



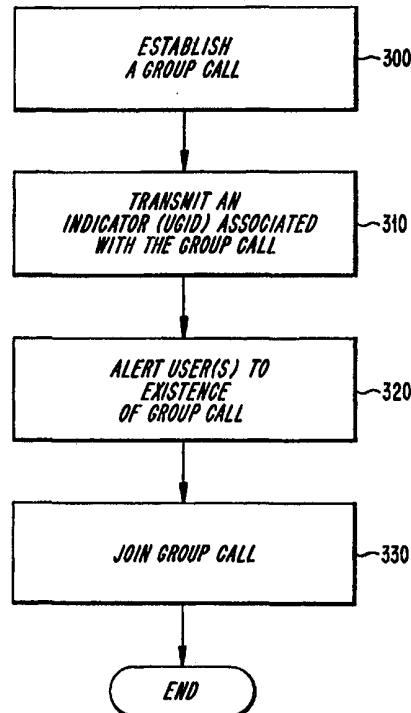
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : H04Q 7/38</p>	<p>A3</p>	<p>(11) International Publication Number: WO 00/30375 (43) International Publication Date: 25 May 2000 (25.05.00)</p>
<p>(21) International Application Number: PCT/US99/27108 (22) International Filing Date: 16 November 1999 (16.11.99) (30) Priority Data: 09/192,185 16 November 1998 (16.11.98) US (71) Applicant: ERICSSON INC. [US/US]; 7001 Development Drive, P.O. Box 13969, Research Triangle Park, NC 27709 (US). (72) Inventor: RAITH, Alex, K.; Park Ridge Road, 805-A5, Durham, NC 27713 (US). (74) Agents: GRUDZIECKI, Ronald, L. et al.; Burns, Doane, Swecker & Mathis, L.L.P., P.O. Box 1404, Alexandria, VA 22313-1404 (US).</p>	<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 5 October 2000 (05.10.00)</p>	

(54) Title: USER GROUP INDICATION AND STATUS CHANGE IN RADIOCOMMUNICATION SYSTEMS

(57) Abstract

The present invention sets forth group call services which uses broadcast or point-to-point radiocommunication resources to provide information to a mobile station user. First, indications of existing group calls are transmitted to mobile stations. Then, users of mobile stations are alerted to the existence of relevant group calls, i.e., those calls in which they are eligible to participate.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/27108

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04Q7/38

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 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)

PAJ, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 94 28687 A (YARWOOD ANTHONY CHARLES ;BRITISH TELECOMM (GB)) 8 December 1994 (1994-12-08)</p> <p>page 4, line 14 - line 28 page 5, line 12 - line 31 page 6, line 32 - line 35 page 10, line 30 -page 11, line 5 page 11, line 24 - line 25</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	<p>1,3-10, 12-18, 29-33, 40-44,59</p>

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

"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)

"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

30 June 2000

Date of mailing of the international search report

19.07.00

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

Rothlübbers, C

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/27108

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 809 018 A (LEHMUSTO MIKA) 15 September 1998 (1998-09-15) column 2, line 15 - line 65 column 4, line 35 -column 5, line 2 column 5, line 13 - line 23 column 8, line 62 - line 64 ----	10, 12-15, 18,29, 30,33, 40-44,59
A	WO 98 49856 A (NOKIA TELECOMMUNICATIONS OY ;AURA TUOMAS (FI)) 5 November 1998 (1998-11-05) page 5, line 5 - line 10 ----	2,11
A	US 5 752 196 A (AHVENAINEN JOUKO ET AL) 12 May 1998 (1998-05-12) column 1, line 49 - line 67 ----	19,20
A	US 5 694 393 A (KAYE STEFAN F) 2 December 1997 (1997-12-02) column 6, line 1 - line 20 ----	19,20
X	US 5 634 197 A (PAAVONEN TAPIO) 27 May 1997 (1997-05-27) ----	21-27
A	column 2, line 53 -column 3, line 38 column 6, line 37 - line 43 column 8, line 45 - line 62 ----	36
A	EP 0 780 819 A (NIPPON ELECTRIC CO) 25 June 1997 (1997-06-25) column 1, line 8 - line 16 column 1, line 24 - line 37 ----	34-39
X	US 5 666 364 A (PIERCE JENNIFER A ET AL) 9 September 1997 (1997-09-09) ----	45-49
A	column 4, line 44 - line 58 column 5, line 39 - line 42 ----	19,20, 63,64
X	WO 94 14289 A (NOKIA TELECOMMUNICATIONS OY ;TOEYRYLAE HANNU (FI); SUIKKOLA RAUNO) 23 June 1994 (1994-06-23) page 12, line 30 -page 13, line 9 page 20, line 23 -page 22, line 4 ----	50,53, 55-58
P,X	WO 99 03253 A (ERICSSON TELEFON AB L M) 21 January 1999 (1999-01-21) page 14, line 9 -page 15, line 7 ----	50,51, 55-58, 60,61
A	US 5 404 355 A (RAITH ALEX K) 4 April 1995 (1995-04-04) column 9, line 61 -column 10, line 8 column 21, line 13 - line 40; claims 1-4 ----	65,66

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 99/27108

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

As a result of the prior review under R. 40.2(e) PCT,
part of the additional fees are to be refunded.

