



High-Speed Connectivity

The BayStack™ 100BASE-T Stackable Hubs from Bay Networks deliver safe, proven, industry-standard 100 megabit-per-second (Mbps) connectivity for power workgroups and other highly demanding network environments.

Cost-Effective Scalability

The hubs combine the most desirable attributes of both modular and stackable hubs, providing a low-cost, high-performance solution that easily supports today's increasingly powerful PCs and servers. By delivering full 100 Mbps throughput, the 100BASE-T hubs dramatically reduce network bottlenecks and increase response times tenfold over traditional 10 Mbps shared-media Ethernet networks.

Bullet-Proof Reliability

Versatile and flexible, the 100BASE-T hubs satisfy everything from small, unmanaged LANs to large, feature-rich managed networks. Single hubs provide a high-performance, low-cost solution for supporting up to 12 users. As demands grow, an additional 12 ports can be added for a total of 24 ports per hub. Up to six hubs can be linked to act as a single managed unit, providing a scalable solution that enables networks to grow incrementally for a modest investment. The addition of a network

management module provides full Simple Network Management Protocol (SNMP) management capabilities supported by Bay Networks Optivity® family of network management applications.

The BayStack 100BASE-T Stackable Hubs are a critical part of the Bay Networks workgroup Ethernet strategy. Combined with other BayStack products, including 10BASE-T Stackable Hubs, the Ethernet Workgroup Switch™, the Remote Annex 2000 Communications Server, and the Access Node routers, the hubs deliver a robust, high-performance solution for small networks, client/server workgroups, and remote offices. Working with other Bay Networks 100BASE-T products, including the 28000 Series™ Fast Ethernet switches and Fast Ethernet interfaces on the Backbone Link Node (BLN®), Backbone Concentrator Node (BCN®), and Access Stack Node (ASN™) routers, the BayStack family contributes to the industry's most cost-effective end-to-end Fast Ethernet solution.

Integrated with BayStack Ethernet Product Line

Compatible with 28000 Series Fast Ethernet Switches

Benefits

High-Speed Connectivity

The BayStack 100BASE-T Stackable Hubs provide full industry-standard 100 Mbps Fast Ethernet connectivity to end stations, servers, and other compatible devices, delivering a tenfold improvement over traditional 10 Mbps Ethernet.

Cost-Effective Scalability

BayStack 100BASE-T Stackable Hubs combine the best features of modular intelligent hubs with the convenience of stackable workgroup hubs to provide a simple, cost-effective solution for supporting growing network environments.

Bullet-Proof Reliability

Featuring redundant management and power supplies, BayStack 100BASE-T Stackable Hubs deliver maximum availability for even the most demanding networks.

Integrated with BayStack Ethernet Product Line

Working with other BayStack products such as the 10BASE-T hubs, the Ethernet Workgroup Switch, the Remote Annex 2000 Communications Server, and the Access Node routers, the 100BASE-T Stackable Hubs contribute a key element to one of the industry's most complete, cost-effective high-performance Ethernet solutions.

Compatible with 28000 Series Fast Ethernet Switches

The BayStack 100BASE-T Stackable Hub ports provide full interoperability with the 28000 Series Fast Ethernet switches. Working with the BayStack Ethernet Workgroup Switch, the 100BASE-T Stackable Hubs offer the ideal wiring closet solution for network center-based 28000 Series "switch of switches" applications.

Features

Standards-Based Fast Ethernet

The BayStack 201 100BASE-T Stackable Hubs deliver full, standards-based 100 Mbps Fast Ethernet connectivity for highly demanding network environments.

