RBNi GigaEdge 8200™
Tributary Interface Modules
with Performance Monitoring

KEY FEATURES

- Performance monitoring statistics to support client SLAs
- Performance Monitoring of SONET, SDH and 8B/10B signals according to GR-820/GR-253 or G.829/G.784
- PM Threshold crossing alerts with configurable thresholds
- Single client port per TIM
- Hot swappable modules with any module in any slot flexibility
- Plug and Play WDM™ — all TIMs are wavelength independent, small number of TIM variants
- Multi-rate software configurable TIMs minimize inventory and spares
- Support for OC-3 to OC-48, STM-1 to STM-16, GbE, Fibre Channel, 2G Fibre Channel, FICON, ESCON, DVB-ASI video
- Advanced thermal design for -40°C to +65°C operation
- Less than 6 W power consumption per TIM
- Flexible service protection options

The RBNi GigaEdge 8200 Tributary Interface Modules (TIMs) with Performance Monitoring provide all the benefits of the existing RBNi GigaEdge 8200 TIM family, with the addition of key Performance Monitoring (PM) features.

These PM TIMs provide the PM statistics required to support client SLAs (Service Level Agreements), by performing PM at the client service termination point.

Performance monitoring statistics are generated for SONET, SDH and 8B/10B signals according to GR-820/GR-253 or G.829/G.784 (configurable). Performance monitoring TCAs (threshold crossing alerts) are generated when configurable thresholds are reached or exceeded, allowing client service faults to be rapidly detected and diagnosed.

These performance monitoring capabilities build on the existing Plug and Play WDM™ features provided by all modules in the RBNi GigaEdge 8200 TIM family. All TIMs are wavelength independent, and inventory and spares are minimized by the small number of TIM variants, with each variant having software configurable multi-rate multi-protocol capability. There is no external fiber cabling required other than the tributary interface cables.

All TIMs can be configured for optical layer path protection (with less than 50 ms switch-over time), or two TIMs can be used to provide client layer protection.

The switching and transmission architecture of the RBNi GigaEdge 8200 supports full logical mesh connectivity between TIMs attached to the same ring. Remote service provisioning is used to connect any TIM to any channel. Maximum utilization of WDM channel resources is achieved through channel re-use, multicast and broadcast transport options. These features support both protected and unprotected video distribution services. Input to a TIM at any point in the network can be output from any number of TIMs attached to the same RBNi GigaEdge 8200 network.

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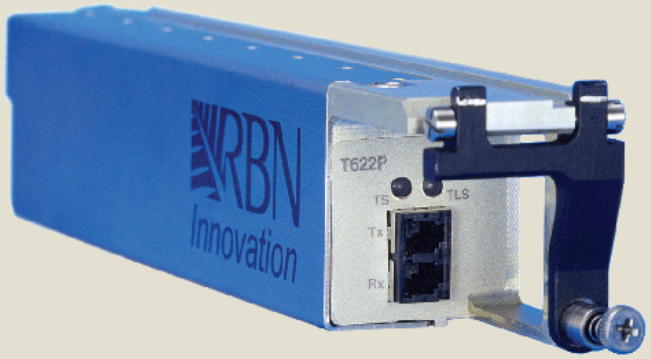

RBNi GigaEdge 8200 Tributary Interface Modules with Performance Monitoring

Performance Monitoring Features

PM Mode options	Telcordia (GR-820/GR-253) ITU-T (G.829/G.784) Auto
PM Counter types	Telcordia Mode: UAS-S, CV-S, ES-S, SES-S, SEFS-S, BER-S, PSC ITU-T Mode: UAS-S, EB-S, BBE-S, ES-S, SES-S, OFS-S, BER-S, PSC
PM Statistics storage (Rx & Tx)	Current 24 hrs, Previous 24 hrs Current 15 min, 32 previous 15 min
Thresholds	Configurable per counter type
Threshold crossing alerts	Generated when count reaches configured threshold

Physical Features

Density	One service per module
Connector	LC duplex
Power	< 6 W (above 0 °C)
Alarms	Loss of signal Loss of synchronization
Loopbacks	TIM tributary Network channel
Temperature	-40 °C to +65 °C
Safety	Class 1 laser product
LEDs	Loss of Signal (TLS), Module Status (TS)

T2400P — 2.488 Gbit/s Intermediate Reach

Protocols Supported	OC-48/STM-16 OC-48c/STM-16c 2 Gigabit Fibre Channel (200-SM-LC-L)
Fiber	Single mode, 1310 nm

S1000P— 1 Gbit/s Short Reach

Protocols Supported	Gigabit Ethernet (1000BASE-SX) Fibre Channel (100-M5-SN-I) FICON
Fiber	Multimode, 850 nm

T1000P — 1 Gbit/s Intermediate Reach

Protocols Supported	Gigabit Ethernet (1000BASE-LX) Fibre Channel (100-SM-LL-L) FICON
Fiber	Single mode, 1310 nm

S622P — 51 - 622 Mbit/s Short Reach

Protocols Supported	OC-3/STM-1, OC-3c/STM-1c OC-12/STM-4, OC-12c/STM-4c ESCON DVB-ASI (270 Mbit/s)
Fiber	Multimode, 1310 nm

T622P — 51 - 622 Mbit/s Intermediate Reach

Protocols Supported	OC-3/STM-1, OC-3c/STM-1c OC-12/STM-4, OC-12c/STM-4c ESCON DVB-ASI (270 Mbit/s)
Fiber	Single mode, 1310 nm

743-000-006/2

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