

# **Bahama Linear Drive Pluggable Optics 1 6T**





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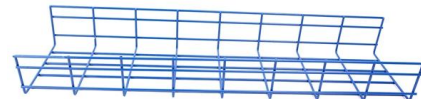
### OFC 2024 200G Lane Linear Optics Workshop Ver2



OFC'24 Workshop Will Linear Pluggable Optics (LPO) Have a Future Beyond 112G? LPO Effective Driver Peaking Definition Retimed Tx (Additive) Noise Standard Driver Nyquist-Shaped Signal

### FiberEdge® & DirectEdge(TM) , Signal Integrity

DirectEdge: PMD portfolio enabling Linear Pluggable Optics (LPO) with up to 40% lower power consumption than traditional DSP-based modules -- built on our

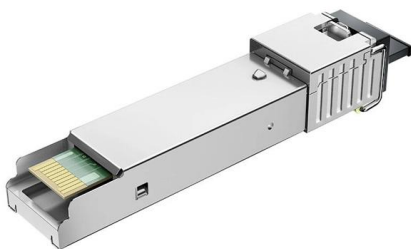
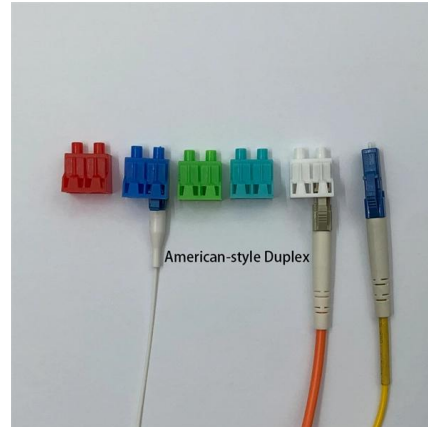


### Linear-drive Pluggable Optics Modules (lpo) Market Size 2026

The global market for Linear-drive Pluggable Optics Modules (LPO) is experiencing a dynamic evolution driven by technological advancements, increasing data center deployments, and

### 1.6T: Where Speed Meets Performance!

That brings us to 1.6T - the rapid advances in silicon photonics, linear-drive pluggable optics (LPO) options, and component improvements are allowing



### **XPO: Redefining Pluggable Optics for AI Networking**

By combining a dual-paddle mechanical architecture, integrated liquid-cooling cold plate, clean linear electrical channel, and high-voltage power delivery, XPO dramatically increases optical density while

### **Broadband Linear Drivers for 800G/1.6T Energy Efficient Optical Links**

This work presents the design of a uniform distributed amplifier (LDHP) and a tapered distributed amplifier (LDHE) for linear-drive pluggable optical (LPO) transmitters. The drivers are implemented in



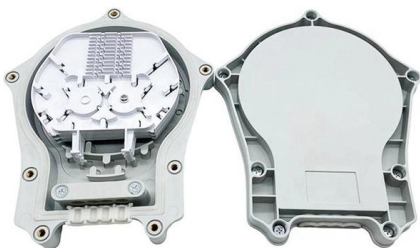
### **Marvell Demonstrates Silicon Photonics Light Engine for**

For 1.6T pluggable applications, the light engine provides flexibility and accelerated time-to-market for both ecosystem module vendors and



## A Faster Future with Linear Pluggable Optics

Linear Pluggable Optics are a low-power pluggable module interface that eliminates DSP chips, creating a linear signal path.



## Linear Driver , Leading High Performance and Low

Industry-leading linear drivers for 100G to 1.6T PAM4 and Coherent-based optical modules provide cutting-edge performance, quality and reliability to enable high

## Toward 1.6T Low-Power Coherent DSP: Challenges, and Lessons

From Analog Coherent Optics to Linear Drive Pluggable Optics: Lessons Learnt Naim Ben-Hamida, Shahab Oveis Gharan, Ahmad Abdo, and Bilal Riaz SpTh1H.3 Signal Processing in Photonic



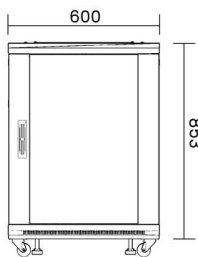
## Linear Drive Pluggable Optics

Linear Drive Pluggable Optics Linear Drive Pluggable Optics (LPOs) have gained tremendous attention during 2023 and this document attempts to de-mystify the terminology. The focus is on 400G and



