

Family 3758+01 IBM Converged Switch B32

IBM United States Sales Manual

Revised: July 14, 2009.

Table of contents

↓ [Product Life Cycle](#)

Dates

↓ [Abstract](#)

↓ [Highlights](#)

↓ [Description](#)

↓ [Models](#)

↓ [Technical Description](#)

↓ [Publications](#)

↓ [Features --
Specify/Special/Exchange](#)

↓ [Accessories](#)

↓ [Machine Elements](#)

↓ [Supplies](#)

Document options

 [Printable version](#)

[Product Life Cycle Dates](#)

Type Model	Announced	Available	Marketing Withdrawn	Service Discontinued
3758-B32	2009/07/14	2009/07/17	-	-

↑ [Back to top](#)

[Abstract](#)

The IBM 3758 is a Converged Switch B32 that supports both Fibre Channel and Fibre Channel over Ethernet (FCoE) to help organizations simplify their growing infrastructures.

Model Abstract 3758-B32

The IBM 3758 Converged Switch Model B32 is a unique top-of-rack switch, featuring a low-profile 1U form factor and low power consumption (maximum 250 watts). It has 8 Fibre Channel ports with 24 ports for 10 Gigabit Ethernet.

↑ [Back to top](#)

[Highlights](#)

The IBM Converged Switch B32 is designed to support Fibre Channel over Ethernet (FCoE), Fibre Channel, Converged Enhanced Ethernet (CEE), and traditional Ethernet protocol connectivity for servers and storage. FCoE is a new protocol that can expand Fibre Channel into the Ethernet environment, and it helps to combine and leverage the advantages of two technologies, Fibre Channel protocol and Ethernet. The IBM Converged Switch B32 is designed to offer:

- A 32-port multiprotocol switch for server I/O consolidation
- Enterprise-class availability for business continuance
- Improved return of investment and investment protection
- Fabric security for mission-critical information

[↑ Back to top](#)

[Description](#)

The IBM Converged Switch B32 is designed to:

- Deliver high performance with a cut-through, non-blocking switch architecture
- Feature a top-of-rack, 1U, multiprotocol design that supports Fibre Channel over Ethernet (FCoE), Fibre Channel, Converged Enhanced Ethernet (CEE), and traditional Ethernet protocols
- Provide up to 8 Gbps performance with 8 Fibre Channel ports and line-rate performance for 24 10 Gigabit Ethernet ports
- Improve energy efficiency, operating at 350 watts with redundant power supplies and cooling fan FRUs
- Utilize ISL Trunking for Fibre Channel and Link Aggregation Control Protocol (LACP) for CEE
- Streamline management by utilizing the IBM System Storage Data Center Fabric Manager (DCFM), Fibre Channel services, and extensions for FCoE and CEE

The IBM Converged Switch B32 provides a reliable platform that helps reduce cable clutter, equipment acquisition costs, and operational costs associated with power consumption and cooling. This unique top-of-rack switch features a low-profile 1U form factor and low power consumption (a maximum 350 watts), leading the way toward a "greener" data center.

The IBM Converged Switch B32 features 8 Fibre Channel ports along with 24 ports for 10 Gigabit Ethernet. The Fibre Channel ports operate at 8 Gbps, and the 10 Gigabit Ethernet ports support Converged Enhanced Ethernet (CEE) and are capable of transporting both storage and LAN traffic, eliminating the need for separate SAN and LAN adapters.

To support the most data-intensive applications, the IBM Converged Switch B32 is designed to deliver a non-blocking architecture.

The top-of-rack IBM Converged Switch B32 connects to servers through Converged Network Adapters (CNAs). The consolidated SAN and LAN server ports and corresponding cables simplify configuration and cabling in server cabinets to reduce acquisition costs. With fewer components using power or requiring cooling, organizations can save significant operating costs as well.

FCoE preserves Fibre Channel constructs and services. It integrates seamlessly into existing Fibre Channel environments, enabling organizations to maximize the value of their current investments. In addition, FCoE extends the reach of Fibre Channel management applications and tools, enabling organizations to manage FCoE-attached devices with their existing Storage Area Network (SAN) management applications.

The switch utilizes ASIC technology that supports port trunking for Fibre Channel and link aggregation for Ethernet. For Fibre Channel, an Inter-Switch Link (ISL) trunk can supply up to 64 Gbps of balanced data throughput. In addition to reducing congestion and increasing bandwidth, ISL Trunking utilizes

ISLs more efficiently to preserve the number of usable switch ports. For Ethernet, the IBM Converged Switch B32 supports standards-based Link Aggregation Control Protocol (LACP).

Additional performance capabilities include 32 virtual channels on each ISL, enabling antistarvation capabilities at the port level to avoid performance degradation. In addition, exchange-based Dynamic Path Selection (DPS) optimizes fabric-wide performance and load balancing by automatically routing data to the most efficient available path in the fabric. DPS further augments ISL Trunking to provide more effective load balancing in certain configurations.