Fast Ethernet, a safe, proven, reliable technology, delivers the bandwidth required to alleviate the congestion that is hampering traditional 10 Mbps Ethernet networks today. Approved by the IEEE as an 802.3 Ethernet standard and supported by more than 75 networking vendors, 100BASE-T represents the next logical step for organizations seeking to improve the performance of their existing networks. Fast Ethernet retains unshielded twisted pair (UTP) Ethernet's CSMA/CD transmission method and cabling support, making it the logical successor to 10BASE-T, the world's most popular LAN technology. As a result, 100BASE-T offers an easy transition for existing 10BASE-T networks while delivering a tenfold increase in bandwidth.

100BASE-T Connectivity and Modularity

The BayStack 100BASE-T Stackable Hub family combines the strengths of modular intelligent hubs with the scalability, flexibility, and affordability of stackable hubs, offering a low-cost, high-performance solution for a variety of applications.

The 100BASE-T hubs are preconfigured with 12 RJ-45 modular receptacles supporting the IEEE 802.3u 100BASE-TX specification over two-pair Category 5 UTP cabling. The hubs also include built-in expansion and 100BASE-T media adapter slots that support a variety of host, network management, and 100BASE-T media adapter modules, providing additional configuration flexibility for expanding network environments (see Figure 1).

As network connectivity requirements grow, an optional 12-port 100BASE-TX Fast Ethernet module can be installed in the hub's expansion slot. The host module increases the hub's total number of ports to 24, providing a built-in method for accommodating additional users with a single, affordable platform.

The 100BASE-T media adapter slot supports modular cards that provide an alternative to the hub's preconfigured 100BASE-T media. The 100BASE-FX fiber media adapter offers one SC-type multimode fiber connector to provide a direct connection to other compatible Fast Ethernet devices, such as LattisSwitch Fast Ethernet switches or BLN, BCN, and ASN routers. The 100BASE-T media adapter can also be used as a direct attachment to end stations or servers where multimode fiber optic cabling is already installed.

Figure 1 | BayStack 100BASE-T Hub

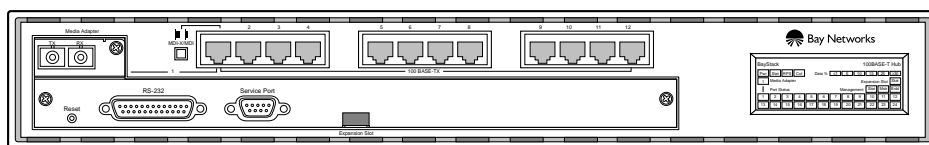
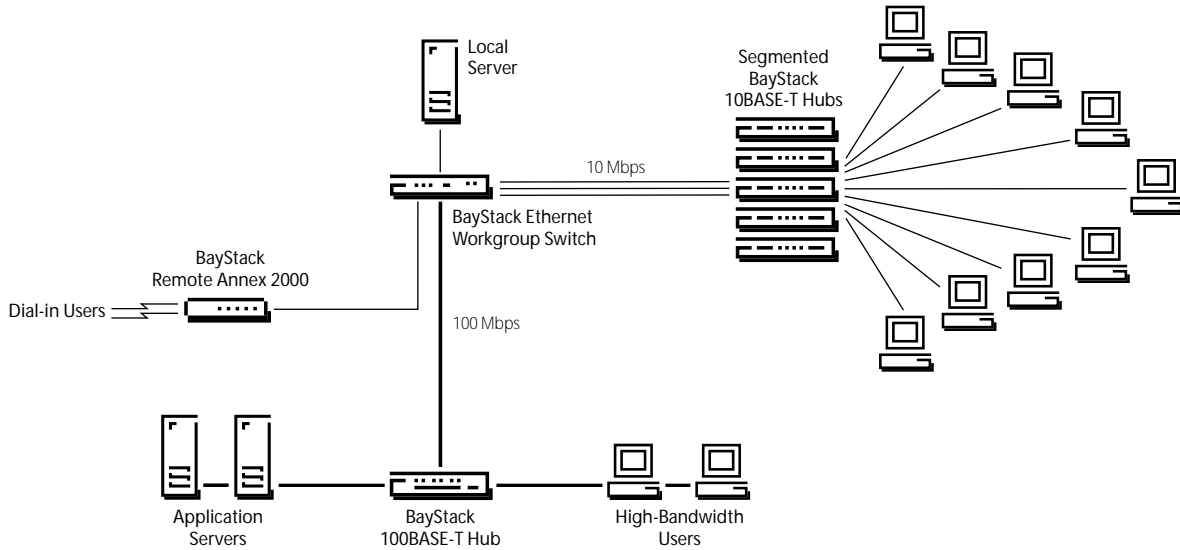


