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(Continued on next page)

(54) Title: BI-DIRECTIONAL SIGNAL INTERFACE

(57) Abstract: A bi-directional signal interface includes a first waveguide that propagates a first traveling wave. The first waveguide has one end that is coupled to a RF input port that receives a RF transmission signal and another end that is coupled to a RF bi-directional port that receives a RF reception signal and transmits the RF transmission signal. A second waveguide is positioned proximate to the first waveguide. The second waveguide has one end coupled to an output port that passes the received RF reception signal. A non-reciprocal coupler couples fields from the first waveguide to the second waveguide so that the RF reception signal from the bi-directional port couples from the first waveguide to the second waveguide in a substantially non-reciprocal manner and then passes through the output port, and the RF transmission signal from the RF input port passes through the first waveguide to the RF bi-directional port.
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.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 H01P5/10  H01P1/32

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 7 H01P

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):

EPO-Internal, PAJ, WPI Data, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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abstract, figures 1, 5 | 26 |
| X        | Further documents are listed in the continuation of box C. | /-/ |

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**Date of the actual completion of the international search**

16 December 2004

**Date of mailing of the international search report**

23/12/2004

**Name and mailing address of the ISA**

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