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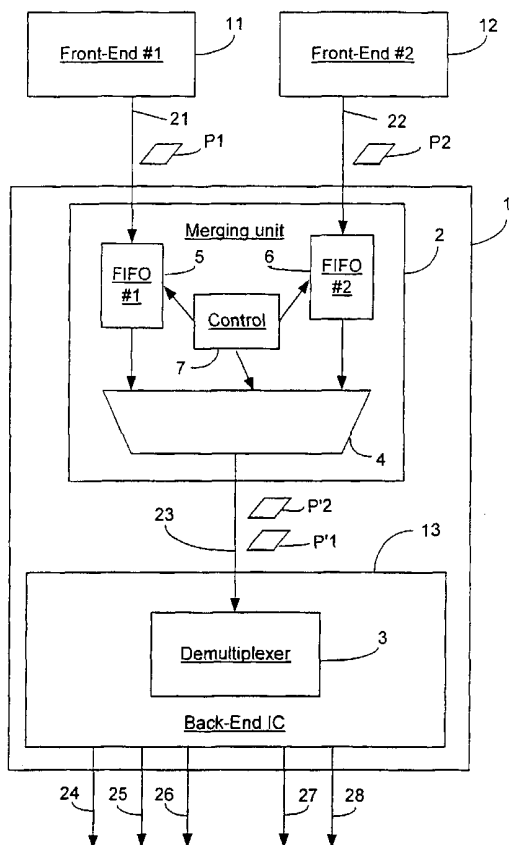
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[Continued on next page]

(54) Title: DEMULTIPLEXING DEVICE AND PROCESS FOR AT LEAST TWO TRANSPORT STREAMS



(57) Abstract: The invention is related to a demultiplexing device (1) and process for at least two transport streams (21-22). The demultiplexing device comprises at least one merging unit (2), receiving at least two of the transport streams and producing one merged stream (23) comprising a merged arrangement of the originating packets (P1, P2). The merging unit comprises means (4) for marking each packet with an identifier and to assign to it a given value for each received transport stream. The demultiplexing device also comprises at least one demultiplexer (3) receiving and demultiplexing the merged stream produced by the merging unit corresponding to the demultiplexer. That demultiplexer filters the identifiers and determines thereby the received transport streams from which the corresponding packets are derived.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04N5/00 H04N7/24

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 H04N

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)

EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 878 088 A (THOMSON CONSUMER ELECTRONICS) 18 November 1998 (1998-11-18) sections '0066!-'0073! figure 12 ---	1-6,8-11
X	WO 98 16067 A (TIERNAN COMMUNICATIONS INC) 16 April 1998 (1998-04-16) page 4, line 9 -page 8, line 7 ---	12
Y	page 9, line 10 -page 15, line 10 ---	1,3-6,8-11
A	abstract; figures 1,3 ---	7
Y	US 5 825 430 A (ADOLPH DIRK ET AL) 20 October 1998 (1998-10-20) the whole document ---	1,2
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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- *&* document member of the same patent family

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INTERNATIONAL SEARCH REPORT

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PCT/EP 01/02314

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 661 888 A (MATSUSHITA ELECTRIC IND CO LTD) 5 July 1995 (1995-07-05) column 1, line 42 - line 54 column 2, line 26 -column 4, line 30 ---	1-12
A	US 5 566 174 A (SATO TAKASHI ET AL) 15 October 1996 (1996-10-15) abstract ---	1-12
A	US 5 905 732 A (FIMOFF MARK ET AL) 18 May 1999 (1999-05-18) abstract; figure 1 -----	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 01/02314

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
EP 0878088	A	18-11-1998	AU 3238595 A	22-03-1996
			BR 9508622 A	19-05-1998
			DE 69514843 D	02-03-2000
			DE 69514843 T	18-05-2000
			JP 10505720 T	02-06-1998
			US 6035037 A	07-03-2000
			AU 701593 B	04-02-1999
			AU 3239495 A	14-03-1996
			BR 9508621 A	30-09-1997
			CA 2196406 A	07-03-1996
			CA 2196407 A	29-02-1996
			CN 1158202 A	27-08-1997
			CN 1158203 A	27-08-1997
			EP 0782807 A	09-07-1997
			ES 2141371 T	16-03-2000
			FI 970677 A	18-02-1997
			JP 10506507 T	23-06-1998
			PL 318647 A	07-07-1997
			TW 395107 B	21-06-2000
			WO 9607267 A	07-03-1996
WO 9606504 A	29-02-1996			
WO 9816067	A	16-04-1998	AU 724356 B	21-09-2000
			AU 4671497 A	05-05-1998
			EP 0931418 A	28-07-1999
			JP 2000514271 T	24-10-2000
			US 6118786 A	12-09-2000
US 5825430	A	20-10-1998	DE 19547707 A	03-07-1997
			CN 1160321 A	24-09-1997
			EP 0781051 A	25-06-1997
			JP 9186998 A	15-07-1997
EP 0661888	A	05-07-1995	JP 3149303 B	26-03-2001
			JP 7203433 A	04-08-1995
			DE 69422970 D	16-03-2000
			DE 69422970 T	15-06-2000
			US 5654805 A	05-08-1997
US 5566174	A	15-10-1996	US 5596581 A	21-01-1997
			US 5579183 A	26-11-1996
			EP 0727126 A	21-08-1996
			EP 0921690 A	09-06-1999
			WO 9608115 A	14-03-1996
			JP 9505433 T	27-05-1997
			AT 188326 T	15-01-2000
			AU 692235 B	04-06-1998
			AU 1821895 A	30-10-1995
			BR 9505873 A	29-12-1998
			DE 69514180 D	03-02-2000
			DE 69514180 T	31-08-2000
			EP 0702879 A	27-03-1996
			HK 1012769 A	28-07-2000
			WO 9527977 A	19-10-1995
			JP 9505195 T	20-05-1997
			PL 311953 A	18-03-1996
			PL 181021 B	31-05-2001
			US 6081526 A	27-06-2000

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 01/02314

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5566174 A		AU 688868 B	19-03-1998
		AU 1822095 A	30-10-1995
		AU 701481 B	28-01-1999
		AU 6079498 A	18-06-1998
		BR 9505872 A	31-08-1999
		EP 0702877 A	27-03-1996
		EP 0858230 A	12-08-1998
		FI 955887 A	07-12-1995
		HU 73451 A	28-08-1996
		WO 9527978 A	19-10-1995
		JP 8511413 T	26-11-1996
<hr style="border-top: 1px dashed black;"/>			
US 5905732 A	18-05-1999	NONE	
<hr style="border-top: 1px dashed black;"/>			