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(54) Title: HIGH-SPEED OPTICAL TRANSMITTERS USING CASCADED OPTICALLY INJECTION-LOCKED LASERS

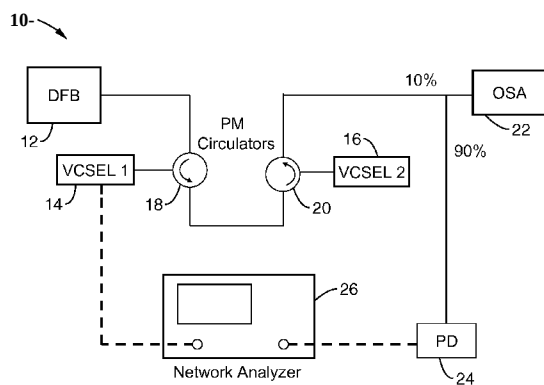


FIG. 1A

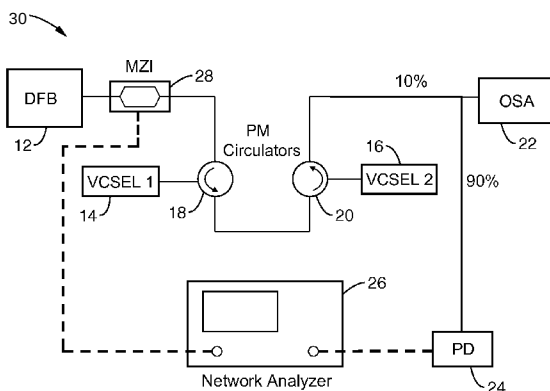


FIG. 1B

(57) Abstract: Apparatus and method for increasing optical transmission bandwidth in response to chaining, in cascade, one or more slave lasers onto a master laser. Each laser is configured for optical injection locking (OIL) and each slave laser is locked onto the master laser. The first and each subsequent slave laser are detuned to tailor frequency characteristics of apparatus output. The transmitter can be scaled up by cascading additional injection-locked lasers together. The invention supports multiple compatible modulation formats, such as amplitude modulation (AM), phase modulation (PM), and frequency modulation (FM), for tailoring the output to the application of interest, while any type of laser can be used for the master and slave lasers.



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C DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 2004/0101317 A1 (Yap et al.) 27 May 2004 (27.05.2004) entire document, especially Abstract; paras [0018]; [0031]-[0038]; [0044]; [0049]; [0052]	1-3, 5-8, 10-15, 17-20
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Y		4, 9, 16
Y	US 2005/001 3337 A1 (Jung et al.) 20 January 2005 (20.01 .2005) entire document, especially Abstract; paras [0076]; [0080]	4, 9, 16
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