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(54) Title: PHOTONIC INTEGRATED TRANSMITTER

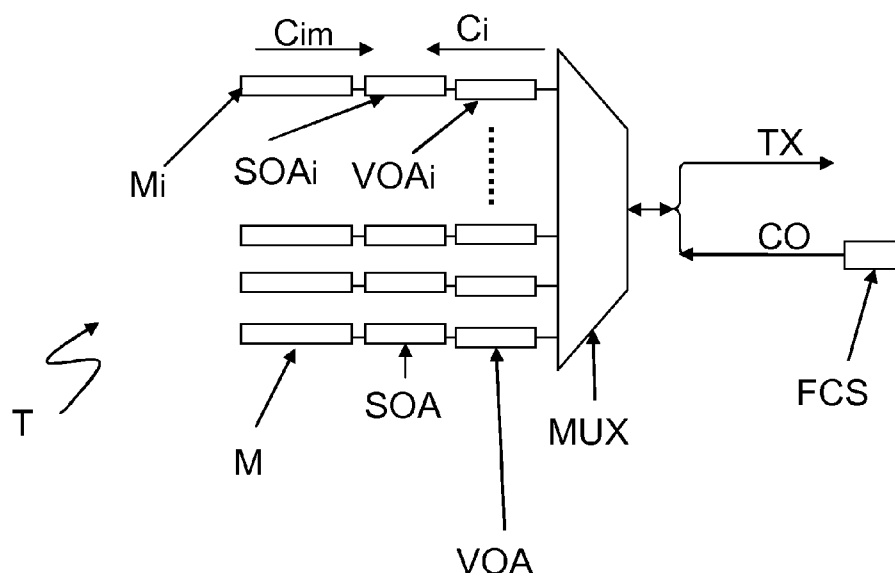


Fig. 3

(57) Abstract: A photonic integrated circuit transmitter and a method for transmitting optical signals comprising a mode-locked laser diode generating a frequency comb optical signal and inputting said comb optical signal into a multiplexer/demultiplexer which demultiplexes said comb optical signal into a plurality of individual optical signals. A plurality of reflective modulators each receiving a respective one of said demultiplexed individual optical signals and modulating said received individual optical signal and reflecting the modulated optical signal back to the multiplexer/demultiplexer. The multiplexer/demultiplexer then multiplexes the received modulated optical signal into a multiplexed output optical signal.