



Highlights

- 24 SFP+ ports that operate at 10 Gigabit or 1 Gigabit Ethernet speeds
 - Optimal for high-performance computing and applications requiring high bandwidth and low latency
 - All ports are nonblocking 10 Gigabit Ethernet with deterministic latency of 680 nanoseconds
 - VMready™ helps reduce configuration complexity and improves security levels in virtualized environments
 - Virtual Fabric capability allows for the carving up of a physical NIC into multiple virtual NICs
 - G8124E models are equipped with enhanced processing and memory to improve performance for larger layer 3 networks, at the aggregation layer, high-end multicast applications and rapid failover
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IBM BNT RackSwitch G8124

*Ultra-low-latency, high-performance
10 Gb top-of-rack switch*

The IBM BNT RackSwitch™ G8124 is a 10 Gigabit Ethernet switch specifically designed for the data center, providing a virtual, cooler and easier network solution. The G8124 offers 24 10 Gigabit Ethernet ports in a high-density, 1U footprint. Designed with top performance in mind, the RackSwitch G8124 provides line-rate, high-bandwidth switching, filtering and traffic queuing without delaying data and large data-center grade buffers to keep traffic moving.

The G8124 is virtual—providing rack-level virtualization of networking interfaces. VMready software enables movement of virtual machines—providing matching movement of VLAN assignments, ACLs and other networking and security settings. VMready works with all leading VM providers, such as VMware, Citrix, Xen and Microsoft®. The G8124 also supports Virtual Fabric, which allows for the carving up of a physical NIC into 2 - 8 virtual NICs (vNICs) and creates a virtual pipe between the adapter and the switch for improved performance, availability and security, while reducing cost and complexity.

The G8124 is cooler—implementing server-like directional cooling to maximize data center layout and provisioning. Its superior airflow design complements the hot-aisle and cold-aisle data center cooling model. G8124 models come in either rear-to-front or front-to-rear airflow models, allowing customers to design their data center based on their hot and cold aisle implementation.

The G8124 is easier—with server-oriented provisioning via point-and-click management interfaces.



IBM Systems and Technology
Data Sheet

The low latency offered by the G8124 makes it ideal for latency-sensitive applications, such as high-performance computing clusters and financial applications. The G8124 also supports the newest protocols including Converged Enhanced Ethernet (CEE) and Data Center Bridging for support of Fibre Channel Over Ethernet (FCoE) and can be leveraged for NAS or iSCSI..



IBM BNT RackSwitch G8124 at a glance

Models	G8124R Rear to Front – Part # 0446017 G8124F Front to Rear – Part # 7309BF9 G8124DC Front to Rear (DC Power) – Part # 7309BD5 G8124ER Rear to Front – Part # 7309BR6 G8124EF Front to Rear – Part # 7309BF7
Warranty	3-year next business day advanced replacement with phone support and 3-year software upgrades
Performance	<ul style="list-style-type: none"> • 100% line-rate performance • Ultra low latency of 680 nanoseconds • 480 Gbps non-blocking switching throughput (full duplex)
Hardware Features	
Interface Options	<ul style="list-style-type: none"> • 24 10G SFP+ fiber connectors • 2x10/100/1000 Ethernet RJ45 and 1 mini-USB port for management
Dimensions	<ul style="list-style-type: none"> • 17.3" wide, 15" deep, 1 RU high
Weight	<ul style="list-style-type: none"> • 6.40 kg (14.08 lb)
Power	<ul style="list-style-type: none"> • The AC-powered G8124 has dual load-sharing internal power modules, 50 - 60 Hz, 100 - 240 V AC auto-switching per module. • The DC-powered G8124 has dual load-sharing internal -48V DC power supplies, input voltage ranging from 42 V dc to 60 V dc per module. • The Nominal Power for AC or DC G8124 models ranges from 115 W to 168 W depending on the speed of the port (1Gb/10Gb), type of transceivers (SR or DAC) and number of active ports.
Mean Time between Failure (MTBF)	<ul style="list-style-type: none"> • 189,060 hrs with ambient operating temperature of 40° C
Environmental Specifications	
Temperature	<ul style="list-style-type: none"> • Ambient operating: 0° C to +40° C
Relative humidity	<ul style="list-style-type: none"> • Non-condensing, operating 10 to 90%
Altitude	<ul style="list-style-type: none"> • Operating 3,050 m (10,000 feet)
Acoustic noise	<ul style="list-style-type: none"> • Fewer than 65dB
Heat dissipation	<ul style="list-style-type: none"> • 1100 BTU/hour (maximum)
Software Features	
Security	<ul style="list-style-type: none"> • RADIUS • TACACS+ • SCP • Wire Speed Filtering: Allow and Deny • SSH v1, v2 • HTTPS Secure BBI • Secure Interface Login & Password • MAC address move notification • Shift B Boot menu (Password Recovery/ Factory Default)

