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(71) Applicant: **Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego**
00-908 Warszawa 49 (PL)

(72) Inventors:
- **Piotrowski, Zbigniew**
  05-082, Stare Babice (PL)
- **Gajewski, Piotr**
  03-580, Warszawa (PL)

(74) Representative: **Bury, Lech Marek**
Patpol
ul. Nowoursynowska 162 J
02-776 Warszawa (PL)

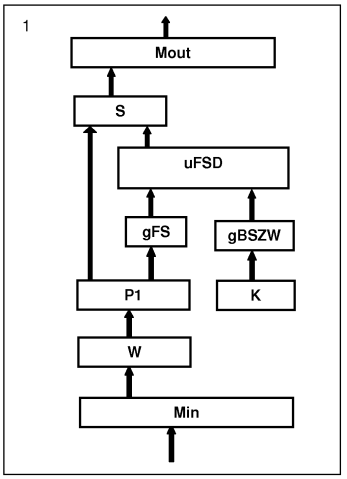
(54) Method and apparatus for subscriber authorization and audio message integrity verification

(57) In the method, to the traffic signal an additional watermark signal is added which is not audible at the presence of the traffic signal, and then the signal is transmitted on a telecommunication link to a subscriber, where it is received and decoded, as a result of which a Watermark Binary Signature and a first Hash Function are received. The Watermark Binary Structure is compared at the receiving side of the link with the declared by the subscriber Watermark Binary Watermark Structure. A second Hash Function is determined from the non-decoded received signal. The two Hash Functions are compared with each other in order to determine whether the audio message has been edited.

To the subscriber's terminal an Electronic Subscriber Module (EMA) is connected which comprises in its structure a transmitting line (1) and a receiving line (2) of an additional signal (SD), in which transmitting line (1) the following main functional blocks are provided: Hash Function generator (gFS) and a Watermark Binary Signature generator (gBSZW), as well as an Additional Signal Generating unit (uFSD), while in the receiving line (2) the following main functional blocks are provided: an Additional Signal decoder (dSD), a Hash Function decoder (dFS), and a Hash Function comparator (kFS).

The advantageous features of the invention are constituted by a function of secret identification of a subscriber and a function of verification of integrity of a traffic signal as a subscriber's audio message, based on the technique of marking traffic channel in telecommunication links. These two functions: subscriber identification and audio message integrity verification, are performed in a secret manner, at the background of the traffic signal, and thus the subscriber with a terminal without the described apparatus connected thereto will not be aware that he is being authorized as a subscriber, and moreover the method and the apparatus are independent from the telecommunication link infrastructure and they do not interfere with its internal components.

fig.1



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EUROPEAN SEARCH REPORT

Application Number
EP 09 15 1967

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	PIOTR GAJEWSKI ET AL: "Correspondent authorization in the GSM telephony using watermarking technology", THE 9TH EUROPEAN CONFERENCE ON WIRELESS TECHNOLOGY, IEEE, PISCATAWAY, NJ, US, 1 September 2006 (2006-09-01), pages 150-153, XP031005262, ISBN: 978-2-9600551-5-3 * the whole document *	1-7	INV. G10L19/00
A,D	US 2006/227968 A1 (CHEN OSCAL T [TW] ET AL) 12 October 2006 (2006-10-12) * abstract *	1-7	

TECHNICAL FIELDS SEARCHED (IPC)

G10L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	9 May 2011	Quélavoine, Régis

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006227968 A1	12-10-2006	NONE	

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