Figure 2 | BayStack Client/Server Application



100BASE-T Hub Scalability

Up to six BayStack 100BASE-T hubs can be stacked to create a single unit or collision domain supporting up to 144 users, providing an efficient and cost-effective solution for growing network environments. Stack connections are made via cascade connectors on the back of each unit using optional expansion cables.

Adding hubs to the stack as needed provides incremental growth without a substantial up-front investment. A Stack Position Resolution™ and automatic termination feature enables the hubs to detect the top and bottom of the stack and apply the appropriate termination to the bus.

100BASE-T Hub Management

Network management capabilities can be added to the 100BASE-T hub by installing a network management module in the expansion slot. The addition of a network management module enables the 100BASE-T hub to be managed from an Optivity network management station or by any other SNMP-compatible management system.

The network management module delivers basic fault and diagnostic management capabilities for the hub. The onboard Advanced agent software also supports Autotopology™ dynamic mapping, which provides a variety of system-generated views of the network topology on the Optivity management console. These network views culminate in the Expanded View™ graphical user interface, which offers a real-time display of the 100BASE-T hub or stack to enable complete port-level monitoring and control. The module also supports RMON (RFC 1271) Alarms and Events groups, adding a new level of network visibility to the management solution.

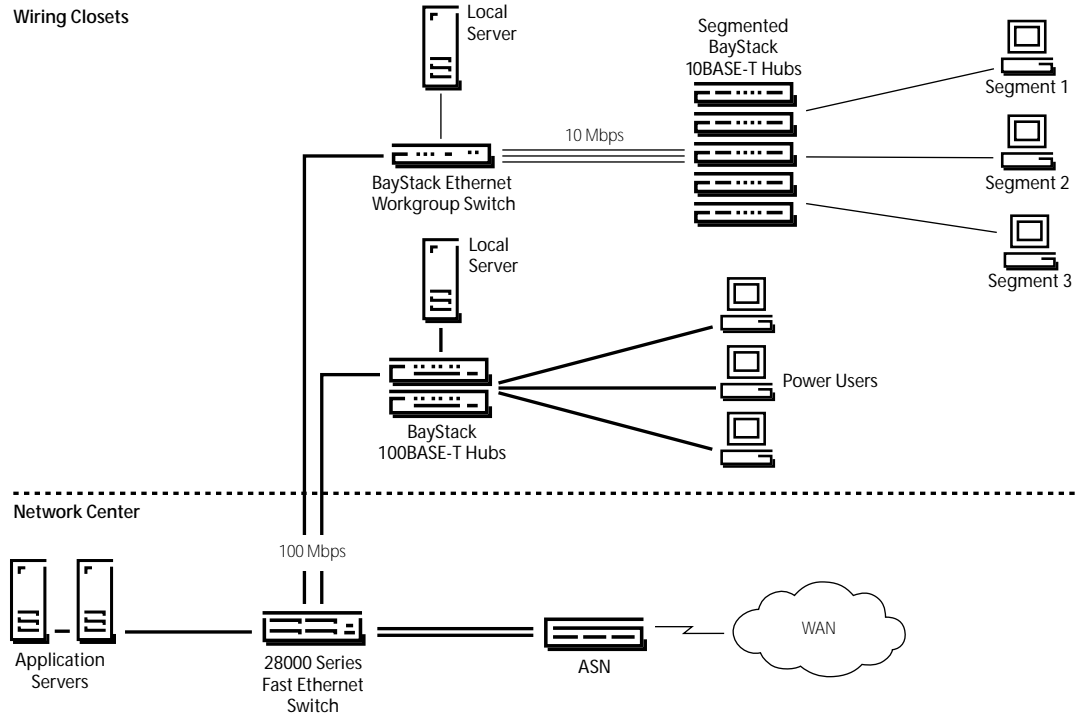
A single network management module is capable of managing an entire stack of 100BASE-T hubs. Management capabilities are extended from the managed unit to all attached hubs, providing complete management for up to 132 ports while avoiding the expense of purchasing a separate management module for each hub.

