Chiral Photonics
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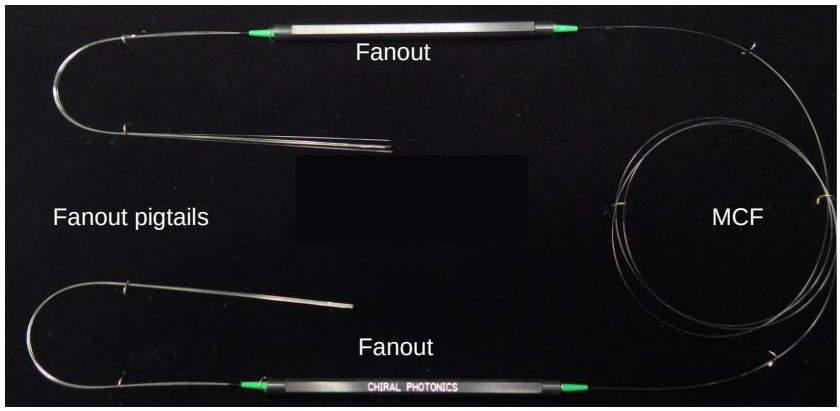
MCF Fanout Multicore Fiber Fanout

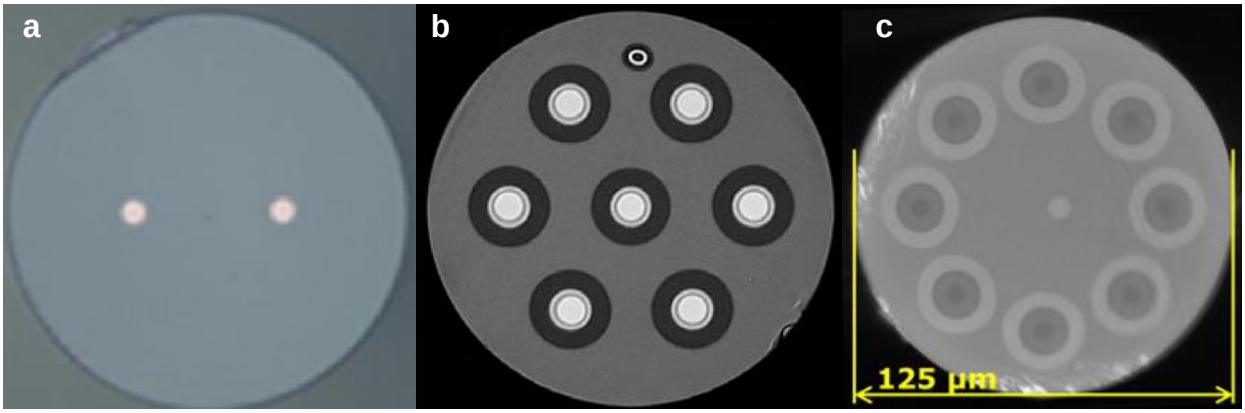
Multicore fiber is increasingly of interest for applications ranging from sensing to spatial division multiplexing to high density coupling. Addressing individual cores of these fibers is what Chiral's Multicore Fiber (MCF) Fanout enables.



Fanouts are typically shipped in spliced pairs, as shown here for a 7-core MCF. This configuration enables full testing of insertion loss and crosstalk for each pair. MCF and pigtail lengths can be tailored to your needs. Fanout pigtails, two pairs of 7 fibers shown on left in this example, are typically standard singlemode fibers.

Multicore fiber is often supplied by the customer and the fanout is matched to the fiber. However, Chiral also stocks some multicore fiber and can supply both the fanouts and MCF, as preferred. Fanouts can also include connectorization and assembly with other components, as desired.

Chiral Photonics, to date, has supplied fanouts for MCF with 2 to12 channels in a variety of configurations. Some exemplary MCF fibers that we have fabricated fanouts for are shown below, along with related citations. Please speak to us about your specific fanout needs.



a: Y. Geng, et. al. "High-speed, bi-directional dual-core fiber transmission system for high-density, short-reach optical interconnects," Proc. SPIE 9390, Next-Generation Optical Networks for Data Centers and Short-Reach Links II, 939009 (March 9, 2015).
b: V.I. Kopp, et. al. "Pitch Reducing Optical Fiber Array and multicore fiber for space-division multiplexing," Photonics Society Summer Topical Meeting Series, 2013 IEEE , vol., no., pp.99,100, 8-10 July 2013.
c: T. Hayashi, et. al. "125-µm-Cladding 8-Core Multi-Core Fiber Realizing Ultra-High-Density Cable Suitable for O-Band Short-Reach Optical Interconnects," in Optical Fiber Communication Conference Post Deadline Papers, OSA Technical Digest (online) (Optical Society of America, 2015), paper Th5C.6.

Typical specifications for fanouts are:

- Average insertion loss per channel: 0.6 dB
- Average crosstalk per channel: < -40 dB
- Polymeric package dimensions: 114 x 7 x 7 mm (135 mm long with strain relief boots)

Shown below is a typical specification for a pair of MCF fanouts, as is supplied with every pair of fanouts:

Channel number	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	-1.0	-48.1	-45.0	-49.0	X	X	X
2		-1.3	X	-53.7	-46.9	X	X
3			-1.8	-46.2	X	-48.7	X
4				-1.3	-53.9	-49.4	-51.8
5					-0.7	X	-45.5
6						-1.1	-46.4
7							-0.8

	Insertion Loss (dB)
	Crosstalk (dB)
X	Channels more than one pitch spacing apart

Please contact us to discuss your specific MCF fanout and assembly needs.