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Declarations under Rule 4.17:
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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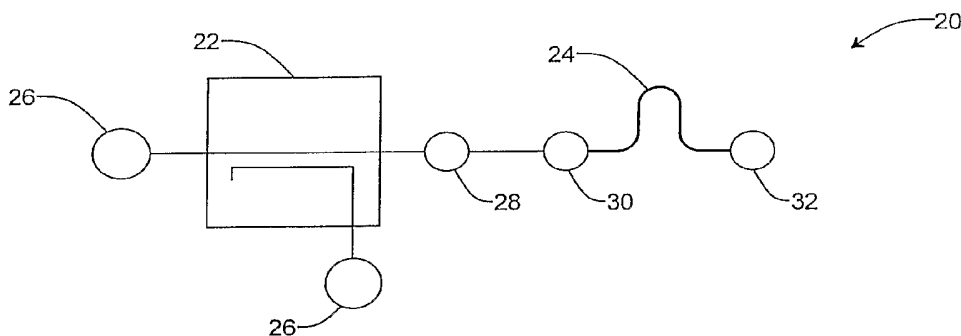
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LINE-DOUBLER DELAY CIRCUIT



(57) Abstract: The length of a transmission line delay circuit is halved by inserting a directional coupler in the signal path ahead of the transmission line and either open circuiting or short circuiting the other end of the transmission line. The signal traveling through the directional coupler and through the transmission line is reflected back at the end of the transmission line, and the reflected signal is carried to the coupled output of the directional coupler. Since the signal travels through the transmission line twice, the delay time is doubled. Therefore, for a given delay requirement, the length of transmission line required is only half of the length required for prior art transmission delay lines.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/28155

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : H01P 05/18; H01P 01/18
 US CL : 333/109, 156
 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)
 U.S. : 333/109, 156, 110, 111, 112, 117, 12, 138; 343/853

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 NONE

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,188,373 A (MARTEK) 13 February 2001 (13.02.2001), column 2, line 23-column 3, line 45; column 18, lines 35-41; column 5, lines 4-10; column 24, lines 23-26.	1-6
Y	US 4,827,270 A (UDAGAWA et al) 02 May 1989 (02.05.1989), column 2, line 23-column 3, line 45; column 18, lines 35-41; column 5, lines 4-10; column 24, lines 23-26.	1-6

Further documents are listed in the continuation of Box C. See patent family annex.

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/28155

Continuation of B. FIELDS SEARCHED Item 3:

US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB; EAST

Search Terms: (interference with (cancel or cancelling or cancellation)) and transceiver and antenna and (directional with coupler) not S30