## **PCT**

## WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6:

(11) International Publication Number:

WO 99/13679

H04Q 11/04, H04L 12/56

A3 |

(43) International Publication Date:

18 March 1999 (18.03.99)

(21) International Application Number:

PCT/SE98/01591

(22) International Filing Date:

8 September 1998 (08.09.98)

(30) Priority Data:

9703223-9

8 September 1997 (08.09.97) SE

(71) Applicant (for all designated States except US): TELEFONAK-TIEBOLAGET LM ERICSSON [SE/SE]; S-126 25 Stockholm (SE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): HÖLLER, Jan [SE/SE]; Kungstensgatan 62, S-113 29 Stockholm (SE).

(74) Agents: BERG, Sven, Anders et al.; Albihns Patentbyrå Stockholm AB, P.O. Box 3137, S-103 62 Stockholm (SE). (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, 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, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, 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).

#### 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.

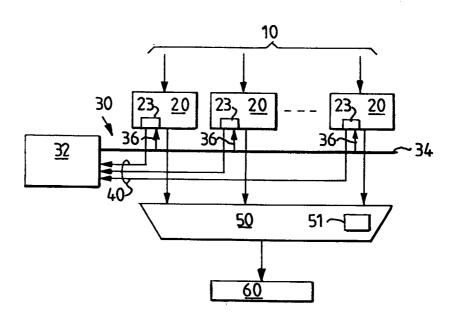
(88) Date of publication of the international search report:

3 June 1999 (03.06.99)

(54) Title: METHOD AND APPARATUS COMPRISING SYNCHRONIZING MEANS FOR PACKETIZING AT LEAST TWO DATA STREAMS

#### (57) Abstract

There are voice signals from at least two voice sources which are multiplexed by an ATM Adaptation Laver multiplexer (AAL2 MUX) the into same ATM connection having been processed by a packetizing means AAL2 such that the MUX is presented with assembled AAL2 packets of a suitable periodicity. If the voice data signals are to be compressed, packetizing means comprises an encoder of a suitable voice codec, e.g. ADPCM, GSM, LD-CELP or CS-ACELP. The voice encoders may also include means for silence removal.



The packetizing means further comprises a packetizer, either separated from the voice encoder, or as a part thereof. The packet releases from the packetizing means are synchronized to occur virtually simultaneously. In this way, the released packets from the packetizing means arrive almost simultaneously at the AAL2 MUX, with the result that an ATM cell may be filled with AAL2 packets well before the expiration of the timer Timer-CU of the AAL2 MUX.

## 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.

ΑI	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AN	1 Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
ΑT	Austria	FR	France	LU	Luxembourg	SN	Senegal
Αl	J Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Z Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzeg	ovina GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	ТJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BF	R Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Re	public JP	Japan	NE	Niger	VN	Viet Nam
CC	G Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CI	I Switzerland	KG	Kyrgyzstan	NO	Norway	$\mathbf{z}\mathbf{w}$	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CN	M Cameroon		Republic of Korea	PL	Poland		
CN	N China	KR	Republic of Korea	PT	Portugal		
CU	J Cuba	KZ	Kazakstan	RO	Romania		
CZ	Z Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DI	E Germany	LI	Liechtenstein	SD	Sudan		
DI	C Denmark	LK	Sri Lanka	SE	Sweden		
EF	E Estonia	LR	Liberia	$\mathbf{s}\mathbf{G}$	Singapore		

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/01591

A. CLASS	IFICATION OF SUBJECT MATTER		
	1040 11/04, H04L 12/56 O International Patent Classification (IPC) or to both nat	ional classification and IPC	
	S SEARCHED commentation searched (classification system followed by	classification symbols)	
		•	
	104Q, H04L ion searched other than minimum documentation to the	extent that such documents are included in	n the fields searched
	I,NO classes as above	•	
	ata base consulted during the international search (name	of data base and, where practicable, search	terms used)
ister office de			
C. DOCU	MENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where app	ropriate, of the relevant passages	Relevant to claim No.
A	US 5327421 A (THOMAS L. HILLER E (05.07.94), column 1, line 5 column 2, line 46 - column 3 abstract	2 - column 2, line 11;	1-25
A	US 5623491 A (FREDERICK H. SKOOG (22.04.97), see whole docume		1-25
A	US 5322882 A (THOMAS L. HILLER E (06.06.95), claims 1-4, abs		1-25
X Furth	ner documents are listed in the continuation of Box	: C. X See patent family anne	х.
"A" docum	l categories of cited documents: ent defining the general state of the art which is not considered of particular relevance	"I" later document published after the indate and not in conflict with the apple the principle or theory underlying the	ication but cited to understand
"E" crlier d	document but published on or after the international filing date tent which may throw doubts on priority claim(s) or which is o establish the publication date of another citation or other	"X" document of particular relevance: the considered novel or cannot be considered when the document is taken alor	lered to involve an inventive
special "O" docum means "P" docum	reason (as specified) tent referring to an oral disclosure, use, exhibition or other	"Y" document of particular relevance: the considered to involve an inventive ste combined with one or more other such their governous to a person skilled in the component member of the same patent."	ep when the document is ch documents, such combination he art
<u> </u>	ne actual completion of the international search	Date of mailing of the international 1 3 -04-1	search report
	1 1999	Authorized officer	
Swedish	d mailing address of the ISA / Patent Office	Mannoused outcer.	
1	5, S-102 42 STOCKHOLM No. + 46 8 666 02 86	Ewa Kowalska Telephone No. + 46 8 782 25 00	
1 acaninie	110. 170 0 000 02 00	1	

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/01591

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2291561 A (NORTHERN TELECOM LIMITED), 24 January 1996 (24.01.96), figure 4, claim 1, abstract	1-25
,		

# INTERNATIONAL SEARCH REPORT Information on patent family members

02/03/99

International application No. PCT/SE 98/01591

Patent document cited in search report		Publication date		Patent family member(s)	Publication date	
US	5327421	A	05/07/94	AT AU CA CZ CZ DE EP SE ES FI HU JP MX NO NZ PL SG	153203 T 671449 B 3923193 A 2148356 A 284040 B 9501160 A 69310762 D,T 0669067 A,B 0669067 T3 2101307 T 952174 A 71152 A 9501305 D 8503344 T 9306775 A 951760 A 251551 A 172499 B 308639 A 43781 A	15/05/97 29/08/96 08/06/94 26/05/94 15/07/98 14/02/96 16/10/97 30/08/95  01/07/97 05/05/95 28/11/95 00/00/00 09/04/96 31/01/95 05/05/95 28/08/95 30/09/97 21/08/95 14/11/97 26/05/94
US	5623491	Α	22/04/97	WO AU CA EP JP WO	9411975 A 5317396 A 2214128 A 0815703 A 10511245 T 9629840 A	08/10/96 26/09/96 26/09/98 27/10/98 26/09/96
US	5322882	Α	06/06/95	DE EP JP JP KR	68925952 D,T 0376052 A,B 2173061 A 6008386 B 9601227 B	25/07/96 04/07/90 04/07/90 02/02/94 24/01/96
GB	2291561	A	24/01/96	DE EP SE GB JP WO	69504337 D,T 0761073 A,B 0761073 T3 9410294 D 10500545 T 9532597 A	07/01/99 12/03/97 00/00/00 13/01/98 30/11/95