

AROONA-P2P

Duplex Spatial Multiplexer / Demultiplexer for Multi-Mode Optical Fiber Links

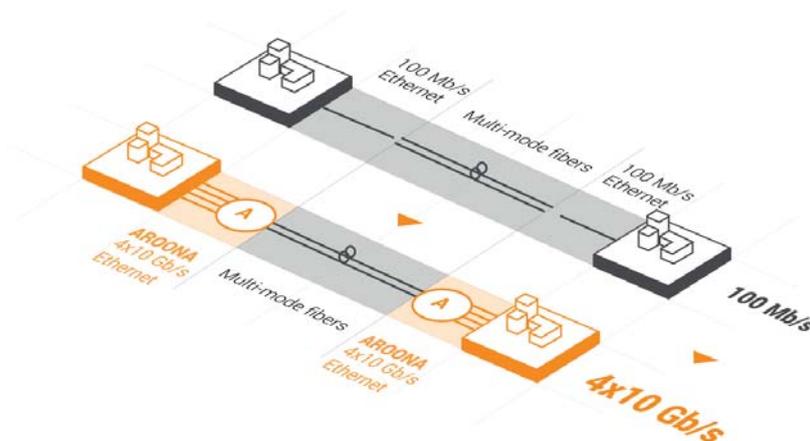
- Transforms one multi-mode fiber link into **4 independent high capacity channels without any new fiber deployment**
- Increases the reach of conventional multi-mode fiber links **up to 10 km at 4 x 10 Gb/s**

CAILabs' **AROONA-P2P** offers a **flexible and low-cost** solution to expand the capacity of existing multi-mode fiber links in Local Area Networks.

Using mode-group multiplexing over 4 optical channels, CAILabs' unique technology of **Multi-Plane Light Conversion*** transforms a single conventional multi-mode fiber link into 4 independent channels, **equivalent to 4 single-mode fiber links**.

By overcoming modal dispersion, reach for high transmission rates is increased **up to 10 km**. This enables duplex transmission of **4 x 10 Gb/s** in only one pair of standard multi-mode fibers (OM), at a single wavelength.

AROONA-P2P is a **passive device** and is **transparent to communication protocol**. It operates with **commercial single-mode transceivers** at 1550 nm, and achieves high transmission rates without new optical fiber deployment. It offers a capacity increase at **low complexity and low cost**.



Typical use case

Let us consider a 300 m link at 100 Mb/s over dual OM2 fiber, between two buildings on a campus. Increasing data rate to 1 Gb/s can be obtained by upgrading active components such as switches and transceivers. However, an upgrade to 10 Gb/s is limited by the bandwidth of the OM2 fibers. Traditionally, increasing the data rate to 10 Gb/s requires the deployment of new fibers.

CAILabs' **AROONA-P2P** solution increases the capacity of the link to **4 x 10 Gb/s** without any long, complex and expensive fiber deployment. **AROONA-P2P** is also compatible with WDM technologies, providing **easy and seamless high capacity scaling** of the network and ensuring **LAN infrastructure durability**.

* U.S. Pat No 9.250.454 - Japanese patent n° 5990544

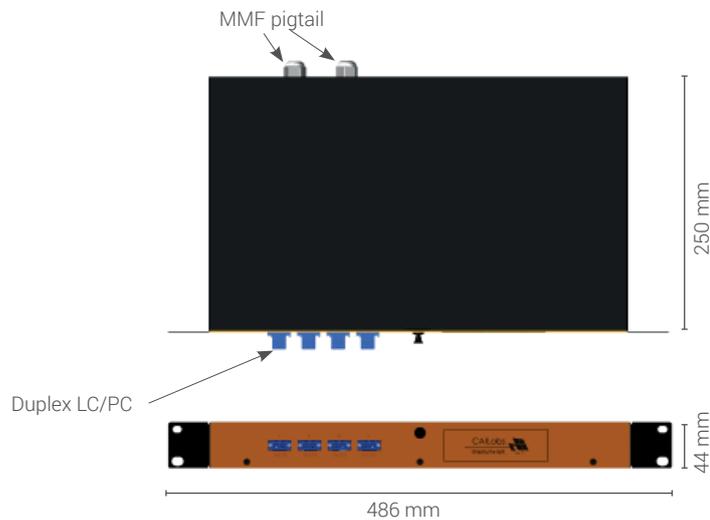
Technical specifications

PARAMETER	AROONA-P2P-800	AROONA-P2P-2000+
Operating wavelength	C-band (around 1550 nm)	
Reach	< 800 m	Up to 10 km
Number of channels*	4*	
System capacity	10 Mb/s to 50 Gb/s per channel Independent data rate over each channel	
Multiplexer insertion loss	< 4 dB (typical: 2.5 dB)	
Channel isolation	> 15 dB	
Communication protocol	Transparent to standard protocols (Ethernet, Fiber Channel, SDH, etc.)	
Compatible transceivers	Any type of single-mode transceiver (Rx PIN) Format: SFP, SFP+, XFP, GBIC, XENPACK, X2 Recommended specifications: 1000BASE-EX, 10GBASE-ER	

* subject to complexity of the link

Physical characteristics

PARAMETER	VALUE
Fiber type	62.5/125 μ m (OM1) ou 50/125 μ m (OM2 / OM3 / OM4)
Multiplexer input / Demultiplexer output	Duplex LC/PC connector
Multiplexer output / Demultiplexer input	MMF pigtail
Operating temperature	+5°C to +40°C (EN 300 019-2-3)
Housing size	H: 44 mm x L: 486 mm x P: 250 mm Rack 19" 1U



All specifications are correct at the time of production of this specification sheet. Any design or specification can be changed without prior notice.