

Title (en)
Optimized delay detection of simulcast broadcast signals

Title (de)
Optimierte Verzögerungsdetektion von Simultanrundfunksignalen

Title (fr)
Détection de retard optimisée pour signaux de diffusion simultanée

Publication
EP 2536043 A1 20121219 (EN)

Application
EP 11169843 A 20110614

Priority
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Abstract (en)
The present invention relates to a particular efficient scheme for determining an initial delay of a second received audio signal with respect to a first received audio signal, specifically suitable for a simulcast environment. In order to receive a seamless and inaudible switchover in a simulcast environment, the initial delay time must be exactly determined and compensated by delaying the first signal at the receiving apparatus by a respective amount. Calculation power requirements are particularly high, if the sound signals reproduced from first and second received audio signals have different sampling frequencies. The present invention adapts the sampling frequencies by downsampling both signals for delay time determination and thus considerably reduces calculation effort.

IPC 8 full level
H04H 20/22 (2008.01); **H04H 20/26** (2008.01); **H04H 60/11** (2008.01)

CPC (source: EP)
H04H 20/22 (2013.01)

Citation (applicant)
• EP 0863632 B1 20060607 - SONY CORP [JP]
• EP 1227608 A2 20020731 - BOSCH GMBH ROBERT [DE]

Citation (search report)
• [I] EP 1233556 A1 20020821 - SONY INT EUROPE GMBH [DE]
• [A] RICHARD C CABOT: "A Note on the Application of the Hilbert Transform to Time Delay Estimation", IEEE TRANSACTIONS ON ACOUSTICS, SPEECH AND SIGNAL PROCESSING, IEEE INC. NEW YORK, USA, vol. ASSP-29, no. 3, 1 June 1981 (1981-06-01), pages 607 - 609, XP007910107, ISSN: 0096-3518, DOI: 10.1109/TASSP.1981.1163564

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JP2016213532A; JP2016208319A; JP2016213695A; US9570109B2; WO2014118319A1

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