Data Sheet

Gmux-2000 Module

GbE/2

PSN Gigabit Ethernet Interface Module

Gigabit Ethernet physical interface to a packet-switched network

- Non-blocking switching fabric for Gmux-2000
- Gigabit Ethernet physical interface to a packet-switched network (PSN)
- TDM pseudowire priority by QoS marking: ToS, VLAN priority or EXP bits
- Two SFP- or UTP-based external GbE ports and one FE monitor port
- 1+1 (802.3ad), 1:1 link and module redundancy

The Gigabit Ethernet module has two main functions:

- Handling the packet traffic between the PSN and the Gmux-2000 modules, via internal StarLAN buses
- Providing the physical interface to the packet-switched network (PSN).

Layer-3/4 switch forwards the packets according to:

- UDP port number
- MPLS label
- ECID (Metro Ethernet).

The module features two 1000BaseSx or 1000BaseTx SFP-based or 10/100/1000BaseT interfaces with autonegotiation support.

QoS SUPPORT

GbE/2 supports VLAN tagging and priority labeling according to 802.1p&Q. TDMoIP packets are assigned a dedicated VLAN ID and 802.1p bit.

The ToS or Diffserv of the outgoing packets are user-configurable. This allows the packets to be given a higher priority in IP networks.

EXP bits are used for QoS marking of the TDMoMPLS traffic in MPLS networks.

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REDUNDANCY

The module supports link aggregation (1+1) based on 802.3ad requirements.

Link aggregation is supported between two ports on the same or different GbE module.

Dual homing protection (1:1) allows GbE to be connected to two different upstream devices.

MANAGEMENT AND DIAGNOSTICS

A dedicated 10/100BaseT port allows connection of monitoring equipment to the Gigabit Ethernet module. The port provides automatic polarity and crossover detection, and polarity correction.

The Gigabit Ethernet module performs automatic self-test at power-up to monitor the module subsystems.

The module provides real-time alarms to alert the user on fault conditions.

Specifications

External Ports

- Two SFP-based or 10/100/1000BaseT ports
- One 10/100BaseT monitoring port

Interface Type
Fiber optic or electrical 1000 Mbps port, autonegotiation, MDI/MDIX

SFP Types
For full details, see the SFP Transceivers data sheet at www.rad.com

Note: *It is strongly recommended to order this device with* ***original*** *RAD SFPs* ***installed****. This will ensure that prior to shipping, RAD has performed comprehensive functional quality tests on the entire assembled unit, including the SFP devices. RAD cannot guarantee full compliance to product specifications for units using non-RAD SFPs. For detailed specifications of the SFP transceivers, see the SFP Transceivers data sheet.*

Monitoring Port
Type: 10/100BaseT, autonegotiation

Connector: RJ-45, 8-pin

Indicators
SFP:

LINK (red): Ethernet connection status

PAUSE (red): Pause frame received

RX (red): Rx status

TX (red): Tx status

MONITOR port

ACT (yellow): Activity status

LINK (green): Link status

GbE/2 module:

ACT (green): Module activity status

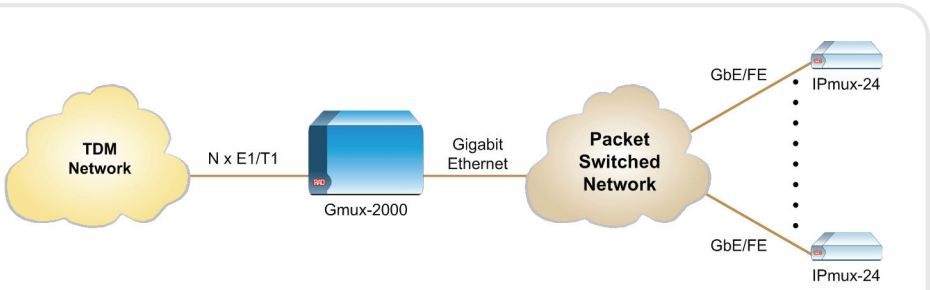
FLT (red): Module fault detected

Physical
Fits a single slot of the Gmux 2000 chassis (slot 6 or 8)

Environment
Operating temperature: 0–55°C (0–131°F)

Storage temperature: -20–50°C (0–150°F)

Humidity: Up to 90%, non-condensing



Emulated Legacy Services over PSN

Ordering

GMUX-M-GBE-N/$/$

Legend

$ Interface:

SFP-5	Gigabit Ethernet, 850 nm, multimode, VCSEL, 0.55 km (0.3 mi)
SFP-6	Gigabit Ethernet, 1310 nm, single mode, laser, 10.0 km (6.2 mi)
SFP-7	Gigabit Ethernet, 1550 nm, single mode, laser, 80.0 km (49.7 mi)
SFP-8	Gigabit Ethernet, 1310 nm, single mode, laser, 40.0 km (24.8 mi)
SFP-9G	GbE interface, RJ-45 connector, 100m (238 ft)
Null	SFP-ready slot
UTP	10/100/100BaseT interface

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