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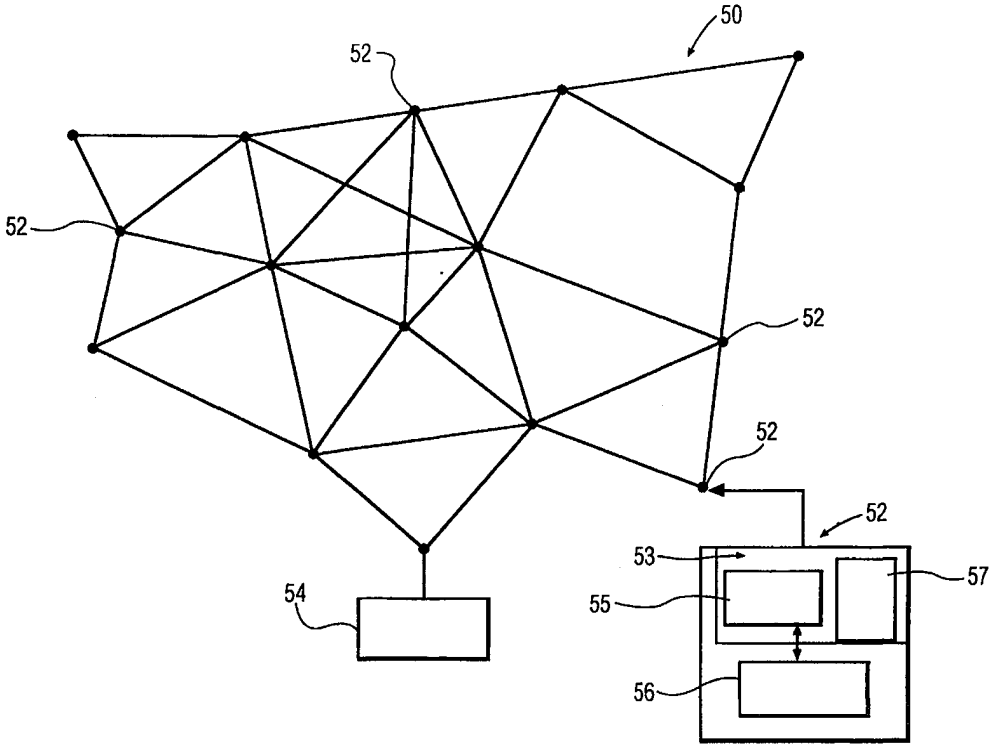
(54) Title: A REAL–TIME CSMA METHOD HAVING THE CAPABILITY TO ADAPTIVELY VARY CELL SIZES AND A WIRELESS NETWORK FOR IMPLEMENTING THE SAME

(57) Abstract

A method in which incoming RF signals to a given node of a wireless network are detected in real–time by using a comparison circuit for comparing a signal which is indicative of the strength of an incoming RF signal with a prescribed threshold level. The output of the comparison circuit is coupled to an input of the digital signal processor (e.g., microprocessor) of the node. The microprocessor is preferably programmed to check this input prior to attempting to transmit data, thus minimizing the chances of a collision occurring due to overlapping data transmitting and receiving operations. Preferably, the prescribed threshold level utilized in the comparison circuit of a given node can be selectively varied in order to thereby selectively vary the size of the cell in which the given node resides. In this connection, the neighbourhood or cell sizes in which the individual nodes in the network reside are preferably adaptively varied in such a manner as to maximize the data throughput of the entire network. Also disclosed is an individual network node for a wireless network and a wireless network which have the capability of implementing the above–described method.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 97/01268

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04B 17/00, H04Q 9/00, H04B 7/204
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)

IPC6: G08C, H02J, H04B, H04L, H04Q

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

SE,DK,FI,NO classes as above

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

CLAIMS, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Y	--	2,9
Y	EP 0475682 A2 (NCR CORPORATION), 18 March 1992 (18.03.92), column 3, line 21 - column 5, line 42	2,9
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☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Bo Gustavsson Telephone No. +46 8 782 25 00

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INTERNATIONAL SEARCH REPORT

Information on patent family members

09/06/98

International application No.
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