100BASE-T Hub Applications

The 100BASE-T hubs offer a high-performance desktop solution for particularly demanding network environments that quickly overwhelm traditional 10 Mbps solutions. The hubs also represent an important part of the Bay Networks 100BASE-T evolution strategy, unleashing the power of the 28000 Series Fast Ethernet switches by filling a critical need in mixed switched/shared-media networks.

In a standalone configuration, the 100BASE-T hubs deliver the bandwidth required to support power workgroups and increasingly powerful applications. Operating at 100 Mbps, the hubs can easily support the high-performance, high-utilization workstations prevalent in engineering and graphics departments — without the bottlenecks found in existing 10 Mbps Ethernet networks. The 100BASE-T hub family also provides sufficient bandwidth to support emerging high-demand applications such as client/server databases and CAD software.

Figure 3 | Wiring Closets and Network Center Application



Working in conjunction with other BayStack products, the 100BASE-T hubs can be used to build powerful and resilient client/server networks. In a BayStack environment, the 100BASE-T hub, connected to the Ethernet Workgroup Switch, provides high-speed “big pipe” connections to high-utilization servers (see Figure 2). The Ethernet Workgroup Switch provides performance-enhancing switching to segment a 10BASE-T hub stack. The Remote Annex 2000 supports telecommuters and other dial-in users, while the Access Node routers provide wide area links to remote office locations.

Installed with the 28000 Series Fast Ethernet switches, the BayStack 100BASE-T hubs play a critical role in the evolution to Fast Ethernet, providing a cost-effective way to improve network response times. Linking a 100BASE-T hub or stack to a 28000 Series switch provides the power workgroup with a 100 Mbps big pipe connection to centralized resources such as high-utilization servers and routers. The 100BASE-T hubs can also be linked to

100BASE-T router interfaces on BLN and BCN routers to create large-diameter Fast Ethernet networks (see Figure 3).

Bullet-Proof Reliability

100BASE-T hubs are designed to provide maximum availability, ensuring the network remains operational under demanding conditions. An optional redundant power supply unit (RPSU) provides a backup power source for up to four hubs. In addition, redundant network management modules can be installed in a 100BASE-T hub stack, providing an emergency backup in the event of a primary network management module failure. Only one network management module is active at a time; the backup unit, installed in an open expansion slot on a second 100BASE-T hub, remains in standby and is automatically activated upon failure of the primary management module. To ensure uninterrupted operation, the 100BASE-T hub's automatic termination

and bypass feature enables the cascade bus between hubs to bypass a failed unit in the middle of the stack. This feature allows all ports above and below the fault to remain operational in the event of a hub failure.

LED Matrix Display

Each 100BASE-T hub features a front-panel LED matrix display to report hub, expansion slot, media adapter, and RPSU status at a glance. The display also provides information about individual port connectivity, link and partition status, and collisions. A unique data utilization bar graph display is also provided to report utilization levels for that hub's particular stack or collision domain.

The LED matrix display and utilization bar graph provide critical hub and network performance data, even if a network management module is not installed. 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.

