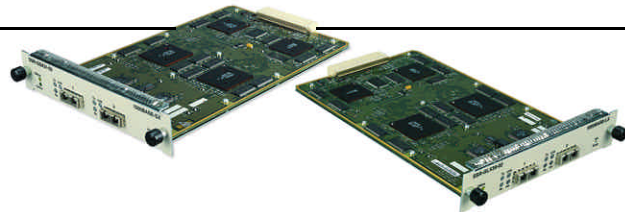# 2 Port Gigabit Ethernet LH Switch Router Module:
RS 8000 / 8600 Chassis

Overview

Riverstone Networks' next-generation Gigabit Ethernet modules for the RS 8000 and 8600 switch router chassis provide two-port 1000 Base-LH connectivity through SC connectors. This module is ideal for long distance Gigabit Ethernet connectivity over 70km. This capability enables Metropolitan Area Network (MAN) buildout using low-cost Gigabit Ethernet. Riverstone's advanced architecture enhances overall network performance by eliminating bottlenecks caused by a single central processor. This module delivers full-function Layer 2/3 and 4 switching and routing as well as advanced functionality including Network Address Translation (NAT), Server Load Balancing (SLB) and Access Control Lists (ACLs).

The unique capabilities of the Gigabit Ethernet module architecture include Hardware Rate Limiting (HRL), Local Hardware Route Table (LHRT) and Jumbo Frame support. These features are well suited to address the aggressive needs of Service Providers. HRL includes Port Rate Limiting and Aggregate Rate Limiting which are ideal for Application, Content and Multi-Tenant-Unit Service Providers. These environments require the ability to set up and manage a large number of new connections per second. Local Hardware Route Table (LHRT) enables routing tables to be stored locally on the modules which enhances the connection set up time compared to cache-based routers. Jumbo Frames extend the Ethernet payload size which in turn increases throughput for content providers. The Riverstone module performs fragmentation in hardware allowing seamless integration between Jumbo Frame and non-Jumbo Frame supported equipment.

2 Port Gigabit Ethernet LH Switch Router Module: RS 8000 / 8600 Chassis

Features

• Long Haul Gigabit Ethernet connectivity up to 70km

• Hardware Rate Limiting (HRL) including Port Rate Limiting and Aggregate Rate Limiting

• Jumbo Frame and hardware fragmentation support for up to 64,000 byte packets

• Local Hardware Route Table (LHRT) supporting more than 200,000 routes on each module

• Advanced wire-speed features including Network Address Translation (NAT) and Server Load Balancing (SLB) on every port

• Weighted Fair Queuing (WFQ) and Weighted Random Early Discard (WRED) support

Key Applications

• Leverage low-cost Gigabit Ethernet for Metropolitan Area Network facility interconnection over new or installed fiber

• Aggregate traffic directly from geographically distant POP sites to high-speed Internet backbones

• Provision billable IP services per user or per application

• Integrate SLA billing and monitoring packages with real-time port-level flow accounting and full RMON statistics

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2 Port Gigabit Ethernet LH Switch Router Module (RS 8000 / 8600 Chassis):
Technical Specifications

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Module Specifications

Switch/Routing Engine:	RS ASIC Route Engine
Buffer Memory:	16 MB per port
Layer 2 Address Table Size:	512,000 entries
Layer 3/4 Table Memory:	16 MB
Layer 3/4 Table Size:	256,000 entries
Route Table Memory Size:	Local route table on each module supports more than 200,000 routes
QoS Support:	WFQ, WRED and per port/subnet/flow rate limiting
MTBF (Predicted):	>200,000 hr.
In-band Mgmt:	Remote SNMP and Telnet

Physical Specifications

Dimensions:	11.00" x7.75"x1.55" (27.94 cm x 19.68 cm x 3.94 cm)
Weight:	3.0 lbs (1.4 kg)

Environmental Specifications

Operating Temp:	+5° to +40°C (41° to 104°F)
Non-Operating Temp:	-30° to +73°C (-22° to 164°F)
Operating Humidity:	15% to 90% (non-condensing)
Power Consumption:	100 to 125 VAC Max or 200 to 250 VAC Max, 50 to 60 Hz

Agency Standards and Specifications

Safety:	Meets the requirements of UL1950, CSA C22.2 No. 950, EN60950, IEC950 and 72/73/EEC.
Electromagnetic Compatibility:	Compliant with the requirements of FCC Part 15, CSA C108.8, EN55022, VCCI V-3/93.01, EN50082-1 and 89/336/EEC

Interfaces

2 Port 1000 Base LH with SC connectors

Fiber Type for 1000 Base-LH	10 mm SMF
Transmit Power:	Min 0.0 dBm, Max 5.0 dBm
Receive Sensitivity:	-24 dBm
Maximum Input Power on Receiver:	3dBm
Link Power Budget:	33dBm

Operating Range: (Full Duplex Operation Only)	Fiber Type	Range
	10 mm Fiber	10 Km to 70Km

Ordering Information

Part No.	Product Description
G8M-GLHB8-02	2 Port Gigabit Ethernet LH Switch Router Module with Hardware Rate Limiting and Jumbo Frame support

For complete ordering information, including specific modules, contact your Riverstone representative at **(408) 878-6500**. You may also visit our Website at www.riverstonenet.com.

Module is specifically for the RS 8000/8600 chassis