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(54) **Receiver for receiving digital audio programmes as well as the supplementary data contained in the audio programmes**

(57) The invention relates to a receiver of a transmission wave in which a specific information data signal and its validity identification data signal are transmitted by the same frequency band, in which the receiver desirably reproduces specific information only in a situation where the specific information can be truly reproduced in the reception system. A demodulating unit (31 to 36) receives the transmission wave and demodulates it to a predetermined digital signal. A decoding unit (38 and 40) decodes the digital signal, and a detecting unit 3B obtains an error amount of the digital signal recognized in the decoding process. An evaluating unit 3B evaluates the error amount, and a detecting unit 3A detects an identification data signal from a decoded output. The control part 3C (30) reproduces and outputs the specific information data signal concerning the identifi-

cation data signal based on the evaluation result and the identification data signal. Even when a code rate of the specific information data signal to be information reproduced differs from that of the validity identification data signal, the specific data signal can be desirably information reproduced at a proper timing. The invention also relates to a digital audio signal receiver having a muting function for a reproduction audio sound and accomplishing a good muting operation even for a digital audio signal having no error detection code. A control part (30) obtains an error amount of a digital signal to be recognized in the decoding process and a muting block (42) effects the muting of an audio signal to be reproduced based on the digital signal at a muting level according to the error amount.



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# EUROPEAN SEARCH REPORT

Application Number  
EP 98 10 2830

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 5 452 288 A (POMMIER DANIEL ET AL) 19 September 1995 (1995-09-19) * column 9, lines 29-33 * * column 14, lines 26-52 * * column 18, lines 30-67 * * column 19, lines 62-64 * * column 20, lines 56-68; figures 7-11 *	1,10	H04H1/00
A	WECK C: "DER BITFEHLERSCHUTZ BEI DAB" RUNDFUNKTECHNISCHE MITTEILUNGEN, MENSING. NORDERSTEDT, DE, vol. 40, no. 1, 1 March 1996 (1996-03-01), pages 1-13, XP000586094 ISSN: 0035-9890 * the whole document *	1,10	
X	DE 44 09 960 A (INST RUNDFUNKTECHNIK GMBH) 28 September 1995 (1995-09-28) * column 2, lines 7-13 * * column 3, lines 4-62 * * column 4, lines 25-36 *	11-14,17	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
X	US 5 483 690 A (SCHROEDER ERNST F) 9 January 1996 (1996-01-09) * column 2, lines 24-44 * * column 3, lines 17-25 * * column 3, lines 49-51 * * column 3, line 61 - column 4, line 4; claims 1,2,5,7,10 *	11-14,17	H04H
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 11 June 2004	Examiner Pantelakis, P
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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#### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

#### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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**LACK OF UNITY OF INVENTION**  
**SHEET B**

Application Number  
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-10

Receiver for allowing access to information data signal only  
when it is not corrupted by errors  
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2. claims: 11-22

Digital audio receiver with gracefull degradation  
properties  
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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11-06-2004

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