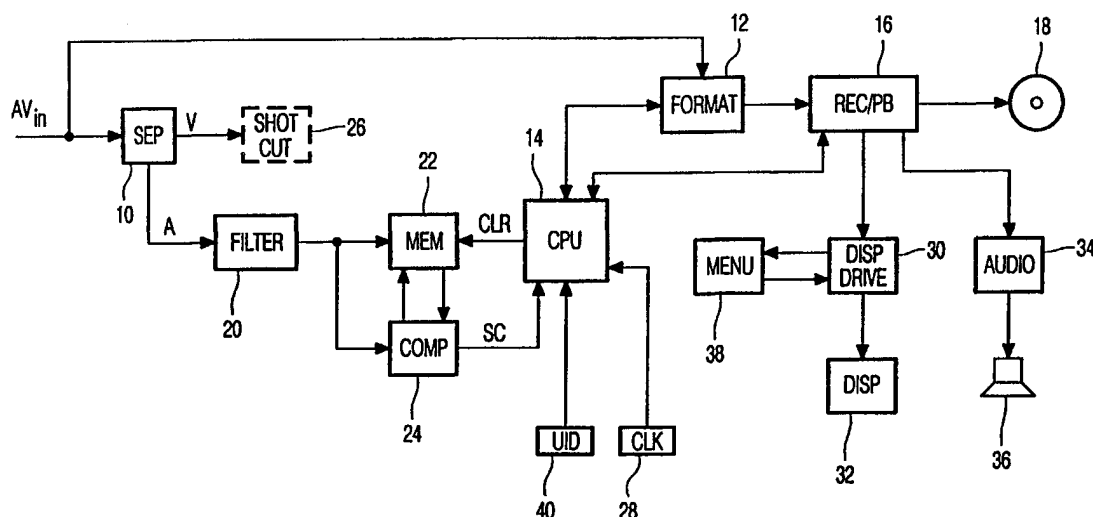




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : H04N 5/14, G11B 27/034, H04N 5/775, G11B 27/28, H04N 5/92 // G11B 27/031</p>	<p>A3</p>	<p>(11) International Publication Number: WO 98/43408 (43) International Publication Date: 1 October 1998 (01.10.98)</p>
<p>(21) International Application Number: PCT/IB98/00280 (22) International Filing Date: 5 March 1998 (05.03.98) (30) Priority Data: 9705999.2 22 March 1997 (22.03.97) GB (71) Applicant: KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL). (71) Applicant (for SE only): PHILIPS NORDEN AB [SE/SE]; Kottbygatan 7, Kista, S-164 85 Stockholm (SE). (72) Inventor: BLANCHARD, Simon; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). (74) Agent: WHITE, Andrew, Gordon; Internationaal Octrooibureau B.V., P.O Box 220, NL-5600 AE Eindhoven (NL).</p>	<p>(81) Designated States: JP, KR, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> (88) Date of publication of the international search report: 23 December 1998 (23.12.98)</p>	

(54) Title: VIDEO SIGNAL ANALYSIS AND STORAGE



(57) Abstract

An apparatus for detecting scene changes (as distinct from shot cuts or edit points) in audio/video signals is disclosed, together with video recording and logging apparatus employing such detection. The means for detecting scene changes comprises a filtering arrangement (20) which receives and filters the audio soundtrack accompanying the video signal to periodically determine a background audio signal level. By comparison (24) of current and previously determined (22) background levels, a scene change (SC) is flagged when the current background audio level differs from a previous background level by more than a predetermined amount. A table of scene change locations may then be built up and stored with the video and audio data.

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			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	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 Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 98/00280

A. CLASSIFICATION OF SUBJECT MATTER		
IPC6: H04N 5/14, G11B 27/034, H04N 5/775, G11B 27/28, H04N 5/92 // G11B 27/031 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)		
IPC6: H04N, G11B		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
SE,DK,FI,NO classes as above		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 9416442 A1 (ARTHUR D. LITTLE ENTERPRISES, INC.), 21 July 1994 (21.07.94), page 6, line 16 - page 8, line 11, abstract --	1-3,12
Y	Patent Abstracts of Japan, Vol 10, No 190, P-474 abstract of JP 61-34764 A (YASUHITO YAMAUCHI), 19 February 1986 (19.02.86) --	1-3,12
A	WO 9608921 A1 (ARTHUR D. LITTLE ENTERPRISES, INC.), 21 March 1996 (21.03.96), page 14, line 1 - page 15, line 5, abstract --	1-3,12
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"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</p> <p>"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</p> <p>"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</p> <p>"&" document member of the same patent family</p>		
Date of the actual completion of the international search		Date of mailing of the international search report
29 Sept 1998		02 -10- 1998
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86		Authorized officer Michel Gascoin Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 98/00280

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 0450631 A2 (KABUSHIKI KAISHA VIDEO RESEARCH), 9 October 1991 (09.10.91), abstract --	1-3,12
A	Patent Abstracts of Japan, Vol 8, No 167, E-258 abstract of JP 59-64981 A (SONY K.K.), 13 April 1984 (13.04.84) --	1-3,12
A	Patent Abstracts of Japan, abstract of JP 9-93526 A (NIPPON TELEGR & TELEPH CORP.), 4 April 1997 (04.04.97) --	1-3,12
A	Patent Abstracts of Japan, abstract of JP 8-149099 A (NIIRUSEN JAPAN K K), 7 June 1996 (07.06.96) --	1-3,12
A	Patent Abstracts of Japan, abstract of JP 8-98133 A (TOSHIBA CORP), 12 April 1996 (12.04.96) --	1-3,12
A	Patent Abstracts of Japan, abstract of JP 8-317342 A (HITACHI LTD), 29 November 1996 (29.11.96) --	1-3,12
P,A	Patent Abstracts of Japan, abstract of JP 9-322125 A (SONY CORP), 12 December 1997 (12.12.97) -- -----	1-3,12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

27/07/98

PCT/IB 98/00280

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9416442 A1	21/07/94	AU 689463 B	02/04/98
		AU 6084394 A	15/08/94
		BR 9405709 A	28/11/95
		CA 2153398 A	21/07/94
		EP 0693215 A	24/01/96
		JP 8507633 T	13/08/96
		US 5333091 A,B	26/07/94
		US 5692093 A	25/11/97
		US 5696866 A	09/12/97
		US 5455630 A	03/10/95
WO 9608921 A1	21/03/96	AU 694568 B	23/07/98
		AU 3680295 A	29/03/96
		CA 2199485 A	21/03/96
		EP 0781486 A	02/07/97
		JP 10507884 T	28/07/98
		US 5696866 A	09/12/97
		WO 9608941 A	21/03/96
EP 0450631 A2	09/10/91	DE 69117081 D,T	08/08/96
		JP 1937213 C	09/06/95
		JP 3289829 A	19/12/91
		JP 6066738 B	24/08/94
		US 5162905 A	10/11/92