TJ1600-D3

Hyper-Capacity Compact Modular WDM Platform

Product Highlights

- Up to 51.2 Tbps aggregate capacity across 8 flexible slots
- Supports multi-rate, high-speed wavelengths from 400G to 1.2T
- Supports sled sizes of 1/4, 1/2 slot width
- Support for different client rates – 100GE, OTU4, 200GE, 400GE and 800GE
- Redundant controller, FTU, and PSU
- Smaller footprint and power efficient
- Supports various performance optimized and power optimized traffic sleds

The TJ1600-D3 is Tejas Networks' next-generation, hyper-scalable compact WDM transport platform, engineered for operators and enterprises demanding extreme capacity, carrier-grade reliability, and architectural flexibility. Designed in a space-optimized 3RU chassis, the full-depth TJ1600-D3 delivers unmatched performance and scalability in a wide range of applications including Data Centre Interconnect (DCI), telecom backbone and enterprise point-to-point links.

TJ1600-D3 supports a range of traffic sleds with different line rates ranging from 400G to 1.2T. It brings together performance-optimized and power-optimized traffic sleds with robust optical line protection, ensuring superior efficiency and uninterrupted service.

Key Features and Benefits

Extreme Scalability for High Growth Networks

TJ1600 D3 supports an innovative range of performance optimized and power optimized traffic sleds, delivering flexible line rates from 400G to 1.2T per wavelength. This ensures seamless scaling as your bandwidth needs grow—without disruptive upgrades.

Optimized for Performance and Power Efficiency

Choose the optimal mix of sleds based on your application—high performance for dense transport or power efficient designs for energy sensitive deployments. TJ1600-D3 performance optimized sleds cater to various applications

Carrier Grade Reliability

Built with robust optical line protection and engineered for consistent high availability, the TJ1600 D3 ensures uninterrupted service even under demanding network conditions.

Unmatched resiliency

Redundant controller, fans, and power modules combined with universal AC/DC power compatibility ensure that the TJ1600 D3 delivers highly resilient and reliable DWDM transport performance.

Compact Yet Powerful

The 3RU architecture is optimized for environments where rack space is at a premium—without compromising on throughput, reach, or reliability.

Built in Resiliency & Carrier Grade Reliability

The TJ1600 D3 sets new standards for operational robustness with:

- 1+1 redundant controllers
- 4+1 or 5+1 fan redundancy
- 2+2 / 3+1 PSU redundancy
- Support for AC and DC power
- Optical Line Protection units (OPU02, OPU04)
- Traffic protection schemes – Y-Cable, SNC etc.

Versatile Applications Across Modern AI Powered Networks

The TJ1600 D3 is purpose built for a wide range of high capacity scenarios:

- AI Data Center Interconnect (DCI)
- Metro & Regional Transport
- Long Haul & Cross Country Networks
- Enterprise High Speed Connectivity

Photonic Layer Capabilities

- Fixed & flex grid extended band of operation
- Support of C+L Multiband
- Support for coherent and grey optics
- Various advance FEC options for enhanced reach
- Optical supervisory channel, GCC support
- Numerous software and control plane aided hooks for maximizing the performance to achieve optimal cost/bit/Hz/RU
- Platform hardware ready to support OLS in future

Traffic Sleds

Performance Optimized Traffic sleds

D12E16

- Double slot
- 10 x QSFP28 (pluggable) + 4 x QSFP-DD (pluggable) + 2 x QSFP-DD800 (pluggable) client ports
- 2 x proprietary line ports with embedded optics supporting 400G to 1.2T rates in extended C-band
- Sample configs:
  - Single/Dual/Protected 400G-1.2T Muxponder
  - Single/Dual/Protected 400G/800G Transponder.

D10E16L

- Double slot
- 10 x QSFP28 (pluggable) + 4 x QSFP-DD (pluggable) + 2 x QSFP-DD800 (pluggable) client ports
- 2 x proprietary line ports with embedded optics supporting 400G to 1T rates in extended L-band
- Sample configs:
  - Single/Dual/Protected 400G-1T Muxponder
  - Single/Dual/protected 400G/800G Transponder

D12E0

- Single slot
- 2 x proprietary line ports with embedded

optics supporting 400G to 1.2T rates in extended C-band
- Sample configs:
  - 400G-1.2T 3R regeneration

D10E0L
- Single slot
- 2 x proprietary line ports with embedded optics supporting 400G to 1T rates in extended L-band
- Sample configs:
  - 400G-1T 3R regeneration

Power Optimized traffic sleds

D08Q16
- Double slot
- 10 x QSFP28 (pluggable) + 4 x QSFP-DD (pluggable) + 2 x QSFP-DD800 (pluggable) client ports
- 2 x QSFP-DD (pluggable) line ports
- Sample configs:
  - Single/Dual/protected 200G-800G Muxponder
  - Single/Dual/protected 100G/400G/800G Transponder
  - 100G-800G 3R regeneration

O08Q
- Single slot
- 8 x QSFP-DD800 (pluggable) ports
- Sample configs:
  - Up to four independent 200G-800G Muxponder
  - Up to four independent 100G/400G/800G Transponder
  - Up to four 100G-800G 3R regeneration

Optical Protection Units
- OPU02 – Optical Fiber Protection Unit with two line protection modules. Single Slot Card
- OPU04 – Optical Fiber Protection Unit with four line protection modules. Single Slot Card
- Sample configs:
  - 400G-1.2T 3R regeneration

Technical Specifications

Platform capacity
Up to 51.2 Tbps Shelf Capacity
Up to 70.4 Tbps per fiber pair (C+L Bands)

Slots
8 traffic slots
1 OAM slot
4 power supply slots
5 primary fan slots
2 secondary fan slots
1 fan LED tray slot

Traffic Protection
Network port protection
Optical Line Protection

Client interface protocols supported
Ethernet: 100GE, 200GE, 400GE, 800GE
OTN: OTU4

Network speeds
400G to 1.2T in steps of 100G

Network management
Web-based Craft UI
Network Management System
SNMP

Photonic Layer capabilities
Fixed/Flex grid support in C-band, L-band
Grey/Coherent optics support
SD-FEC, o-FEC supported on coherent line ports
Optical Supervisory channel
GCC

Sample configs per traffic sled
16 x 100G→ 2 x 800G Muxponder
6 x 400G→ 2 x 1.2T Muxponder
4 x 800G→ 4 x 800G Transponder
4 x 400G + 8 x 100G→ 2 x 1.2T Muxponder

Power supply
Redundant AC/DC power supply options
DC: -40V to -65V DC
AC: 90V to 240V AC

Redundancy
2+2/ 3+1 Power Supply
1+1 Controller
4+1 FTU

Temperature specifications
Normal operating temp: -5°C to 45°C
Short term operating temp: -5°C to 50°C

Dimensions
134mm x 483mm x 555mm (HxWxD)

*Information is subject to change without prior notice

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