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TECHNOLOGY BRIEF

QLogic Fibre Channel Switches

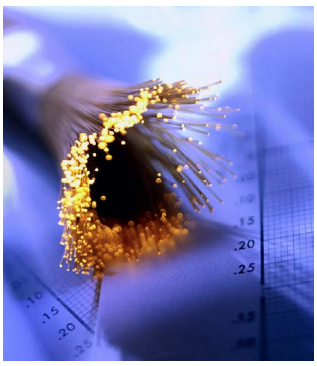
Optical Media Transmission Distances for 1000, 5000, and 9000 Series

This Technology Brief provides comprehensive and detailed planning information relative to “maximum” optical media transmission distances achievable with the QLogic 1000, 5000, and 9000 Series Fibre Channel switch products.

This document covers both short-wave and long-wave optical transceiver media types for SFP, SFP+, XPAK, and X2 pluggable form factors at Fibre Channel speeds of 1/2/4/8/10/20Gbps.

Information is separated by multi-mode and single-mode media types for 62.5/50 micron (commonly referred to as OM1, OM2 and OM3) and 9-micron optical cable technologies, respectively.

For long-wave extended distance single-mode 9-micron technology, the maximum distances are shown with and without the use of the Extended Credits feature, if applicable.



QLogic Fibre Channel Switch Portfolio: Optical Distance Table									
1K = SB1403/SB1404 5K = SB520x/SB560x/SB560xQ 5802V = SB5802V 9K = SB9100/SB9200 9008V = SB9008V I/O Blade									
Optical Transceiver Type	**Pluggable Form Factor**	**Notes**	**Speed**	**QLogic Fibre Channel Switch Product (see legend above)**	**Maximum Distance by Optical Media/Cable Type & Credits**				
					Multi-Mode Media			**Single-Mode Media**	
					62.5µm/ 200Mhz (OM1)	**50µm/ 500Mhz (OM2)**	**50µm/ 2000MHz (OM3)**	**9µm**	
								No Donor Credits	**Maximum Donor Credits**
Short Wave	SFP		1Gbps	1K/5K/9K	300m	500m	860m	—	—
	SFP/SFP+	*1*	2Gbps	1K/5K/9K	150m	300m	500m	—	—
	SFP/SFP+	*1*	4Gbps	1K/5K/9K	70m	150m	380m	—	—
	SFP+	*1*	8Gbps	5802V/9008V	21m	50m	150m	—	—
	XPAK-XPAK		10Gbps	5K/5802V	33m	82m	300m	—	—
	XPAK-XPAK	*2*	20Gbps	5802V	N/A	N/A	N/A	—	—
	XPAK-X2		10Gbps	5K/5802V/9K	33m	82m	300m	—	—
	X2-X2		10Gbps	9K	33m	82m	300m	—	—
Long Wave	SFP		1Gbps	1K	—	—	—	26km	250km
	SFP		1Gbps	5K/9K	—	—	—	26km	400km
	SFP		2Gbps	1K	—	—	—	13km	125km
	SFP		2Gbps	5K/9K		—	—	13km	200km
	SFP	*3*	2Gbps	5802V/9008V	—	—	—	13km	250km
	SFP		4Gbps	1K	—	—	—	6km	62.5km
	SFP		4Gbps	5K/9K	—	—	—	6km	100km
	SFP	*3*	4Gbps	5802V/9008V	—	—	—	6km	125km
	SFP+	*4*	8Gbps	5802V	—	—	—	TBD	TBD
	SFP+	*1, 3*	8Gbps	9008V	—	—	—	TBD	TBD
	XPAK-XPAK	*5*	10Gbps	5K/5802V	—	—	—	2km	—
	XPAK-XPAK	*2, 5*	20Gbps	5802V	—	—	—	N/A	—
	XPAK-X2	*5*	10Gbps	5K/5802V/9K	—	—	—	2km	—
	X2-X2		10Gbps	9K	—	—	—	2km	8.34km

IMPORTANT: Actual distance depends on the specific vendor's optical transceiver capabilities. Be sure to check with that vendor!

Note 1: SFP+ 8Gbps Short-Wave Optical Transceiver is "Non-Linear/Limiting" Technology ("Linear" will double distance, but is not yet available from industry suppliers).

Note 2: XPAK 20Gbps Short-Wave and Long-Wave Optical Transceivers not anticipated to be available from industry suppliers; however, 10Gbps optics can be used with 20Gbps ports, which will auto-negotiate down to 10Gbps. In addition, a new 8-meter (~26 ft.) ISL Copper XPAK-XPAK cable SKU will be available by mid-CY2008 that will support full 20Gbps Fibre Channel speed.

Note 3: Each of the 4 unused ASIC ports on the 9008V I/O blade will be able to donate their 15 buffer credits to a real physical port in the upcoming version 7.8 firmware.

Note 4: SFP+ 8Gbps Long-Wave Optical Transceiver in the process of being verified; SKU anticipated to be available by mid-CY2008.

Note 5: Donor buffer credits for Long-Wave extended distance at 10Gbps not supported on all 5000 series switches.

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