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# United States Patent [19]

## Mizrahi

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[54] **DYNAMICALLY RECONFIGURABLE OPTICAL ADD-DROP MULTIPLEXERS FOR WDM OPTICAL COMMUNICATION SYSTEMS**

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[51] **Int. Cl.⁷** ..................................... H04J 14/02

[52] **U.S. Cl.** ................. 359/124; 359/127; 359/128; 359/130

[58] **Field of Search** ..................... 359/124, 127, 359/128, 129, 130, 131; 385/37

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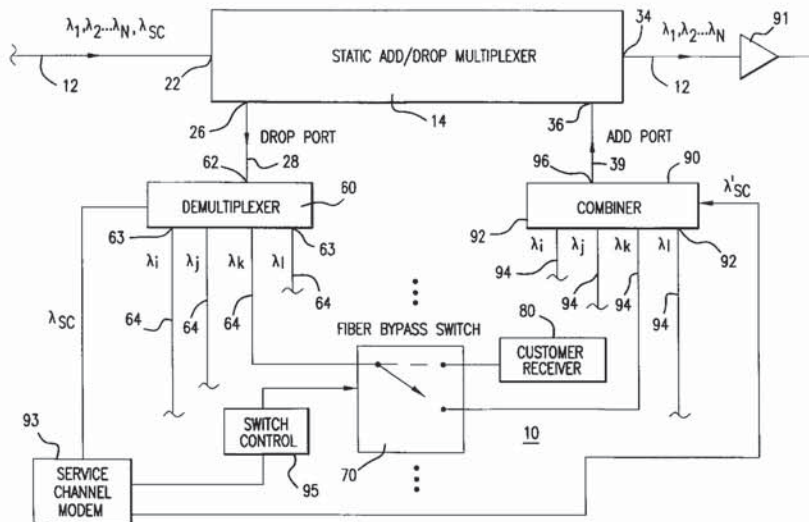
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[57] **ABSTRACT**