The IBM Converged Switch B32 provides a reliable foundation for disaster recovery and business continuance by employing enterprise-class availability features such as hot-swappable, redundant, and integrated fan and power supply assemblies. Combined with a wide range of diagnostic and monitoring functions, these capabilities help ensure highly available SAN environments.

In conjunction with Brocade SAN extension products, the IBM Converged Switch B32 enables servers and storage devices to reside remotely, giving organizations a reliable way to create highly available environments that support the most sophisticated business continuance and disaster recovery initiatives.

The IBM Converged Switch B32 utilizes the same Brocade Fabric operative system that supports the entire IBM b-type Fibre Channel product family, from fixed port switches to the SAN768B Fabric Backbone. This helps ensure backward compatibility that enables the IBM Converged Switch B32 to seamlessly integrate with existing Fibre Channel investments.

This design also enables forward compatibility among Brocade solutions, simplifying maintenance and field upgrades while providing peace of mind for future data center expansion. Moreover, organizations can monitor and manage the IBM Converged Switch B32 with fabric robust management applications such as the IBM Data Center Fabric Manager (DCFM).

By networking Fibre Channel switches and the IBM Converged Switch B32 under a common management platform, Fabric OS simplifies management through standard interfaces and support for third-party management applications. The IBM Converged Switch B32 supports switch management through a Command Line Interface (CLI), Web Tools, or DCFM, which includes support for FCoE and CEE.

The IBM Converged Switch B32 is designed for the highest level of fabric security to help organizations safeguard their critical information. It utilizes Advanced Zoning as well as advanced port and switch Access Control Lists (ACLs) to simplify administration and significantly increase control over data access. To simplify management access security, the IBM Converged Switch B32 supports Active Directory with LDAP.

The IBM Converged Switch B32 includes the following features:

- **Eight Fibre Channel universal (E, F, M, and FL) ports:** with 1, 2, 4, and 8 Gbps line speed full duplex
- **24 CEE ports:** with 10 Gbps line speed
- **FCoE features:** complete T11 FCoE entity and FCoE bridging. The FCoE translation entity built into the hardware engine provides:

- Detection of Fibre Channel encapsulation and redirection of FCoE fabric login frames
- Encapsulation of Fibre Channel frames in FCoE Ethernet packets
- Extraction of Fibre Channel frames from FCoE Ethernet packets
- Mapping of Fibre Channel destination Virtual Fabrics and destination FC_ID to Ethernet Virtual LAN and destination MAC addresses

Fabric-Provided MAC Addresses (FPMAs) enable new Ethernet MAC addresses to be created using the FC_ID assigned by the fabric.

- **CEE features:**
 - Data Center Bridging eXchange (DCBX)
 - Priority-based Flow Control (PFC) - IEEE 802.1Qbb
 - Enhanced Transmission Selection (ETS) - IEEE 802.1Qaz
- **Dynamic Path Selection (DPS):** optimizes fabric-wide performance and load balancing by automatically routing data to the most efficient available path in the fabric.
- **Frame-based ISL Trunking:** (optional license) enables up to 8 ports between a pair of switches to be combined into a logical ISL with speeds of up to 64 Gbps (128 Gbps full duplex) for optimal bandwidth utilization and load balancing; exchange-based load balancing across ISLs with DPS (included in Fabric OS).
- Link aggregation (10 Gigabit Ethernet) Link Aggregation Control Protocol (LACP), Brocade-enhanced and 802.3ad standards-based.
- **Maximum frame size:** of 2112-byte Fibre Channel payload and 9048-byte Ethernet frame.
- **Classes of service:** Class 2, Class 3, Class F (inter-switch frames).
- **Port types:** FL_Port, F_Port, M_Port (Mirror Port), E_Port; self-government is based on switch type (U_Port); optional port type control.
- **Data traffic types:** Fabric switches supporting unicast, multicast (255 groups), and broadcast.
- **Fibre Channel media type:** hot-pluggable, industry-standard Small Form Factor Pluggable (SFP) and SFP+, LC connector; Short-Wave Laser (SWL) and Long-Wave Laser (LWL); distance depends on fiber optic cable and port speed; supports SFP+ (2, 4, and 8 Gbps).
- **CEE media type:** hot-pluggable, 10 Gigabit Ethernet SFP+ supports any combination of Short-Reach (SR) and Long-Reach (LR) optical transceivers; copper twinax cables of one, three, or five meters.
- **Fibre Channel fabric services:** Simple Name Server (SNS), Registered State Change Notification (RSCN), NTP, RADIUS, LDAP, Reliable Commit Service (RCS), Dynamic Path Selection (DPS), Enhanced Group Management (EGM), and Web Tools; optional fabric services include Fabric Watch, ISL Trunking, and Advanced Performance Monitoring.
- **CEE services:** Spanning Tree Protocol (STP, MSTP, RSTP, VLAN Tagging (802.1q), MAC

address learning and aging; native FCoE switching; IEEE 802.3ad Link Aggregation (LACP); access control lists based on VLAN, source, destination address, and port; eight priority levels for quality of service (QoS) and 4k VLANs; Priority-based Flow Control (PFC); Data Center Bridging eXchange (DCBX)-Capabilities Exchange; Enhanced Transmission Selection (ETS).

