BLUE SKY RESEARCH

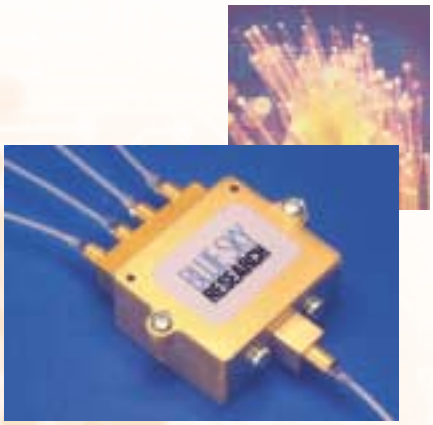
Optical Network Components

OPTICAL CROSS-CONNECT SWITCH COMPONENTS

OXC-1N/NN-SERIES: N = 2, 4, 8, 16, 32, 64

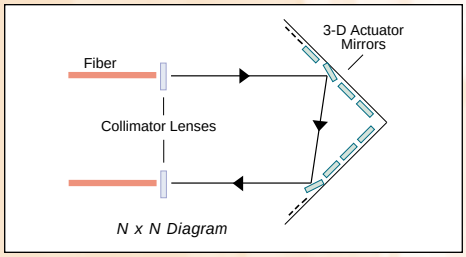
Blue Sky Research Optical Cross Connect Switch (OXC) components are based on electro-mechanical technology proven reliable in high volume applications such as optical drive actuators. They share many of the positive attributes of MEMS-based OXCs without certain MEMS limitations. The Blue Sky Research OXCs use spring-mounted micro-mirrors with precise 3D mirror positioning that is linear in operation and virtually free of hysteresis. This means simpler control circuits, greater reliability, lower cost, and lower power consumption. The overall maximum insertion loss is less than 3 dB. Mirror angulation has a range of about ±10º, is inherently self-aligning, and mirror rotation times are as short as 5 msec. The design requires only low voltage (5 V), low power driving circuits. The OXC incorporates Blue Sky Research's proprietary µLens™ technology to achieve higher fiber coupling efficiency and simpler assembly. Available in 1xN and NxN formats, the current switch components have low-to-intermediate port (N) configurations. The technology, however, is completely scalable to N>1000. The 1xN OXCs share the same electro-optical actuator technology in a simplified geometry and unique optical design that assures reliable, low-insertion loss operation in a very compact package.

Availability – Ports: 1xN, for N = 2, 4, 8, 16 (2001), 32 and 64 (2002)
NxN, for N ≤ 16 (2001), 32 and 64 (2002), N ≥ 256 (after 2002)



INNOVATIVE, HIGH-RELIABILITY ELECTRO-MECHANICAL OXC COMPONENTS

- **Low-voltage linear control**
- **Fast Switch Times**
- **Low Insertion Loss**
- **Low Power Consumption**
- **Actuator proven reliable in high-volume applications**
- **Compact Package**
- **Standard Interface**



The electro-mechanical actuator design has linear control with overall <3dB insertion loss using the Blue Sky Research µLens™ to optimize fiber input/output collimation and coupling.

Summary Specifications for 1x16 Switch		
Item	Units	Specification
Ports	1xN	1x16
Switch Speed	msec	<10 typical
Insertion Loss	dB	<3
Cross-talk	dB	-50
Max. Package Height	inches	0.8
Reliability		Telcordia

Specifications subject to change without notice

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