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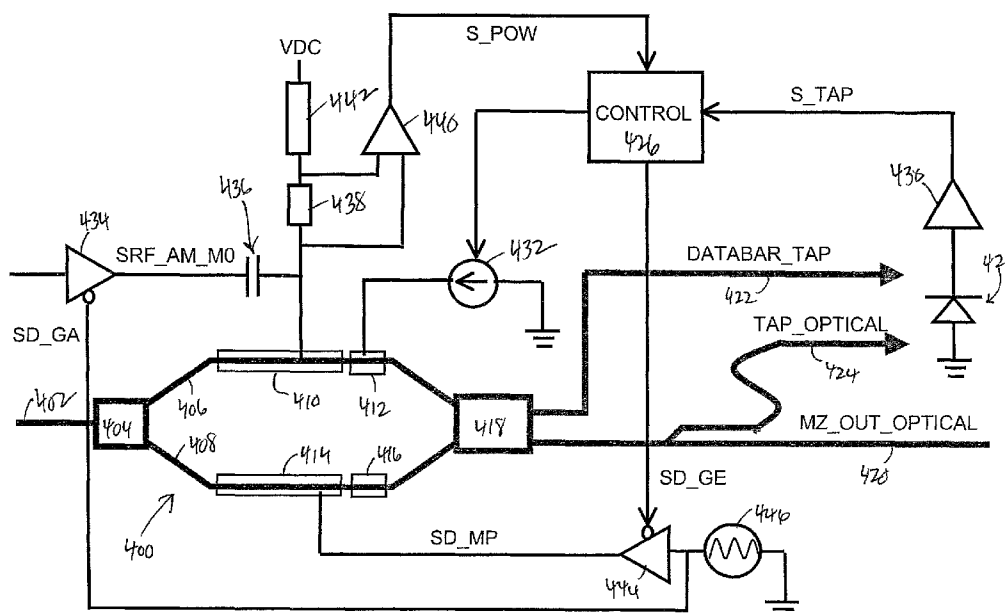
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Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

[Continued on next page]

(54) Title: BIAS-CONTROL FOR OPTICAL MACH-ZEHNDER MODULATORS WITH VOLTAGE-INDUCED OPTICAL ABSORPTION



(57) Abstract: A bias-control circuit that provides operating point control for a Mach-Zehnder modulator experiencing optical absorption at their interferometric arms. The bias control circuit generates compensation signals that are used to counter the thermally induced index shifts as a result of absorption. In addition, an operating point with desirable transmitter characteristics can also be arbitrarily chosen by over-compensating or under-compensating thermal effects.

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## A. CLASSIFICATION OF SUBJECT MATTER

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USPC: 398/192,198;359/237,240,245;385/129,131

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## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                                                                    | Relevant to claim No. |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X          | US 6,654,534 B1 (PROSYK et al) 25 November 2003, col. 1, lines 13-44, col. 2, lines 20-29, col. 5, lines 12-50 and col. 6, line 36 to col. 7, line 3. | 1, 2, 8, 9, 15, 16    |
| ---        |                                                                                                                                                       | -----                 |
| A          |                                                                                                                                                       | 3-7, 10-14, 17-21     |
| A          | US 2004/0027634 A1 (BOND et al) 12 February 2006, paragraphs 0003-0010.                                                                               | 1-21                  |
| A          | US 6,222,965 B1 (SMITH) 24 April 2001, col. 2, line 45 to col. 3, line 3 and col. 3, line 28 to col. 5, line 18.                                      | 1-21                  |

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

|                                          |                                                                                                                                                                     |     |                                                                                                                                                                                                                                              |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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