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.

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, 3-10, 12-18, 29-33, 40-44, 59

Provide an identification of ongoing group calls to a mobile station

2. Claims: 2,11

Transmit a group indicator in a secure way

3. Claims: 19,20

Use a specific point-to-point channel to transmit an indicator

4. Claims: 21-28, 34-39

Indicate specific group call information to the user of the mobile station

5. Claims: 45-49, 63, 64

The use of a group management system

6. Claims: 50-58, 60-62

Request and store selected group call information in a mobile station

7. Claims: 65, 66

Inform a mobile station of changes in ongoing group calls by the simultaneous use of two different channels

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/27108

Patent document cited in search report	Publication date	Patent family member(s)	Publication date		
WO 9428687 A	08-12-1994	AU 678247 B	22-05-1997		
		AU 6729494 A	20-12-1994		
		CA 2162730 A	08-12-1994		
		CN 1126016 A	03-07-1996		
		EP 0699371 A	06-03-1996		
		FI 955579 A	20-11-1995		
		HU 73703 A, B	30-09-1996		
		JP 8511920 T	10-12-1996		
		NO 954682 A	19-01-1996		
		NZ 266204 A	29-01-1997		
		SG 47619 A	17-04-1998		
		PL 311695 A	04-03-1996		
		US 5809018 A	15-09-1998	FI 92787 B	15-09-1994
AT 187292 T	15-12-1999				
AU 682502 B	09-10-1997				
AU 6429994 A	24-10-1994				
CN 1120380 A	10-04-1996				
DE 69421913 D	05-01-2000				
DE 69421913 T	04-05-2000				
EP 0692170 A	17-01-1996				
WO 9423525 A	13-10-1994				
JP 8508373 T	03-09-1996				
WO 9849856 A	05-11-1998			FI 971619 A	17-10-1998
		AU 6733298 A	24-11-1998		
		EP 0976220 A	02-02-2000		
US 5752196 A	12-05-1998	FI 945495 A	23-05-1996		
		AU 688623 B	12-03-1998		
		AU 3929895 A	17-06-1996		
		CN 1138934 A	25-12-1996		
		EP 0740889 A	06-11-1996		
		WO 9616519 A	30-05-1996		
		JP 9508255 T	19-08-1997		
US 5694393 A	02-12-1997	EP 0678231 A	25-10-1995		
		WO 9513686 A	18-05-1995		
		JP 8505748 T	18-06-1996		
US 5634197 A	27-05-1997	FI 933576 A	13-02-1995		
		AT 173873 T	15-12-1998		
		AU 674781 B	09-01-1997		
		AU 7461594 A	14-03-1995		
		CN 1113406 A	13-12-1995		
		DE 69414818 D	07-01-1999		
		DE 69414818 T	12-05-1999		
		EP 0664069 A	26-07-1995		
		ES 2126135 T	16-03-1999		
		WO 9505721 A	23-02-1995		
		JP 8502639 T	19-03-1996		
		EP 0780819 A	25-06-1997	JP 2771498 B	02-07-1998
				JP 9172663 A	30-06-1997
US 5802455 A	01-09-1998				
US 5666364 A	09-09-1997	NONE			

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/27108

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9414289 A	23-06-1994	FI 925742 A	18-06-1994
		AU 673402 B	07-11-1996
		AU 5652494 A	04-07-1994
		EP 0676117 A	11-10-1995
		JP 8504548 T	14-05-1996
		US 5970417 A	19-10-1999

WO 9903253 A	21-01-1999	SE 512342 C	28-02-2000
		AU 8368198 A	08-02-1999
		EP 1013064 A	28-06-2000
		SE 9702682 A	12-01-1999

US 5404355 A	04-04-1995	AU 670333 B	11-07-1996
		AU 5101493 A	26-04-1994
		BR 9305656 A	03-12-1996
		CA 2120600 A	14-04-1994
		CN 1086061 A	27-04-1994
		GB 2275592 A,B	31-08-1994
		GB 2300337 A,B	30-10-1996
		HK 1007368 A	09-04-1999
		HK 1007369 A	09-04-1999
		MX 9305778 A	29-04-1994
		SE 9401909 A	15-07-1994
		US 6041047 A	21-03-2000
		WO 9408432 A	14-04-1994
		US 5604744 A	18-02-1997
US 5768276 A	16-06-1998		