## Exploring LPO Linear-Drive Optical Modules: A Modern

LPO (Linear-Drive Pluggable Optics) optical modules utilize linear drive technology to enhance data transmission efficiency while lowering power



## From 400G to 1.6T: LPO Technology Gains Traction in Optical

From the large-scale commercial use of 400G transceivers, to the explosive demand for 800G transceivers, and then to the gradual implementation of 1.6T transceivers, the optical module

## Linear Drive: Potentially Huge Share Shifts in the

Arista, in particular, is excited about the direct linear drive after Nvidia and Broadcom talked about it being possible. Arista networks this week was the



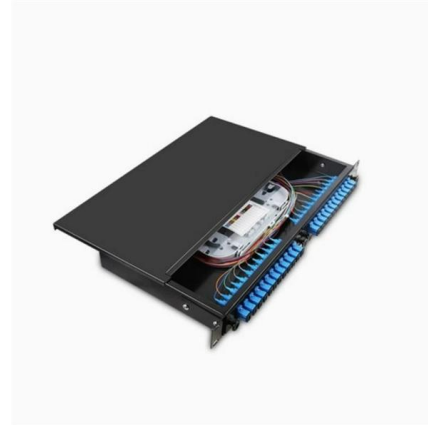
## OFC 2025: Marvell demos SiPho light engine for AI networks

Marvell Technology, Inc. demonstrated its 1.6T silicon photonics light engine integrated into a linear-drive pluggable optics (LPO) module at OFC 2025. The new product is the second in the

## Progress in Linear Drive Pluggable Optics



Non-retimed Linear Drive Pluggable Optics (LPO) was the hottest topic at OFC 2023 and it continued to draw a crowd at the most recent international optical networking show CIOE 2023.

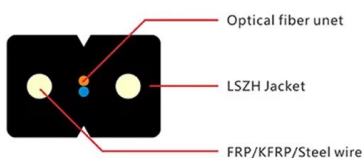


### Comparisons and Challenges Associated with Linear Interface

Given that timeline of the db task force to D1.0 no later than March-2021 the focus should be developing optical PMDs instead of dabbling in technically very challenging direct drive linear optics.

### Linear Pluggable Optics - An Overview

Comparison of proposed solutions: In response, several solutions such as Linear Receive Optics (LRO), Linear Pluggable Optics (LPO) and Co-Packaged Optics (CPO) have been proposed. Fig. 1



### Marvell Unveils 1.6T Silicon Photonics Pluggable

Marvell Technology has unveiled a 1.6T silicon photonics light engine designed for low-power, rack-scale optical interconnects in AI networks.



## Linear Pluggable Optics\_V2

Fig. 1 shows the typical block diagram of a pluggable transceiver consisting of on-board lasers, optics, a Photonics die housing the modulator, the photodetector, and associated photonic components

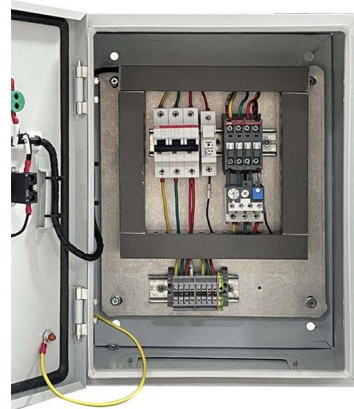


## Marvell Introduces 1.6 Tbps LPO Chipset to Enable

Marvell announced the general availability of a 200G per lane optimized transimpedance amplifier (TIA) and laser driver chipset, enabling 800 Gbps and

## CEI-112G-Linear & CEI-224G Interoperability Demo

This CEI-224G-Linear demonstration shows test chip silicon sending a PRBS13Q PAM4 212 Gbps signal through a 1.6T DR8 OSFP linear optical module via Module Compliance Board.



## 1.6T OSFP LPO 2xDR4 OP13LI8-005D Rev2

OP13LI8-005D 1.6T OSFP 2xDR4 Linear-drive Pluggable Optics transceiver modules are designed for use in 1.6T Ethernet links on up to 500m of single mode fiber. Forward error correction (FEC) is





## **1.6 Tbps FOWLP-Based Silicon Photonic Engine for Co**

1.6 Tbps (224 Gbps/?) Silicon Photonic Engine  
Fabricated with Advanced Electronic-Photonic  
FOWLP for Co-Packaged Optics and Linear Drive  
Applications



## **Contact Us**

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For datasheets, pricing, or custom high-speed optical interconnect solutions,  
please visit:

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