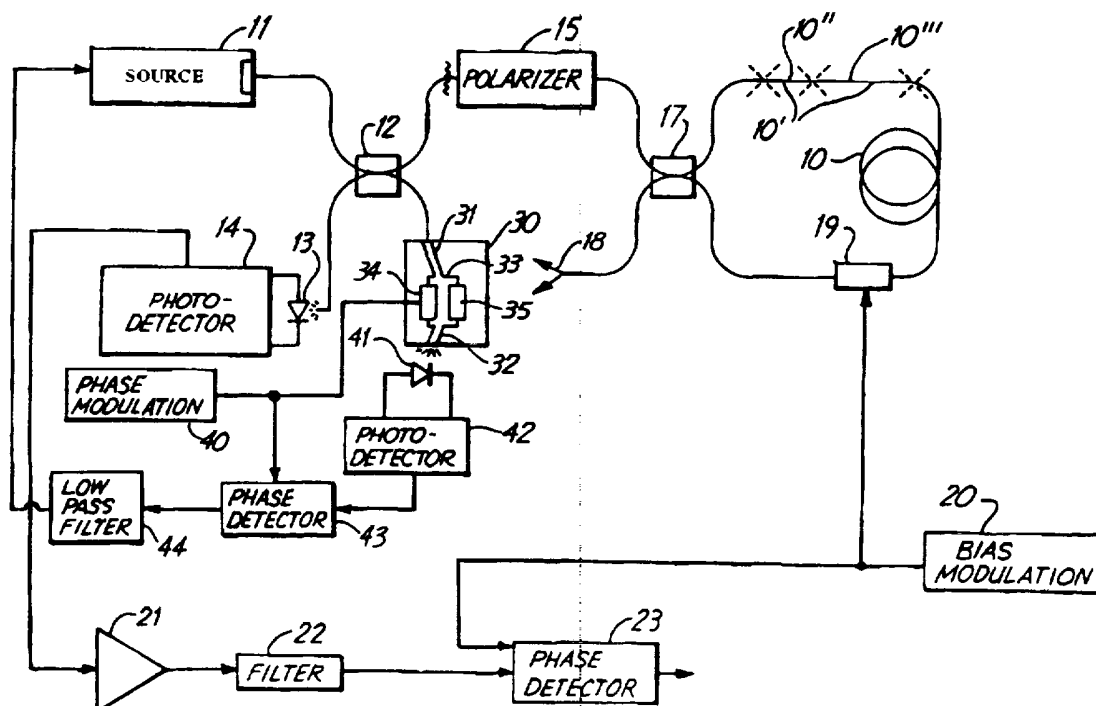




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁵ : G01C 19/72, G02B 6/28 G02F 1/035, H01S 3/133	A3	(11) International Publication Number: WO 94/18525 (43) International Publication Date: 18 August 1994 (18.08.94)
(21) International Application Number: PCT/US94/01494 (22) International Filing Date: 14 February 1994 (14.02.94) (30) Priority Data: 08/017,685 12 February 1993 (12.02.93) US (71) Applicant: HONEYWELL INC. [US/US]; Honeywell Plaza, Minneapolis, MN 55408 (US). (72) Inventors: BLAKE, James, N.; 16537 Woodlake Drive, College Station, TX 77845 (US). LASKOSKIE, Clarence, E.; 16213 North 65th Place, Scottsdale, AZ 85254 (US). SZAFRANIEC, Bogdan; 30639 North 46th Place, Cave Creek, AZ 85331 (US). (74) Agent: SHUDY, John, G., Jr.; Honeywell Inc., Honeywell Plaza - MN12-8251, Minneapolis, MN 55408 (US).		(81) Designated States: AU, BR, CA, FI, JP, KR, NO, RU, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i> (88) Date of publication of the international search report: 24 November 1994 (24.11.94)

(54) Title: CONTROL OF SPECTRAL SHIFT ERRORS



(57) Abstract

A spectrum stabilizer for stabilizing with respect to wavelength an emission spectrum of electromagnetic waves emitted by a source for insertion into a selected optical system where the source can have that emission spectrum shifted over wavelength by varying one or more source parameters, and electromagnetic waves from a selected point in the optical system are coupled to a double mode waveguide means for wavelength sensing.

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INTERNATIONAL SEARCH REPORT

National Application No
PCT/US 94/01494

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 G01C19/72 G02B6/28 G02F1/035 H01S3/133

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 5 G01C G02F G02B H01S

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 practical, 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.
Y	AGARD Conference Preprint No.383, Meeting of the Electromagnetic Wave Propagation Panel Specialists, Istanbul, Turkey, 23-27 September 1985, pp.14-1 to 14-14, R.KEIL et al.: "Effects of Optical Feedback on the Performance of High Data Rate Single-Mode Fiber Systems"	23-25
A	see page 14-2, line 23 - page 14-3, line 32; figures 4,5	8,19
Y	EP,A,0 001 714 (THE POST OFFICE) 2 May 1979 see page 5, line 26 - page 6, line 9; figures	23-25
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

7 October 1994

Date of mailing of the international search report

17. 10. 94

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+ 31-70) 340-3016

Authorized officer

Hoekstra, F

INTERNATIONAL SEARCH REPORT

 I. International Application No
 PCT/US 94/01494

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB,A,2 216 652 (BRITISH AEROSPACE PLC) 11 October 1989 see page 5, line 1 - page 6, line 11 see page 7, line 1 - line 12 see page 9, line 12 - line 19 see page 10, line 15 - line 17; figures ---	1,2,7, 11,12
A	US,A,4 196 964 (PAPUCHON) 8 April 1980 see claims ---	1
A	EP,A,0 522 843 (SUMITOMO ELECTRIC INDUSTRIES LTD.) 13 January 1993 see abstract; figures ---	3
A	WO,A,88 02474 (ALLIED CORPORATION) 7 April 1988 see abstract; figure 1 ---	1
A	GB,A,2 157 425 (BRITISH AEROSPACE PLC) 23 October 1985 see abstract ---	1
A	EP,A,0 450 747 (LITTON SYSTEMS INC.) 9 October 1991 see abstract; figure 4 -----	1

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 94/01494

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. Claims 1-22 : Spectrum stabilizer comprising double mode wave guide means.
2. Claims 23-27: Source controller for controlling the emission spectrum and intensity of a source.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 94/01494

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
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