In an optical add/drop multiplexer, an optical switch is coupled to one or more outputs from a demultiplexer. Accordingly, a dropped optical channel can be switched between a receiver optical path for directing the dropped optical signal to an optical receiver and between a combiner optical path for routing the dropped optical channel back towards the optical transmission path, optionally passing the dropped optical channel through a remodulator. Alternatively, the optical switch routes the dropped optical channel towards an optical receiver while permitting a new optical channel to be routed to add port of the static add-drop multiplexer.
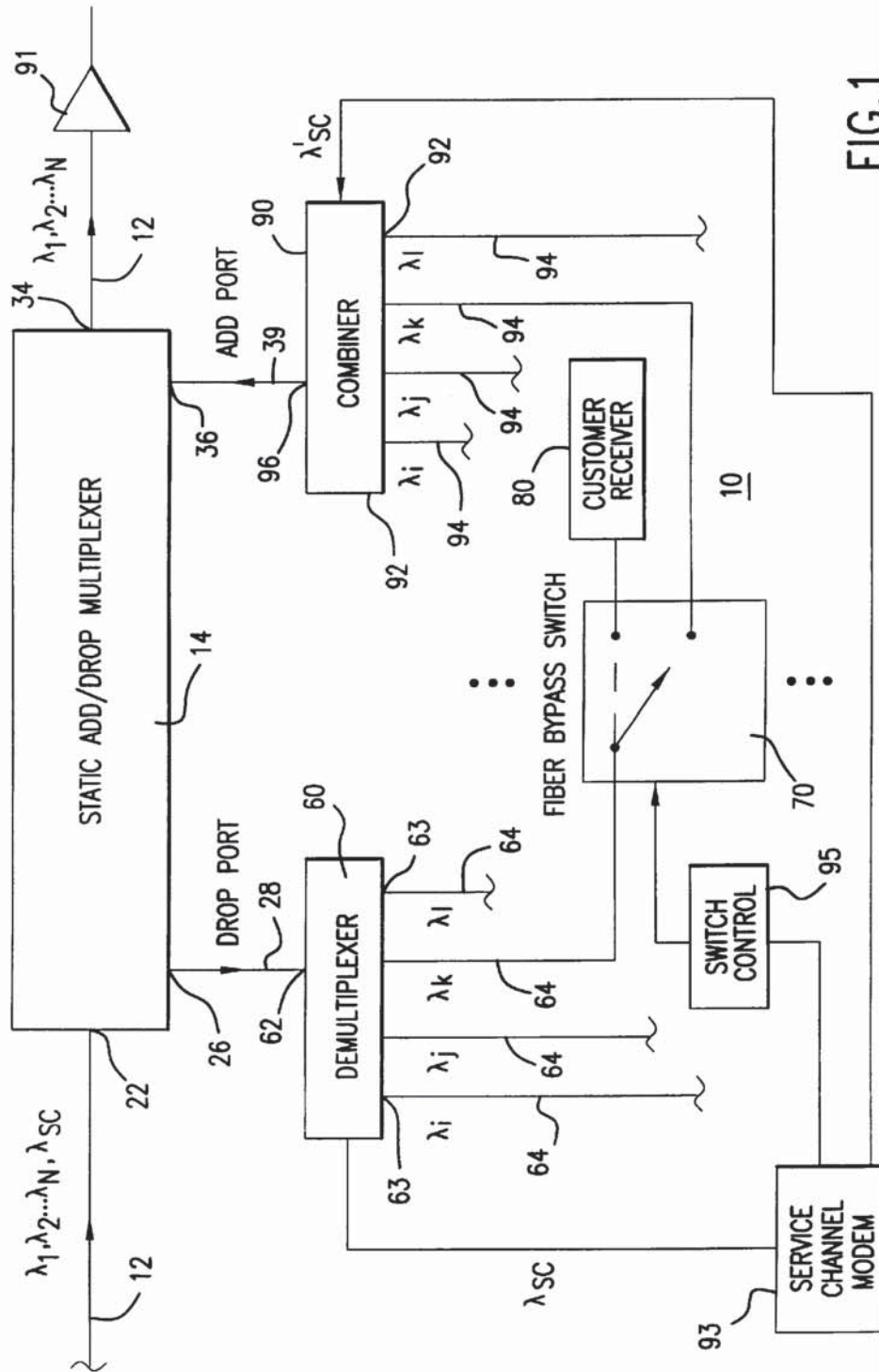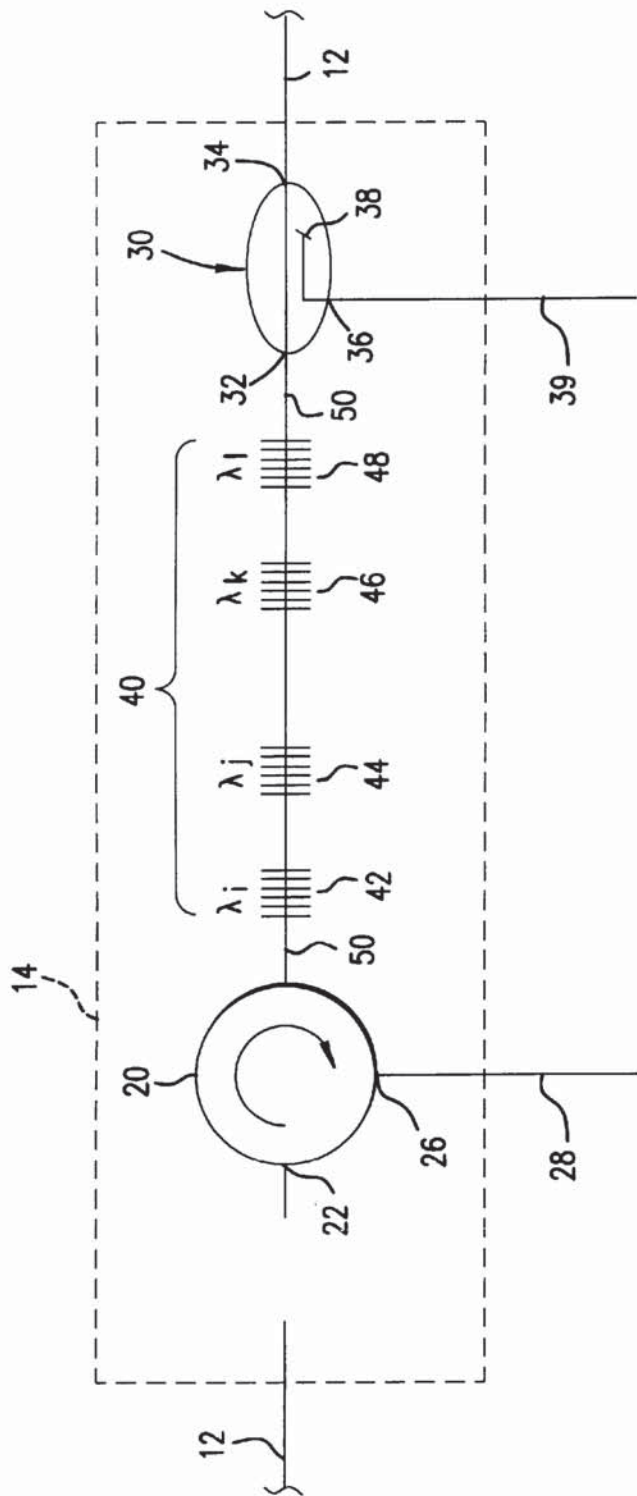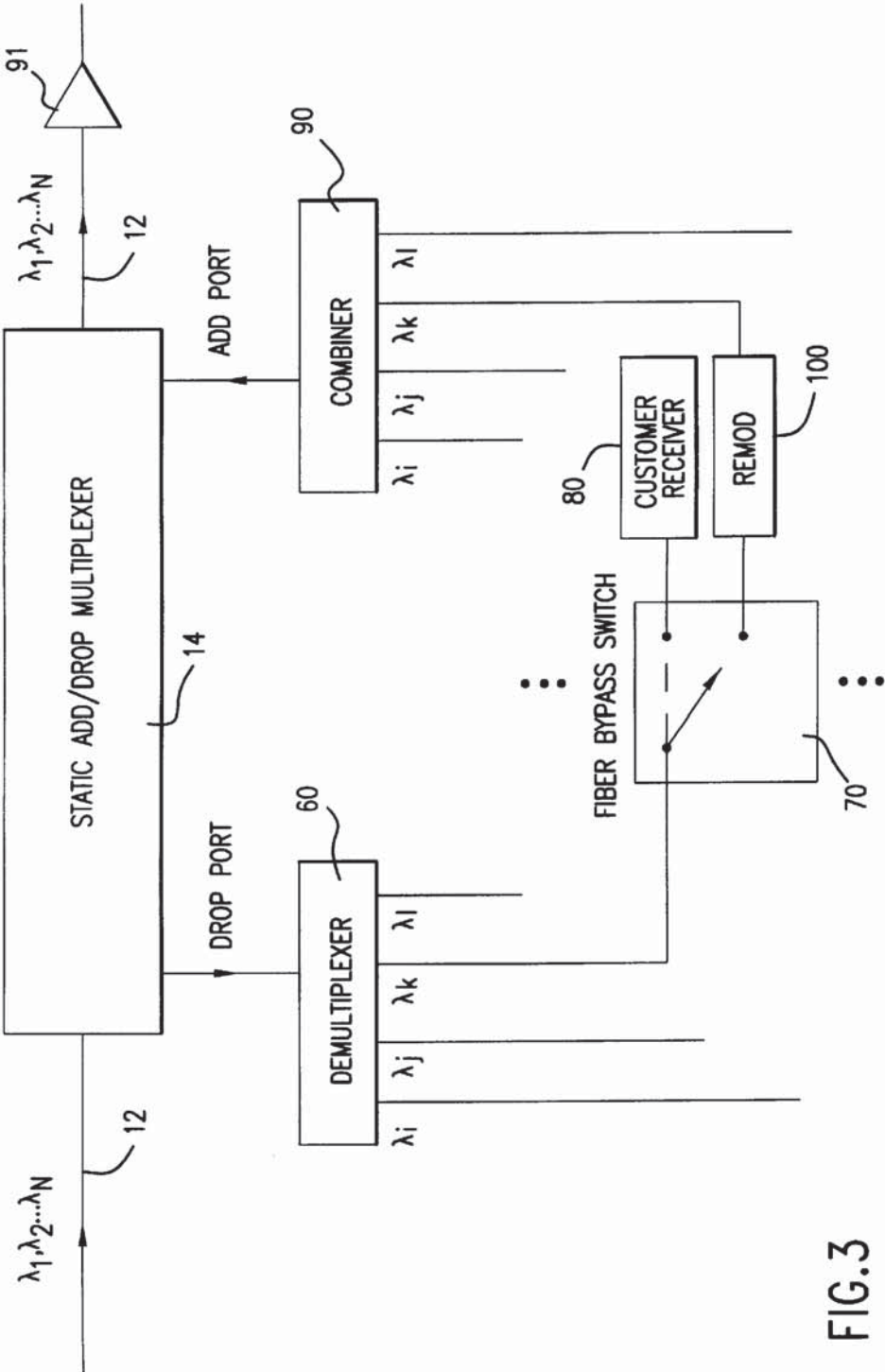
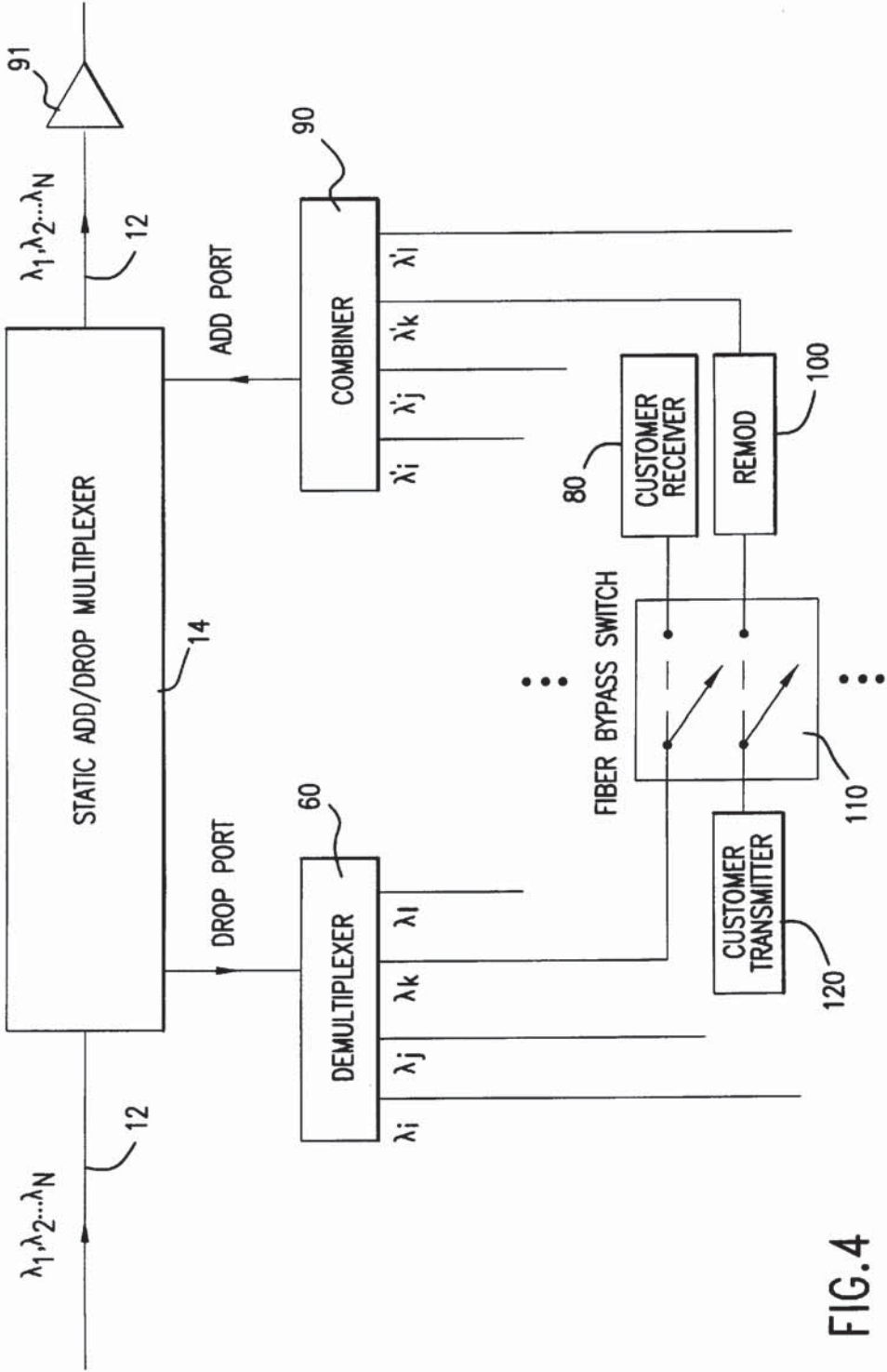**10 Claims, 5 Drawing Sheets**

FIG.1

FIG.2

FIG.3

FIG.4

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