

# DUAL 10G MULTIPROTOCOL TRANSPONDER

## BTI 7000 SERIES PACKET OPTICAL EDGE CLIENT INTERFACE MODULE

### PRODUCT OVERVIEW

The BTI 7000 Series Dual 10G Multiprotocol Transponder provides a compact solution for 10 Gbps wavelength protocols commonly used in today's high-capacity service provider and enterprise networks. Two-transponders per module provide transport for two 10 Gbps services or optional line-protect for a single 10 Gbps services.



### KEY FEATURES

- **Multiprotocol support & XFP versatility: flexibility for all applications**
- **Link extension with OTU-2 for OC-192/STM-64 and 10 GbE LAN services**
- **OTN-based 50ms line side protection for all client-service capabilities**
- **Extended reach provided by Forward Error Correction (FEC and EFEC)**
- **Extended temperature for outside plant applications**

### APPLICATIONS

#### Transparent Network Interconnect

Line side OC-192, STM-64 and ITU G.709 OTN encapsulation provides interoperability with existing SONET/SDH/OTN core systems for wavelength interconnection without book-ending. Provides a low cost way for delivering 10G interconnect, demark and co-location services.

#### High Capacity Ethernet & Storage Extension

Delivers dedicated bandwidth for 10 GbE and 10G Fibre Channel (FC) private line for LAN Extension and data center connectivity for synchronous replication solutions and Storage Area Networks (SANs).

#### Wavelength Conversion

Provide wavelength conversion of existing 1310nm OC-192/ STM-64 network interfaces to either CWDM or DWDM 10Gbps wavelengths for overlay onto a WDM solution with other high-capacity services. Cost effective connectivity to legacy systems, and simple integration with newer 10GbE router, switch or 10G FC switch interfaces.

#### 10 Gbps Regeneration

Mid-span or Terminal 3R regeneration for all native protocols and FEC-enabled 10 Gbps wavelengths. Two regens per module in compact footprint with Forward Error Correction (FEC) and Enhanced Forward Error Correction (EFEC) for extended reach and improved transmission throughput.



# DUAL 10G MULTIPROTOCOL TRANSPONDER

## TECHNICAL INFORMATION

### Optional Line Protection

A single 10 Gbps client signal is bridged within the module to provide redundant WAN channels for routing on diverse fiber links. Facility Automatic Protection Switching (APS) is provided when the line protocol is OTN; APS will occur upon signal failure or on signal degrade based on a customizable level.

### OTN Conversion

ITU Standard G.709 Optical Transport Network (OTN) digital wrapper technology. OTN supports rich OAM&P capabilities, end-to-end performance monitoring, and General Communication Channel (GCC). Client protocol conversion to OTU-2 for a line rate of 10.7 Gbps.

OTN's Forward Error Correction capability allows detection and correction of bit errors from challenges with marginal spans extending the distance the optical signal can travel before requiring regeneration.

<b>Supported Chassis</b>	BTI 7000 Series Active Shelves: 7060 & 7030
<b>Module Size</b>	Single Slot
<b>Power Consumption</b>	Under 50W including XFPs

### Client and Line Side Optical Interfaces

Client & Line Type:	10 Gbps XFPs
Output Wavelength:	850nm, 1310nm, 1550nm, CWDM, DWDM
Protocol:	10 GbE LAN PHY (10.3125 Gbps) SONET OC-192, SDH STM-64 (9.953 Gbps) OTN (OTU-2) (10.709 Gbps) 10 Gbps Fibre Channel (10.51875 Gbps)
Output Power:	XFP specific
Receiver Sensitivity:	XFP specific

### Forward Error Correction (FEC) & Enhanced Forward Error Correction (EFEC) Support

Optional, per line port enablement

### Performance Monitoring & Alarms

Monitoring Intervals: Client and Line side, 15-minute, 24-hour

Physical Layer:	XFP Optical Power Tx/Rx, XFP Laser Bias Current, XFP Supply Voltage, Temperature OPR-LT, OPR-HT, OPT-LT, OPT-HT
SONET:	LOS, LOF, Section Trace mismatch, CV-S, ES-S, SES-S, SEF-S
SDH:	LOS, LOF, Section Trace mismatch, RS-EB, RS-BBE, RS-ES, RS-SES, RS-OFS
Ethernet:	LOS, LOSYNC, ES, SES, INVBLK, RMON 2819 Ethernet Statistics
OTN:	LOS, LOF, Payload Mismatch, OTU-EB, OTU-BBE, OTU-ES, OTU-SES, OTU-OFS
FEC:	NUMBITSCR, NUMBYTESCR, UNCRCDWRD