Optional features

The IBM Converged Switch B32 supports SFP and SFP+ optical transceivers. For the Fibre Channel connections, the B32 uses SFP and SFP+ transceivers that support any combination of Short Wavelength (SWL) and Long Wavelength (LWL) optical media. For the CEE connections, the B32 uses SFP+ transceivers that support either optical or active twinax copper cables. The optical SFP+ transceivers support both Short Reach (SR) and Long Reach (LR) modules. Twinax cables support distances of 1 meter, 3 meters, and 5 meters.

Transceivers

The IBM Converged Switch offers the following SFP optical transceivers:

- 8 Gbps SW (#2801) and 10 Km LW (#2821) SFP
- 10 Gbps SR (#2117) and 10 Gbps LR (#2151) SFP+
- Twinax Active 1 m (#2711), Twinax Active 3 m (#2731), and Twinax Active 5 m (#2751)

Transceivers are also available in 8-pack convenience packages:

- 8 Gbps SW (#2808) and 10 Km LW (#2828) SFP
- 10 Gbps SR (#2118) and 10 Gbps LR (#2158) SFP+
- Twinax Active 1 m (#2718), Twinax Active 3 m (#2738), and Twinax Active 5 m (#2758)

Mid-mount TELCO rack kit (#5910)

Enables installation of a 3758-B32 in a Telco rack.

Advanced performance monitor (#7404)

Performance Monitoring Activation provides performance monitoring capability to help identify end-to-end bandwidth usage by host/target pairs and is designed to provide information for capacity planning.

Trunking activation (#7405)

ISL Trunking Activation is designed to enable FC packets to be efficiently distributed across multiple Inter-Switch connections (links) between two SAN b-type fabric switches, while preserving in-order delivery. ISL Trunking is supported between any of the supported 2 Gbps, 4 Gbps, or 8 Gbps b-type models. Both b-type switches must have ISL Trunking activated. All the 8 Gbps platforms support a trunk group with up to eight ports, and up to 64 Gbps ISL trunks. The trunking groups are based on the user port number, with contiguous eight ports as one group. When connecting the 8 Gbps-capable models to legacy 2 Gbps or 4 Gbps capable b-type fabric switch models, ISL Trunking is supported with link speeds operational at lowest speed and FC packets distributed across ISLs for a combined bandwidth of up to 8 Gbps or 64 Gbps.

3758-B32 Firmware upgrade renewal, one year (#7714)

The initial purchase of an IBM Converged Switch B32 includes one year of firmware upgrade entitlement. This feature provides you with one additional year of renewal for upgrades included in future releases of the FOS firmware. You are not eligible to access new features and functions without the purchase of this feature.

3758-B32 Firmware upgrade renewal, two years (#7715)

The initial purchase of an IBM Converged Switch B32 includes one year of firmware upgrade entitlement. This feature provides you with two additional years of renewal for upgrades included in future releases of the FOS firmware. You are not eligible to access new features and functions without the purchase of this feature.

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at:

http://www.ibm.com/able/product_accessibility/index.html

For hardware offerings

The following features support use by people with disabilities:

- Controls and latches operable with one hand and minimal dexterity
- Keys discernible by touch without activating them
- Ports and connectors support connection of industry-standard devices

↑ [Back to top](#)

[Models](#)

Model Summary Matrix

Model	# Ports (Min/Max)	Port Increments	SW	LW
3578-B32	8 FC (8 / 8)	NA	8	8
	24 CEE (24 / 24)	NA	24	24

Customer Setup (CSU)

Yes.

Devices Supported

Specific details on supported devices; storage products attachability, SAN connectivity products, and configuration options are available on the Web at:

<http://www.ibm.com/systems/storage/san/b-type>

Model Conversions

Not available.

↑ [Back to top](#)

Technical Description

↓ Physical Specifications	↓ Operating Environment	↓ Limitations
↓ Hardware Requirements	↓ Software Requirements	

The IBM Converged Switch B32 (3758-B32) is a 24-port 10 GbE line-rate, low latency lossless Converged Enhanced Ethernet (CEE) and an 8-port auto-sensing 1, 2, 4, or 8 Gbps Fibre Channel switch that delivers the latest ASIC technology and architecture for Fibre Channel Storage Area Networks (SANs). The B32 enables the Fibre Channel over Ethernet (FCoE) protocol and is a high performance 8 Gbps Fibre Channel switch designed for the needs of enterprise environments that require a high-port footprint for port aggregation and yet desire the simplified management environment that comes with reducing the total number of domains to manage.

The B32 supplies Reliability, Availability, and Serviceability (RAS) performance and scalability requirements of an enterprise switch along with the interoperability and ease-of-use advantages found in the IBM b-type product family.

The IBM Converged Switch B32 system is a 1U height rack mount switch is designed to provide top-of-rack connectivity to servers and storage using FC and FCoE protocols. Each FC port offers auto sensing and self-negotiating to the highest speed (1, 2, 4, or 8 Gbps) supported by the attached server, storage, or switch, as well as self-configuration as F_ports, FL_ports, E_ports. The CEE ports operate at 1 GE line speed.

