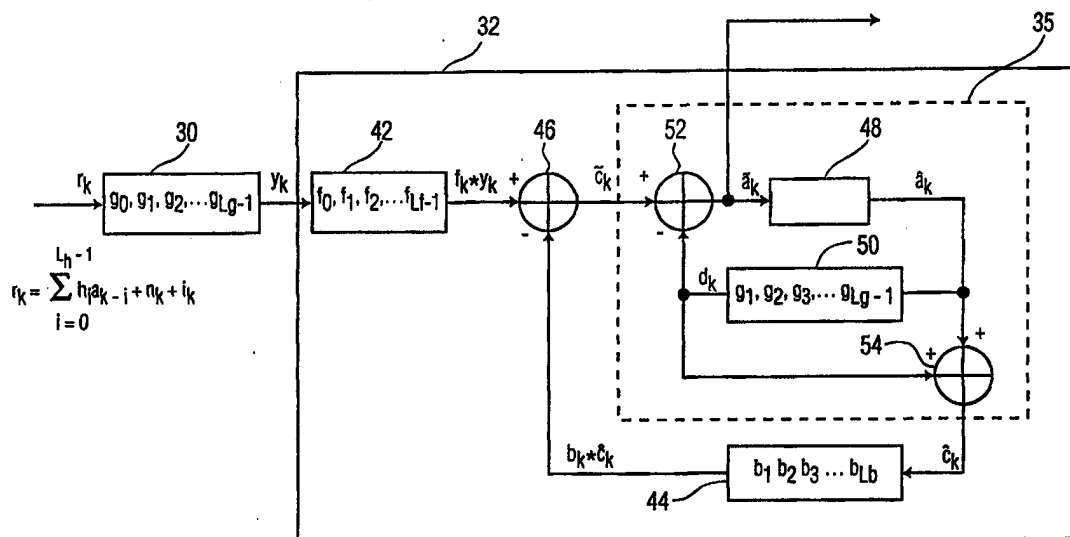




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04N 5/44, 5/21	A3	(11) International Publication Number: WO 98/27719 (43) International Publication Date: 25 June 1998 (25.06.98)
(21) International Application Number: PCT/IB97/01522 (22) International Filing Date: 4 December 1997 (04.12.97) (30) Priority Data: 08/768,474 18 December 1996 (18.12.96) US (71) Applicant: 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: GHOSH, Monisha; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). (74) Agent: STEENBEEK, L., J.; Internationaal Octrooibureau B.V., P.O. Box 220, NL-5600 AE Eindhoven (NL).		(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> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 20 August 1998 (20.08.98)

(54) Title: A DIGITAL RECEIVER**(57) Abstract**

A digital receiver (e.g., an ATV or HDTV receiver) which receives digital signals (e.g., ATV or HDTV signals), and which includes an equalizer (32) for equalizing multipath channels having known co-channel interference (e.g., co-channel NTSC interference) present therein. A co-channel interference rejection filter (30) is inserted in the digital receiver upstream of the equalizer, and the equalizer is modified in such a manner that it will not attempt to equalize the co-channel interference. Thus, co-channel interference cancellation is done primarily by the rejection filter, while multipath equalization (correction) is the exclusive function of the equalizer. This leads to better co-channel performance than that which can be obtained by relying on the equalizer alone to perform both functions. The co-channel interference rejection filter is preferably a multi-tap filter having fixed filter coefficients which are designed to optimize cancellation of the known co-channel interference.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 97/01522

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04N 5/44, H04N 5/21

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

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.
X	US 5572249 A (MONISHA GHOSH), 5 November 1996 (05.11.96), see whole document	1,2,8,11
Y	--	3-7,9-10
Y	US 5572262 A (MONISHA GHOSH), 5 November 1996 (05.11.96), see whole document	3-7,9-10
A	EP 0714201 A2 (THOMSON MULTIMEDIA S.A.), 14 November 1995 (14.11.95), figure 1, claims 1,10, abstract	1-11
	--	

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"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

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Date of the actual completion of the international search

29 June 1998

Date of mailing of the international search report

30 -06- 1998

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 97/01522

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5648822 A (SAMIR N. HULYALKAR), 15 July 1997 (15.07.97), abstract --	1-11
A	US 5453797 A (JULIEN J. NICOLAS ET AL), 26 Sept 1995 (26.09.95), abstract --	1-11
A	US 5583889 A (RICHARD W. CITTA ET AL), 10 December 1996 (10.12.96), abstract -- -----	1-11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB97/01522

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.: 1, 2
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:

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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

09/06/98

International application No.

PCT/IB 97/01522

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