Technical Specifications

Technical specifications for the BayStack 100BASE-T Stackable Hub, 100BASE-TX Host Module, 100BASE-T Network Management Module, and 100BASE-FX Fiber Media Adapter are shown in Table 1.

Table 1 | BayStack 100BASE-T Stackable Hub Technical Specifications

Network Protocol and Standards Compatibility	IEEE 802.3u 100BASE-T
Data Rate	
TX	100 Mbps with 4B/5B coding scheme
FX	100 Mbps with 4B/5B coding scheme
Electrical Specifications	
Input Power	160 W
Thermal Rating	550 Btu/hr
AC Line Frequency	47-63 Hz
Input Voltage (rms)	90-264 V ac
Volt Amperes Rating	250 VA
Physical Dimensions	
100BASE-T Hub	(H) 2.57 in. x (W) 17.25 in. x (D) 11.18 in. (H) 6.53 cm x (W) 43.82 cm x (D) 28.40 cm
100BASE-TX Host Module and 100BASE-T Network Management Module	(H) 0.96 in. x (W) 12 in. x (D) 9.55 in. (H) 2.4 cm x (W) 30.5 cm x (D) 24.3 cm
100BASE-FX Fiber Media Adapter	(H) 0.77 in. x (W) 1.9 in. x (D) 3.73 in. (H) 1.9 cm x (W) 4.8 cm x (D) 9.5 cm
Weight	
100BASE-T Hub	10.0 lbs (4.5 kg) with filler panels installed 12.3 lbs (5.6 kg) with NMM and media adapter installed
100BASE-TX Host Module	2.4 lbs (1.1 kg)
100BASE-T Network Management Module	1.8 lbs (.84 kg)
100BASE-FX Fiber Media Adapter	2 oz (.06 kg)
Environmental Specifications	
Operating Temperature	5° to 40°C
Storage Temperature	-25° to 70°C
Operating Humidity	85% max relative humidity, noncondensing
Operating Altitude	10,000 ft (3,000 m) max
Storage Altitude	10,000 ft (3,000 m) max
Electromagnetic Emissions	
Meets Requirements of	FCC Part 15, Subpart B, Class A EN 55 022 (CISPR 22: 1985), Class B General License VDE 0871, Class B (AmtsbIVfg No. 243/1991) VCCI Class 1 ITE
Electromagnetic Susceptibility	
Electrostatic Discharge (ESD)	IEC 801-2, Level 3/2
Electrical Fast Transient/Burst	IEC 801-4, Level 2
Electrical Surge	IEC 801-5, Level 2/1

Table 1 | BayStack 100BASE-T Stackable Hub Technical Specifications (continued)

Safety Agency Approvals	UL listed (UL 1950) UL 94-V1 CSA certified (CSA 22.2 #950) IEC 950/EN 60 950 (TUV)
Interface Options	
100BASE-T Hub	RJ-45 connectors for Category 5 UTP (two-pair wire) and 100-ohm STP (two-pair wire) 100BASE-TX Ethernet interface
100BASE-FX Fiber Media Adapter	Fiber optic SC connectors for 100BASE-FX Ethernet interface with installed 100BASE-FX media adapter

Ordering Information

Ordering information for the BayStack 100BASE-T Stackable Hub products is shown in Table 2.

Table 2 | BayStack 100BASE-T Stackable Hub Ordering Information

Order Number	Description
AT2202001	BayStack 201 100BASE-T Stackable Hub with 12 100BASE-TX ports, one expansion slot, and one 100BASE-T media adapter slot
AT2204001	100BASE-TX Host Module for the BayStack 100BASE-T Hub
AT2219001	100BASE-FX Fiber Media Adapter for the BayStack 100BASE-T Hub
AT2207001	100BASE-T Network Management Module for BayStack 100BASE-T Hub
AT0018001	Cascade Cable for the BayStack 100BASE-T Hub
RPSU	Redundant Power Supply Unit



For more sales and product information, please call **1-800-8-BAYNET**.

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