The 3758-B32 enclosure contains the system boards and two hot swappable, redundant power supply FRUs, and three redundant fan FRUs. The system will continue to operate in the event of a single power supply failure. The three fan FRUs, each with two fan units, are designed as hot swappable in a redundant n+1 configuration to ensure that the 3758-B32 will continue to operate continuously and non-disruptively in the event of a single fan FRU failure.

The cabinet-mountable 1U chassis is designed to be mounted in a 19-in cabinet space, with forced-air cooling that flows from the non-port side of the switch to the port side.

Physical Specifications

The IBM Converged Switch B32 can be mounted in a 19-inch Electronic Industries Association (EIA) rack using the rail kit provided with each enclosure. The optional Mid-mount Rack Kit (#5910) enables installation of a 3758-B32 in a Telco rack. In addition, the IBM Converged Switch B32 can be used in a tabletop configuration.

	3758-B32			

Width:	42.8	cm	(16.8	in)
Height:	4.3	cm	(1.7	in)
Depth:	63.4	cm	(25.0	in)
Weight:	12.97	kg	(28.6	lb.), empty chassis

For installation into non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

Operating Environment

- Operating temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Non-operating: -25 to 70 degrees C (-13 to 158 degrees F)
- Humidity operating: 10% to 85%, noncondensing at 40 C (104 F)
- Humidity non-operating: 10% to 90%, noncondensing at 70 C (158 F)
- Operating altitude: 0 to 3,000 m (0 to 9,842 ft)
- Storage altitude: Up to 12 km (39,370 ft)
- Operating shock: 20 G, 6 ms half-sine
- Non-operating shock: 33 G, 11 ms half-sine
- Vibration operating: 0.5 g sine, 5 to 500 Hz
- Non-operating vibration: 2 g sine, 5 to 500 Hz
- Airflow high-speed: 42 cu ft/min (71.36 cu m/hr)
- Input voltage: 100 to 240 V ac, universal
- Frequency: 47 to 63 Hz
- Power consumption: 182.4 W idle, 306 W maximum

EMC Conformance

- ACMA C-Tick (Australia and New Zealand)

Product Safety/Country Testing/Certification

- CSA NRTL Certification to UL 60950-1: 2003, First Edition
- CSA Certification to CSA 60950-1-03 (Canadian Standards Association)
- CB Certification to IEC 60950-1(2001) (including all National Deviations)
- Nemko Certification to EN60950-1:2001
- German TUV GS Certificate to EN60950-1+ A11
- GOST Certification (Russia)
- TUV Argentina Certification to IEC60950-1(2001)
- Low Voltage Directive (2006/95/EC) for CE Marking in European Union

Limitations

Not applicable.

Hardware Requirements

Supported servers and storage systems

The IBM Converged Switch B32 is designed to provide Fibre Channel and Ethernet connectivity for the following:

Servers

- IBM Power Systems
- IBM System p and selected RS/6000 servers
- IBM System i and selected AS/400 servers
- IBM System x and selected Netfinity servers
- Other Intel-based servers with Linux, Microsoft Windows 2000, and Windows 2003
- Selected Sun and HP servers

Storage software

- IBM TotalStorage SAN Volume Controller (SVC)

Storage systems

- IBM TotalStorage DS8000
- IBM TotalStorage DS6000
- IBM TotalStorage DS4000
- IBM TotalStorage Enterprise Storage Server
- IBM TotalStorage FAST Family of Storage Servers
- IBM TotalStorage 3580, 3588, 3590, and 3592 Tape Drives
- IBM TotalStorage 3494, 3582, 3583, and 3584 Tape Libraries
- IBM TotalStorage 3581 Tape Autoloader
- IBM TotalStorage 3584 High Availability Frame Model HA1
- Other selected storage systems

For specific support dates, configuration options, server models, operating systems levels, attachment capabilities, and throughput connectivity speeds, visit:

<http://www.ibm.com/systems/storage/san/b-type>

[Software Requirements](#)

Specific details on supported operating system releases are available at:

<http://www.ibm.com/totalstorage/san/b-type>

↑ [Back to top](#)

[Publications](#)

The following publications are shipped as hardcopy with the product.

Title	Order number
IBM Converged Switch B32 Installation, Service, and User Guide	GC52-1358
IBM Converged Switch B32 Quickstart Guide	GC27-2262

To directly download translated publications in PDF format, visit the IBM Publications Center at:

<http://www.ibm.com/shop/publications/order>

[↑ Back to top](#)

[Features -- Specify/Special/Exchange](#)

[↓ No Charge Specify Codes](#) [↓ Special Feature Codes -- Chargeable](#) [↓ Feature Exchanges](#)

[No Charge Specify Codes](#)

Description	Machine type	Model	Feature number	Min	Max
IBM Converged Switch B32	3758	B32			
Desktop Install Power Cord			9205	0	1

[Special Feature Codes -- Chargeable](#)

