PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6: H04M 9/08, 1/60

A3

(11) International Publication Number:

WO 97/33419

(43) International Publication Date:

12 September 1997 (12.09.97)

(21) International Application Number:

PCT/US97/03261

(22) International Filing Date:

3 March 1997 (03.03.97)

(30) Priority Data:

08/611,121

5 March 1996 (05.03.96)

US

(60) Parent Application or Grant

(63) Related by Continuation US

08/611,121 (CON)

Filed on

5 March 1996 (05.03.96)

(71) Applicant (for all designated States except US): ERICSSON INC. [US/US]; 7001 Development Drive, P.O. Box 13769, Research Triangle Park, NC 27709 (US).

(72) Inventor; and

- (75) Inventor/Applicant (for US only): ROMESBURG, Eric, D. [US/US]; 18 Rocky Knolls Road, Chapel Hill, NC 27516
- (74) Agents: BIGEL, Mitchell, S. et al.; Bell, Seltzer, Park & Gibson, P.O. Drawer 34009, Charlotte, NC 28234 (US).

(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

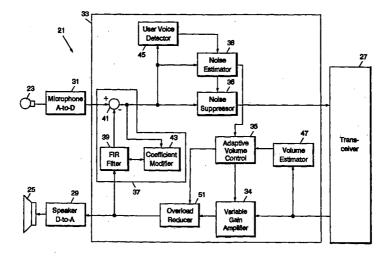
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(88) Date of publication of the international search report:

7 May 1998 (07.05.98)

(54) Title: METHOD AND APPARATUS FOR ADAPTIVE VOLUME CONTROL FOR A RADIOTELEPHONE



(57) Abstract

An adaptive volume controlled radiotelephone system includes a microphone, a loudspeaker, a transceiver, and an adaptive volume control. The micophone generates an output electrical audio signal in response to sound, and the loudspeaker produces sound in response to an input electrical audio signal. The transceiver is responsive to the microphone and transmits radiotelephone communications to a remote party and receives radiotelephone communications from the remote party to generate the input electrical audio signal. The adaptive volume control is responsive to the output electrical audio signal and selects an amplitude of the sound produced by the loudspeaker so that the amplitude of the sound produced by the loudspeaker increases as the amplitude of the sound received at the microphone increases and decreases as the amplitude of the sound received at the microphone decreases.

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.

AM	Armenia	GB	United Kingdom	MW	Malawi
ΑT	Austria	GE	Georgia	MX	Mexico
AU	Australia	GN	Guinea	NE	Niger
BB	Barbados	GR	Greece	NL	Netherlands
BE	Belgium	HU	Hungary	NO	Norway
BF	Burkina Faso	IE	Ireland	NZ	New Zealand
BG	Bulgaria	IT	Italy	PL	Poland
BJ	Benin	JP	Japan	PT	Portugal
BR	Brazil	KE	Kenya	RO	Romania
BY	Belarus	KG	Kyrgystan	RU	Russian Federation
CA	Canada	KP	Democratic People's Republic	SD	Sudan
CF	Central African Republic		of Korea	SE	Sweden
CG	Congo	KR	Republic of Korea	SG	Singapore
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LR	Liberia	SZ	Swaziland
CS	Czechoslovakia	LT	Lithuania	TD	Chad
CZ	Czech Republic	LU	Luxembourg	TG	Togo
DE	Germany	_ LV	Latvia	ТJ	Tajikistan
DK	Denmark	MC	Monaco	TT	Trinidad and Tobago
EE	Estonia	MD	Republic of Moldova	UA	Ukraine
ES	Spain	MG	Madagascar	UG	Uganda
FI	Finland	ML	Mali	US	United States of America
FR	France	MN	Mongolia	UZ	Uzbekistan
GA	Gabon	MR	Mauritania	VN	Viet Nam

INTERNATIONAL SEARCH REPORT

Intern: al Application No PCT/US 97/03261

			/
a. classi IPC 6	FICATION OF SUBJECT MATTER H04M9/08 H04M1/60		
According to	o International Patent Classification(IPC) or to both national clas	ssification and IPC	
B. FIELDS	SEARCHED		
Minimum do IPC 6	ocumentation searched (classification system followed by classi H04M	fication symbols)	
Documenta	tion searched other than minimumdocumentation to the extent t	hat such documents are included in the	ields searched
Electronic d	lata base consulted during the international search (name of da	ta base and, where practical, search terr	ns used)
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of th	e relevant passages	Relevant to claim No.
Х	GB 2 288 959 A (MITSUBISHI ELE 1 November 1995 see page 6, line 5 - line 17	CTRIC CORP)	1,8,15
X	EP 0 682 437 A (NIPPON ELECTRI November 1995 see column 1, line 1 - line 7 see column 2, line 39 - line 5		1,8,15
X	EP 0 500 356 A (NIPPON ELECTRI August 1992 see column 3, line 17 - line 2		1,8,15
А	EP 0 654 954 A (ERICSSON GE MO COMMUNICAT) 24 May 1995 cited in the application see page 3, line 29 - page 4,		1-21
χ Furti	her documents are listed in the continuation of box C.	X Patent family members ar	e listed in annex.
"A" docume consid "E" earlier of filing d "L" docume which citation "O" docume other i	ent which may throw doubts on priority claim(s) or is cited to establish the publicationdate of another in or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ent published prior to the international filing date but	"Y" document of particular relevan	flict with the application but ble or theory underlying the ce; the claimed invention r cannot be considered to n the document is taken alone ce; the claimed invention ve an inventive step when the ne or more other such docu-
later th	nan the priority date claimed actual completion of theinternational search	"&" document member of the same Date of mailing of the internation	·
1	7 March 1998	25/03/1998	
Name and r	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 Montalbano, F	

1

INTERNATIONAL SEARCH REPORT

Intern 1al Application No
PCT/US 97/03261

		PC1/US 9//	03201
	ation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
E	EP 0 767 570 A (NOKIA MOBILE PHONES LTD) 9 April 1997 see abstract		1,6,8, 13,15,20
Ρ,Χ	EP 0 717 547 A (NIPPON ELECTRIC CO) 19 June 1996 see column 2, line 48 - line 52		1,8,15
P,X	WO 96 27255 A (PRESCOM SARL ;LE DAMANY YVES (FR); ZURCHER FREDERIC (FR); NIBERON) 6 September 1996 see the whole document		1,2,8,9, 15,16
	-		

INTERNATIONAL SEARCH REPORT

mormation on patent family members

Interna al Application No
PCT/US 97/03261

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2288959 A	01-11-95	JP 7297900 A CA 2145703 A FR 2719173 A	10-11-95 27-10-95 27-10-95
EP 0682437 A	15-11-95	JP 7307697 A AU 2004295 A US 5615256 A	21-11-95 23-11-95 25-03-97
EP 0500356 A	26-08-92	JP 4264860 A AU 655626 B AU 1110992 A CA 2061388 A,C EP 0781029 A US 5459786 A	21-09-92 05-01-95 27-08-92 20-08-92 25-06-97 17-10-95
EP 0654954 A	24-05-95	US 5467393 A JP 7203580 A US 5515432 A	14-11-95 04-08-95 07-05-96
EP 0767570 A	09-04-97	FI 954737 A JP 9135194 A	06-04-97 20-05-97
EP 0717547 A	19-06-96	JP 2606171 B JP 8163227 A	30-04-97 21-06-96
WO 9627255 A	06-09-96	FR 2731123 A AU 4722396 A EP 0812504 A	30-08-96 18-09-96 17-12-97