

Product Description

The BlackDiamond 6800 series platform equipped with the 4-port OC-3c packet-over-SONET/SDH module offers service providers proven high-performance capabilities, scalability and traffic throughput relief. The OC-3c module supports the Ethernet over SONET/SDH protocol (RFC 2878), empowering service providers to extend the simplicity, scalability and cost effectiveness of Ethernet over traditional SONET/SDH networks in a transparent manner, without the need for protocol termination and/or translation and with absolutely no disruption in services.

Key Features

- Supports SONET and SDH standards
- Low Latency (14 ms) SONET Automatic Protection
- Switching (APS) and SDH Multiplex Section Protection (MSP)
- Point-to-Point Protocol (PPP, RFC 2615) for link control
- Native Ethernet over SONET/SDH (RFC 2878)
- Native IP over SONET/SDH (RFC 1332)
- Netflow Version 1, up to 2 million flows per module with filtering capability on a per flow and per aggregate basis
- Bi-directional rate shaping capability
- Enhanced QoS services (802.1p mapping/replacement, 802.1Q mapping/nesting, DiffServ Code Point mapping/replacements, support for Per Hop Behavior RFCs and egress WRED)
- MPLS over SONET/SDH (support for MPLSCP with ability to recognize/use the MPLS encapsulation)

Specifications

ExtremeWare Requirement

- 6.1.8b12 IPSERV_2.1.75 or most recent IPSERV technology release version on OC-12 module and the BlackDiamond MSM module. MSM bootrom should be 7.0 (or higher) and OC-12 bootrom should be 1.14 (or higher).

Module Connector Specifications

	Module	
	53020 (P12cMi)	53021 (P12cSi)
Line Rate	622 Mbps	622 Mbps
Fiber Type	MMF	SMF
Connector Type	SC	SC
Power Budget (dBm)	10	15
Tx Power (dBm)	-20 (min), -14 (max)	-15 (min), -8 (max)
Rx Sensitivity (dBm)	-30 (min), -14 (max)	-28 (min), -8 (max)
Max. Distance*	500 m	15 km
Wavelength	1300 nm	1300 nm
Distance Classification	Short Reach	Intermediate Reach

* Worst-case scenario considering fiber loss, connector loss and splice loss

Transport Protocol Standards

- SONET/SDH
 - GR-253-CORE - Bellcore SONET
 - ANSI T1.105.02-1995, SONET Payload Mappings
 - ITU-T G.707 – SDH
 - RFC 2558 – SONET/SDH MIB

- APS/MSP
 - ANSI T1.105.01-1998 – APS
 - ITU-T G.783 - MSP

Environmental Conditions

- Operating temperature: 0° to 40° C
- Storage temperature: -40° to 70° C
- Operating relative humidity: 10% to 95%, noncondensing
- Operating altitude: -200 to 15,000 ft (-60 to 4600 m)
- Storage altitude: 35,000 ft (11,000 m)
- Mean Time Between Failure (MTBF): 208,579 hours
- Power consumption: 83W

Safety Compliance

- UL 1950 3rd Edition, Listed
- EN60950:1992/A1-4:1997+ZB/ZC Deviations
- IEC 950CB
- Low Voltage Directive (LVD)
- CSA 22.2#950-95
- AS/NZS 3260

EMI/EMC Compliance

- FCC CFR 47 part 15 Class A
- ICES-003A/C108.8-M1983 Class
- VCCI Class A
- AS/NZS 3548
- EN 55022 Class A
- CISPR 22 Class A
- EN 50082-1:1997 includes ENV 50204
- EN 55024:1998 includes IEC 61000-4-2, 3, 4, 5, 6, 8, 11
- Low Voltage Directive (LVD)

LED Indicators**Module:**

Status: green blinking (normal operation); amber blinking (error);
off (no power)

Diag: amber blinking (diagnostics in progress); amber
(diagnostics failed); off (no diagnostics in progress)

Port:

Status: green (link up); green blinking (link disabled); amber
blinking, returning to green (activity on link); amber blinking (link
down, SONET/SDH link problem); off (no received signal)

Ordering Information

Product Number	Product Name	Description
53020	P12cMi	2-port SONET/SDH OC-12c/STM-4 PoS MMF Module
53021	P12cSi	2-port SONET/SDH OC-12c/STM-4 PoS SMF Module



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