UL 94-V1
	CSA 22.2 950
	IEC 950/EN60950
Electromagnetic Emissions Summary	
Meets requirements of	FCC Part 15, Sub part B, Class A ITE
	VCCI Class A ITE
	EN 55 022 (CISPR 22, Class A)
	AS/NZS 3548 Class A
	CE
Electromagnetic Susceptibility	Electromagnetic compatibility generic immunity standard EN 50082-1
	Electrostatic discharge (ESD) IEC801-2, level 3
	Electrical fast transient/burst IEC 801-4, level 2
	Electrical surge: IEC 801-5, level 2/1
	Electromagnetic Radiated Immunity IEC 801-3, level 2

For the complete electromagnetic emissions statements and declaration of conformance, see "Installation and Reference for the BayStack 250 Series 10/100 Hubs" (Nortel Networks part number 893-01064). Compliance with the VCCI regulation is dependent upon the use of shielded AC power cables. The user is responsible for procuring the appropriate cables.

Acronym Glossary

LED	**Light Emitting Diode**
Mbps	**Megabits Per Second**
MDA	**Media Dependent Adapter**
NMM	**Network Management Module**
RMON	**Remote Network Monitoring**
SNMP	**Simple Network Management Protocol**

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