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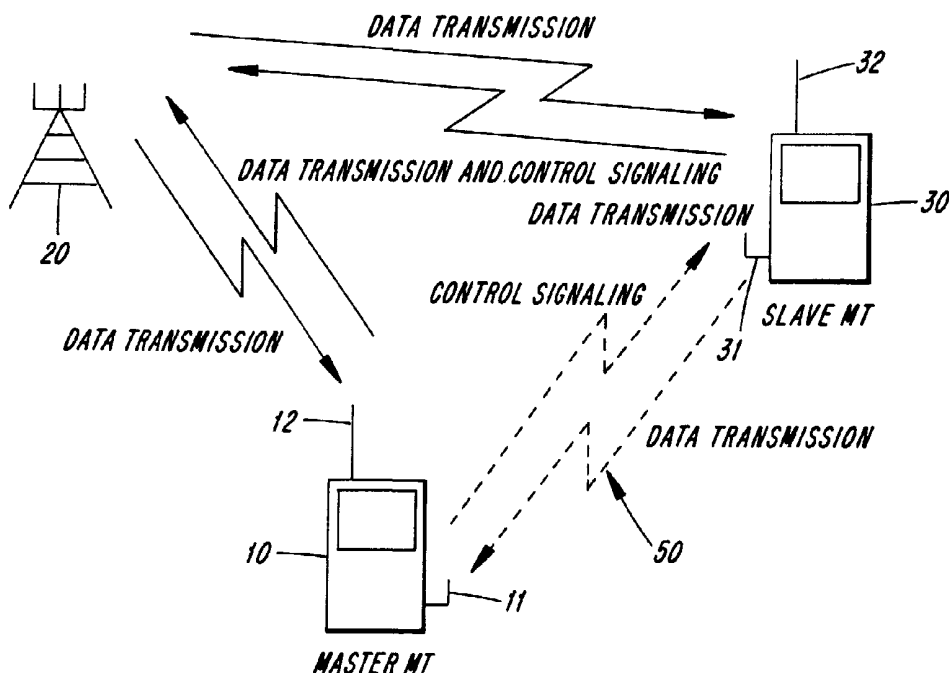
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[Continued on next page]

(54) Title: SYSTEMS USING MOBILE TERMINALS HAVING SHORT LINK RADIOS



(57) Abstract: Methods and systems using short link radios (SLRs) with mobile terminals are disclosed. A mobile terminal having a SLR connects to other mobile terminals having SLRs over a SLR link to increase the throughput, the QoS, or both of the system. The mobile terminals establish a SLR link between a first mobile terminal and a second mobile terminal. Both mobile terminals receive data transmitted from a base station intended for the first mobile terminal. The second mobile terminal then retransmits the data received by the second mobile terminal to the first mobile terminal via the SLR link.



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IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/ 01/12533

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L12/56

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 H04L H04Q

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)

WPI Data, PAJ, EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 950 135 A (CULLEN JOHN MICHAEL) 7 September 1999 (1999-09-07) column 1, line 5 -column 2, line 54 column 3, line 6 -column 4, line 22 column 5, line 23 - line 54 claims 1-4,7,10,12,28,29	1,5, 8-11, 13-16, 21,23, 27-29, 31, 34-36, 38,44, 48-50,57
Y		2,3,6,7, 24,25, 32,33, 45,46, 58,59
A	-/--	4,12,17,

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"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

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PCT/EP 01/12533

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>--- EP 0 948 222 A (IBM) 6 October 1999 (1999-10-06)</p> <p>column 1, line 3 -column 3, line 2 column 6, line 9 -column 8, line 52 column 10, line 3 -column 11, line 15 column 12, line 22 -column 13, line 34</p>	<p>22,26, 30,37, 47,51</p> <p>1,2,5,6, 8,9,13, 15,23, 24,27, 28,31, 32,34, 35,38, 44,45, 48,49, 57,58</p>
Y A	<p>--- WO 99 55102 A (ISRAELI GIL ;TE ENI BEN (IL); NETLINE COMMUNICATIONS TECHNOL (IL)) 28 October 1999 (1999-10-28)</p> <p>page 1, line 4 -page 5, line 15 page 20, line 3 - line 30</p>	<p>3,7,25, 33,46,59 4,10,14, 16,17, 26,29, 30,36, 37,47, 50,51</p>
Y A A	<p>--- EP 0 689 303 A (ALCATEL BELL SDT SA) 27 December 1995 (1995-12-27) abstract column 1, line 1 -column 2, line 27 column 3, line 35 -column 6, line 47 -----</p>	<p>2,3,6,7, 24,25, 32,33, 45,46, 58,59</p> <p>1,5,23, 31,44,57</p> <p>1,23,31, 44,57</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 01/12533

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:

see additional sheet

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.:

1-17, 21-38, 44-51, 57-59

Remark on Protest

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

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-17,21-38,44-51,57-59,
as far as relating to the first invention

A method and system for operating a first mobile terminal, comprising establishing a first link to a base station, establishing a second link to a second mobile terminal, and receiving data from the second mobile terminal via the second link, wherein the data is derived from data that was transmitted from the base station to the second mobile terminal, and where the second link operates in accordance with BLUETOOTH standards.

2. Claims: 1,18,19,31,39-44,52-56,
as far as relating to the second invention

A method and system for operating a first mobile terminal, comprising establishing a first link to a base station, establishing a second link to a second mobile terminal, and receiving data from the second mobile terminal via the second link, wherein the data is derived from data that was transmitted from the base station to the second mobile terminal, and where safety-related operations are carried out at the second mobile terminal.

3. Claims: 1,20, as far as relating to the third invention

A method and system for operating a first mobile terminal, comprising establishing a first link to a base station, establishing a second link to a second mobile terminal, and receiving data from the second mobile terminal via the second link, wherein the data is derived from data that was transmitted from the base station to the second mobile terminal, and where a handover to said second mobile station is performed.

INTERNATIONAL SEARCH REPORT

nation on patent family members

International Application No

PCT, 01/12533

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