Description	Machine type	Model	Feature number	Min	Max
IBM Converged Switch B32	3758	B32			
SFP+ 10 Gbps SR			2117	0	24
SFP+ 10 Gbps SR 8-Pack			2118	0	3
SFP+ 10 Gbps LR			2151	0	24
SFP+ 10 Gbps LR 8-Pack			2158	0	3
Twinax Active 1 m			2711	0	24
Twinax Active 1 m 8-Pack			2718	0	3
Twinax Active 3 m			2731	0	24
Twinax Active 3 m 8-Pack			2738	0	3
Twinax Active 5 m			2751	0	24
Twinax Active 5 m 8-Pack			2758	0	3
SFP 8 Gbps SW			2801	0	8
SFP 8 Gbps SW 8-Pack			2808	0	1
SFP 8 Gbps 10 Km LW			2821	0	8
SFP 8 Gbps 10 Km LW 8-Pack			2828	0	1
LC/LC 5 m MMF 50 Micron			5605	0	8
LC/LC 25 m MMF 50 Micron			5625	0	8
LC/LC 31 m SMF 9 Micron			5721	0	8
OM3 Cable LC/LC 10 m			5810	0	32
Mid-mount Rack Kit			5910	0	1
Advanced Performance Monitor			7404	0	1
Trunking Activation			7405	0	1
3758-B32 FW upgrade 1 year			7714	0	4
3758-B32 FW upgrade 2 years			7715	0	2
Desktop install Power cord			9205	0	1
Line Cord, US/Canada			9800	0	2
Line Cord, France			9820	0	2
Line Cord, Denmark			9821	0	2

Line Cord, UK	9825	0	2
Line Cord, Israel	9827	0	2
Line Cord, Switzerland	9828	0	2
Line Cord, South Africa	9829	0	2
Line Cord, Italy	9830	0	2
Line Cord, Australia	9831	0	2
Line Cord, Uruguay	9834	0	2
Line Cord, China	9840	0	2
Line Cord, US - Chicago	9986	0	2

Feature Descriptions

Feature descriptions for IBM Converged Switch B32

Each switch is delivered with all ports activated in the base; however IBM does not include SFPs within the base product. The 8 CEE ports and minimum 8 of the Fibre Channel ports must be populated with SFPs at the time of the initial order. Any combination of supported short wave and/or long wave SFPs may be ordered at the time of initial purchase, or when additional ports are populated with SFPs. This switch uses hot-pluggable, industry-standard Small Form Factor Pluggable (SFP), LC connector fiber optic transceivers, supporting Short-Wave Length (SWL), Long-Wave Length (LWL), SFP+. Actual distance depends on fiber-optic cables and port speed.

Transceivers - Twinax

10 Gbps SFP+ Twinax Direct-Attach Copper is direct-attach cable that can connect directly into SFP+ housings at both ends. They support 10 Gbps transmission. Twinax has the advantages of low power, low cost and low latency. The SFP+ copper cable assembly is a high performance integrated duplex serial data link for bi-directional communications. It is designed for high speed data rates supporting applications such as Fibre Channel, and Gigabit Ethernet. The hot pluggable feature allows changing to/from another SFP+ compatible module without having to remove system power.

(#2711) TWINAX ACTIVE 1 m

(#2731) TWINAX ACTIVE 3 m

(#2751) TWINAX ACTIVE 5 m

Summary: These optional features provide 10 Gbps SFP+ Twinax Direct-Attach Copper cables to be used with the 24 CEE ports.

- Minimum Number of Features per 3758-B32: None.
- Maximum Number of Features per 3758-B32: 24
- Prerequisites: None.
- Corequisites: Eight of the CEE ports must be populated with transceivers (#2711, #2718, #2731, #2738, #2751, #2758, #2117, #2118, #2151, #2158), at the time of initial order, features.
- Compatibility Conflicts: None
- Limitations: Max is total of Twinax features (#2711 + #2731 + #2751 + (8 x #2718) + (8 x #2738) + (8 x #2758)).
- Cable Order: None.

Transceivers - Small Form-Factor plus Pluggable (SFP+)

The optical SFP+ transceivers support both SR (Short Reach) and LR (Long Reach) modules. A mixture of SR and LR ports can be configured adding SFP+ optical transceivers for 10 Gbps connectivity on the twenty-four CEE ports on each 3758-B32 switch.

(#2117) SFP+ TRANSCEIVER 10 GBPS SR

(#2151) SFP+ TRANSCEIVER 10 GBPS LR

Summary: This feature provides one SR SFP+ transceiver designed to provide 10 Gbps connections to the twenty-four CEE ports on the 3758-B32 model.

- Minimum Number of Features per 3758-B32: None.
- Maximum Number of Features per 3758-B32: 24
- Prerequisites: None.
- Corequisites: Eight of the CEE ports must be populated with transceivers (#2711, #2718, #2731, #2738, #2751, #2758, #2117, #2118, #2151, #2158), at the time of initial order, features.
- Compatibility Conflicts: Can only be used with OM3 Cable (#5810).
- Limitations: Max is total of SFP+ features (#2117 + #2151 + (8 x #2118) + (8 x #2158)).
- Cable Order: None.