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VLANs	<ul style="list-style-type: none"> • Port-based VLANs • 4096 VLAN IDs supported • 1k VLANs (802.1Q) • Private VLAN Edge
FCoE/Lossless Ethernet	<ul style="list-style-type: none"> • 802.1 Data Center Bridging • Priority Based Flow Control (PFC) • Enhanced Transmission Selection (ETS) • Data Center Bridge Exchange protocol (DCBX) • FIP Snooping • Fibre Channel over Ethernet (FCoE) • Converged Enhanced Ethernet (CEE)
Trunking	<ul style="list-style-type: none"> • LACP • Static Trunks (EtherChannel) • Configurable Trunk Hash algorithm
Spanning Tree	<ul style="list-style-type: none"> • Multiple Spanning Tree (802.1s) • Rapid Spanning Tree (802.1w) • PVRST+ • Fast Uplink Convergence • BPDU guard
Quality of Service	<ul style="list-style-type: none"> • QoS 802.1p (Priority Queues) • DSCP Remarking • Metering
Routing Protocols	<ul style="list-style-type: none"> • RIP v1/v2 • OSPF • BGP
High Availability	<ul style="list-style-type: none"> • Uplink Failure Detection • HotLinks • Virtual Router Redundancy support (VRRP)
Multicast	<ul style="list-style-type: none"> • IGMP Snooping v1, v2 and v3 with 2K IGMP groups • Protocol Independent Multicast (PIM Sparse Mode/Dense Mode)
Virtualization	<ul style="list-style-type: none"> • VMready with VI API support • vNIC MIB support for SNMP
Monitoring	<ul style="list-style-type: none"> • Port mirroring • VLAN mirroring • ACL-based mirroring • sFlow version 5
Management Features	
Clients	<ul style="list-style-type: none"> • ISCLI (Cisco-like) • Scriptable CLI • Browser-based client or telnet
Standard protocols	<ul style="list-style-type: none"> • IPv6 • SNMP v1, v2c and v3 • RMON • Secondary NTP Support • Accept DHCP • DHCP Relay • LLDP • 16K MAC Table • 9K Jumbo Frames • 802.3X Flow Control



IBM BNT RackSwitch G8124 at a glance

Associated Options	
SFP, SFP+ Options	IBM BNT SFP+ SR Transceiver (46C3447) IBM BNT SFP+ LR Transceiver (90Y9412) IBM BNT SFP+ ER Transceiver (90Y9415) IBM BNT SFP RJ45 Transceiver (81Y1618) IBM BNT SFP SX Transceiver (81Y1622) IBM BNT SFP LX Transceiver (90Y9424) IBM BNT SFP ZX Transceiver (90Y9418)
SFP+ Copper Direct Attach Cables	1m IBM Passive DAC SFP+ Cable (90Y9427) 3m IBM Passive DAC SFP+ Cable (90Y9430) 5m IBM Passive DAC SFP+ Cable (90Y9433) 8.5m IBM Passive DAC SFP+ Cable (90Y9436)
Optical Cables	1M LC-LC Fiber Cable (88Y6851) 10M LC-LC Fiber Cable (88Y6854) 25M LC-LC Fiber Cable (88Y6857)
Rack Kit	IBM BNT 19" Flexible 4 Post Rail Kit (49Y4284)

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