Transceivers - Small Form-Factor Pluggable (SFP)

The minimum quantity of eight 8 Gbps SFP transceivers, short wave, or long wave, are required and must be ordered at the time of initial order. A mixture of shortwave and longwave ports can be configured adding optical transceivers for Fibre Channel connectivity up to the maximum of eight SFPs on each switch. All eight activated FC ports must be populated with SFPs. The total number of SFP Transceiver features = (#2801 + (8 x #2808) + #2821 + (8 x #2828)) must be equal eight.

(#2801) SFP TRANSCEIVER 8 GBPS SW

Summary: This feature provides one shortwave SFP transceiver designed to provide Fibre Channel connections at distances up to 50 meters while using the appropriate 50.0/125 micron (50u) fiber optic cable, and distances up to 21 meters while using the appropriate 62.5/125 micron (62.5u) fiber optic cable.

- Minimum Number of Features per 3758-B32: None
- Maximum Number of Features per 3758-B32: 8
- Prerequisites: None.
- Corequisites: All eight 8 Gbps FC ports must be populated with SFP transceivers.
- Compatibility Conflicts: None
- Limitations: Max is total of SFP features (#2801 + #2821 + (8 x #2808) + (8 x #2828)).
- Cable Order: None.

(#2821) SFP TRANSCEIVER 8 GBPS 10 KM LW

Summary: This optional feature provides a longwave 8 Gbps SFP fiber optic transceiver, and is designed to support 2, 4 or 8 Gbps Fibre Channel connections at distances up to 10 km (6.2 miles), while using the appropriate 9.0/125 micrometer single mode fiber optic cable.

- Minimum Number of Features per 3758-B32: None.
- Maximum Number of Features per 3758-B32: 8
- Prerequisites: None.
- Corequisites: All eight 8 Gbps FC ports must be populated with SFP transceivers.
- Compatibility Conflicts: None
- Limitations: Max is total of SFP features (#2801 + #2821 + (8 x #2808) + (8 x #2828)).
- Cable Order: None.

Transceivers - SFP 8 packs

(#2718) TWINAX ACTIVE 1 m - 8 Pack

(#2738) TWINAX ACTIVE 3 m - 8 Pack

(#2758) TWINAX ACTIVE 5 m - 8 Pack

Summary: These optional features provide an additional eight 10 Gbps SFP+ Twinax Direct-Attach Copper cables to be used with the 24 CEE ports.

- Minimum Number of Features per 3758-B32: None.
- Maximum Number of Features per 3758-B32: 3
- Prerequisites: None.
- Corequisites: Eight of the CEE ports must be populated with transceivers (#2711, #2718, #2731, #2738, #2751, #2758, #2117, #2118, #2151, #2158), at the time of initial order, features.
- Compatibility Conflicts: None
- Limitations: Max is total of Twinax features (#2711 + #2731 + #2751 + (8 x #2718) + (8 x #2738) + (8 x #2758)).
- Cable Order: None.

(#2118) SFP+ TRANSCEIVER 10 GBPS SR - 8 Pack

(#2158) SFP+ TRANSCEIVER 10 GBPS LR - 8 Pack

Summary: This feature provides an additional eight SR SFP+ transceivers designed to provide 10 Gbps connections to the twenty-four CEE ports on the 3758-B32 model.

- Minimum Number of Features per 3758-B32: None.
- Maximum Number of Features per 3758-B32: 24
- Prerequisites: None.
- Corequisites: Eight of the CEE ports must be populated with transceivers (#2711, #2718, #2731, #2738, #2751, #2758, #2117, #2118, #2151, #2158), at the time of initial order, features.
- Compatibility Conflicts: None
- Limitations: Max is total of SFP+ features (#2117 + #2151 + (8 x #2118) + (8 x #2158)).
- Cable Order: None.

(#2808) SFP TRANSCEIVER 8 GBPS SW - 8 PACK

Summary: This feature provides an additional eight shortwave SFP transceivers, designed to provide Fibre Channel connections at distances up to 50 meters while using the appropriate 50.0/125 micron (50u) fiber optic cable, and distances up to 21 meters while using the appropriate 62.5/125 micron

(62.5u) fiber optic cable.

- Minimum Number of Features per 3758-B32: None.
- Maximum Number of Features per 3758-B32: 1
- Prerequisites: None.
- Corequisites: All eight 8 Gbps FC ports must be populated with SFP transceivers.
- Compatibility Conflicts: None
- Limitations: Max is total of SFP features (#2801 + #2821 + (8 x #2808) + (8 x #2828)).
- Cable Order: None.

(#2828) SFP TRANSCEIVER 8 GBPS 10 KM LW - 8 PACK

Summary: This optional feature provides an additional eight longwave 8 Gbps SFP fiber optic transceivers, and is designed to support 2, 4 or 8 Gbps Fibre Channel connections at distances up to 10 km (6.2 miles), while using the appropriate 9.0/125 micrometer single mode fiber optic cable.

- Minimum Number of Features per 3758-B32: None.
- Maximum Number of Features per 3758-B32: 1
- Prerequisites: None.
- Corequisites: All eight 8 Gbps FC ports must be populated with SFP transceivers.
- Compatibility Conflicts: None
- Limitations: Max is total of SFP features (#2801 + #2821 + (8 x #2808) + (8 x #2828)).
- Cable Order: None.

Fiber optic cables

(#5605) Fiber cable LC/LC 5 M multimode 50 micron

(#5625) Fiber cable LC/LC 25 M multimode 50 micron

Summary: A fiber optic cable is required for attaching each active port to a host system adapter, or other storage area FC component. The cable can be customer supplied, or ordered with the 3758-B32 in the lengths available. The attaching fiber cable must be 50.0/125 micrometers for distances up to 300 meters at 2 Gbps speed, 150 meters at 4 Gbps, or 50 meters at 8 Gbps. The attaching fibre cable must be 62.5/125 micrometers for distances up to 175 meters at 2 Gbps speed, or 70 meters at 4 Gbps, or 21 meters at 8 Gbps. Longwave SFP's require 9 Micron singlemode fiber optic cables. The connection is a LC connector type.

- Minimum Number of Features per 3758-B32: 0.
- Maximum Number of Features per 3758-B32: 8.
- Prerequisites: None.
- Corequisites: None.
- Compatibility Conflicts: Can only be used with the 8 FC ports.
- Customer Set-up: Yes.
- Limitations: Maximum is total quantity of feature #5605, and #5625.
- Field Installable: Yes, both IPO and MES.
- Cable Order: None.

(#5721) Fiber cable LC/LC 31 M singlemode 9 micron

Summary: This feature provides 9 Micron singlemode fiber optic cables. The maximum number of features allowed per switch is the total of #5721.

- Minimum Number of Features per 3758-B32: 0.
- Maximum Number of Features per 3758-B32: 8.
- Prerequisites: None.
- Corequisites: None.
- Compatibility Conflicts: Can only be used with the 8 FC ports.
- Customer Set-up: Yes.
- Limitations: Maximum is total quantity of feature #5721.
- Field Installable: Yes, both IPO and MES.
- Cable Order: None.

(#5810) OM3 CABLE LC/LC 10 M

Summary: This feature provides a 3rd generation multimode fiber with a 50 micron core, suitable for 10GE links. The OM3 50-micron optical fiber cable has been developed according to the newest 10 Gbps standards and allows data transmission over a distance up to maximum 300 m at 850 nm.

- Minimum Number of Features per 3758-B32: 0.
- Maximum Number of Features per 3758-B32: 32.
- Prerequisites: None.
- Corequisites: None.
- Compatibility Conflicts: None.
- Customer Set-up: Yes.
- Limitations: None.
- Field Installable: Yes, both IPO and MES.
- Cable Order: None.

(#5910) MID-MOUNT TELCO RACK KIT

Summary: This feature provides a mid-mount rack kit to enable installation of a 3758-B32 in a Telco rack.

- Minimum Number of Features per 3758-B32: 0.
- Maximum Number of Features per 3758-B32: 1.
- Prerequisites: None.
- Corequisites: None.
- Compatibility Conflicts: None.
- Customer Set-up: Yes.
- Limitations: None.
- Field Installable: Yes, both IPO and MES.
- Cable Order: None.

(#7204) Advanced performance monitor

Summary: This feature provides Performance Monitoring capability to help identify end to end bandwidth usage by host/target pairs and is designed to provide information for capacity planning.

- Minimum Number of Features per 3758-B32: 0.

- Maximum Number of Features per 3758-B32: 1.
- Prerequisites: None.
- Corequisites: None.
- Compatibility Conflicts: None.
- Customer Set-up: Yes.
- Limitations: None.
- Field Installable: Yes, both IPO and MES.
- Cable Order: None.

(#7405) Trunking activation

Summary: This feature enables Trunking activation for ISL connections between two b-type switches, routers, and directors. Both SAN b-type system must have ISL Trunking activated.

- Minimum Number of Features per 3758-B32: 0.
- Maximum Number of Features per 3758-B32: 1.
- Prerequisites: None.
- Corequisites: None.
- Compatibility Conflicts: None.
- Customer Set-up: Yes.
- Limitations: None.
- Field Installable: Yes, both IPO and MES.
- Cable Order: None.

(#7714) 3758-B32 Firmware upgrade renewal, one year

Summary: The initial purchase of an IBM Converged Switch B32 includes one year of firmware upgrade entitlement. This feature provides you with one additional year of renewal for upgrades included in future releases of the FOS firmware. You are not eligible to access new features and functions without the purchase of this feature.

- Minimum Number of Features per 3758-B32: None
- Maximum Number of Features per 3758-B32: 4
- Prerequisites: None
- Corequisites: None
- Compatibility Conflicts: None.
- Customer Setup: Yes
- Limitations: Max. total of #7714 is 4.
- Plant/Field Install: Yes, both IPO and MES
- Cable Order: None

(#7715) 3758-B32 Firmware upgrade renewal, two years

Summary: The initial purchase of an IBM Converged Switch B32 includes one year of firmware upgrade entitlement. This feature provides you with two additional years of renewal for upgrades included in future releases of the FOS firmware. You are not eligible to access new features and functions without the purchase of this feature.

- Minimum Number of Features per 3758-B32: None
- Maximum Number of Features per 3758-B32: 2

- Prerequisites: None
- Corequisites: None
- Compatibility Conflicts: None.
- Customer Setup: Yes
- Limitations: Max. total of #7715 is 2.
- Plant/Field Install: Yes, both IPO and MES
- Cable Order: None

Installation specify codes

(#9205) Desktop install power cord

Summary: This feature will designate the 3758-B32 switch for a non-rack, desktop usage. You must order the specify feature number 98XX to designate the country specific power cord.

- Minimum Number of Features per 3758-B32: 0.
- Maximum Number of Features per 3758-B32: 1.
- Prerequisites: None.
- Corequisites: Requires Power Cord with Specify Codes #9800-#9986.
- Compatibility Conflicts: None.
- Customer Set-up: Yes.
- Limitations: None.
- Field Installable: No, Initial Plant Order only.
- Cable Order: None.

Power cords for non-rack installation

(#9800) Power cord

This feature supplies a 125V, 10A, 2.8 meter (NEMA 5-15 P plug) line cord for Group 1 countries: United States, Canada, Antigua, St. Lucia, St. Vincent, Dominica, Grenadines, Grenada, Aruba, Bahamas, Barbados, Belize, Bermuda, Bolivia, Cayman Islands, Colombia, Costa Rica, Dominican Republic, El Salvador, Ecuador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Panama, Peru, Suriname, Trinidad, Venezuela, Brazil, Japan, Korea, Nicaragua, Philippines, Taiwan, Vietnam, Albania, Eritrea, Saudi Arabia.

(#9820) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Group 2 countries: Afghanistan, Netherlands Antilles, French Polynesia Guinea, Indonesia, Armenia, Latvia, Angola, Austria, Belgium, Luxembourg, Belarus, Bosnia, Botswana, Bulgaria, Cameroon, Central Africa Republic, Czech Republic, Congo, Egypt, Finland, France, Germany, Greece, Hungary, Iceland, Kazakhstan, Kirghizstan, Lebanon, Liberia, Macedonia, Mali, Mauritania, Moldavia, Morocco, Mozambique, Netherlands, Norway, Poland, Portugal, Romania, Rwanda, Sao Tome and Principe, Senegal, Serbia, Slovenia, Slovakia, Spain, Sudan, Swaziland, Sweden, Syria, Arab Republic, Tunisia, Turkey, Ukraine, Russia, Uzbekistan, Zaire, Zimbabwe, Burundi, Cape Verde Islands, Estonia, Lesotho, Lichtenstein, Republic of Djibouti.

(#9821) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Denmark.

(#9825) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Group 3 countries: Abu Dhabi, Brunei, Fiji, Hong Kong, Macao, Malaysia, Singapore, Bahrain, Cyprus, Gambia, Ghana, Iraq, Ireland, Jordan, Kenya, Kuwait, Malawi, Nepal, North Yemen, Nigeria, Oman, Qatar, Sierra Leone, Tanzania, Uganda, United Arab Emirates, United Kingdom, Zambia.

(#9827) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Israel.

(#9828) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Switzerland.

(#9829) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Group 4 countries: Bangladesh, Myanmar, Sri Lanka, Pakistan, South Africa, and India.

(#9830) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Group 5 countries: Chile, Ethiopia, Italy, Libya, Malta, and Somalia.

(#9831) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Australia, and New Zealand.

(#9834) Power cord

This feature supplies a 250V, 10A, 2.8 meter line cord for Uruguay, Argentina, and Paraguay.

(#9840) Power cord

This feature supplies a 250V, 6A, 2.8 meter line cord for Peoples Republic of China.

(#9986) Power cord

This feature supplies a 125V, 10A, 1.8 meter line cord for US Chicago usage. Summary: You must specify the type of power cord required when ordering the 3758-B32 switch for non-rack, tabletop use with feature #9205.

- Minimum Number of Features per 3758-B32: 0.
- Maximum Number of Features per 3758-B32: 2.
- Prerequisites: None.

- Corequisites: Feature #9205.
- Compatibility Conflicts: Must select quantity two of the same Specify Code #9800-#9986, when ordering with Feature #9205.
- Customer Set-up: Yes.
- Limitations: None.
- Field Installable: No, Initial Plant Order only.
- Cable Order: None.

Feature Exchanges

None.

↑ [Back to top](#)

Accessories

None.

Customer Replacement Parts

None.

↑ [Back to top](#)

Machine Elements

Not available.

↑ [Back to top](#)

Supplies

None.

Supplemental Media

None.

Trademarks

(R), (TM), * Trademark or registered trademark of International Business Machines Corporation.

** Company, product, or service name may be a trademark or service mark of others.

Windows is a trademark of Microsoft Corporation.

© IBM Corporation 2009.

↑ [Back to top](#)

 [Printable version](#)