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(12) **United States Patent**
Wiese et al.

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(54) **METHOD AND APPARATUS FOR ENCODING SIGNALS**

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(73) Assignee: **MAYAH Communications GmbH**, Hallbergmoos (DE)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 414 days.

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Primary Examiner—Huyen X. Vo

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(21) Appl. No.: **11/143,011**

(22) Filed: **Jun. 2, 2005**

(57) **ABSTRACT**

(65) **Prior Publication Data**

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The invention concerns a method of encoding signals, in particular digitized audio signals, with an encoding device for encoding the signal in an encoding format and a processing device for processing the encoded signal.

Related U.S. Application Data

(63) Continuation of application No. 09/462,049, filed on Apr. 3, 2000, now abandoned.

Methods of that kind are known for example from European patent specification No 290 581. In that case, in the bit rate-reducing encoding of audio signals which are already present in digitized form, for example 48 kHz sampling frequency/16-bit resolution, psycho-acoustic phenomena of the perception of audio signals are used in such a way that the original bit rate of the audio signals is considerably reduced. Such methods are also familiar and standardised under the heading of 'source encoding' (ISO 11172 and 11318).

(51) **Int. Cl.**

G10L 19/00 (2006.01)

(52) **U.S. Cl.** **704/230**; 704/501; 704/504

(58) **Field of Classification Search** 704/200.1, 704/228, 500, 501, 502, 503, 504, 229, 230, 704/201; 700/94; 369/59.12, 275.3

See application file for complete search history.

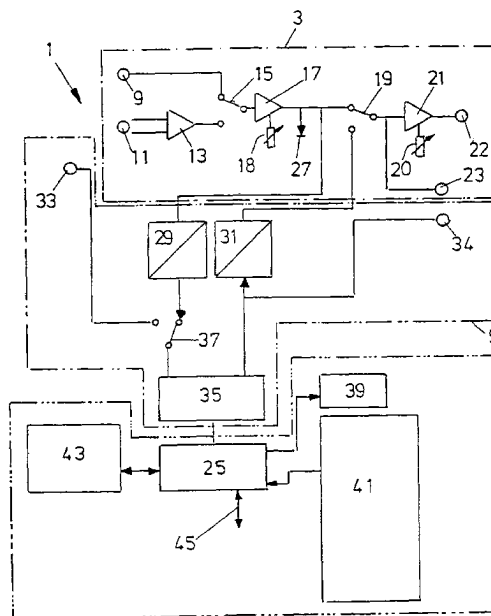
The object of the invention is to provide a method of the kind set forth in the opening part of this specification, which resolves the above-indicated problems and in which re-coding operations, once encoding has been effected, are very substantially avoided.

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32 Claims, 5 Drawing Sheets



RPX Exhibit 1101

FIG. 1

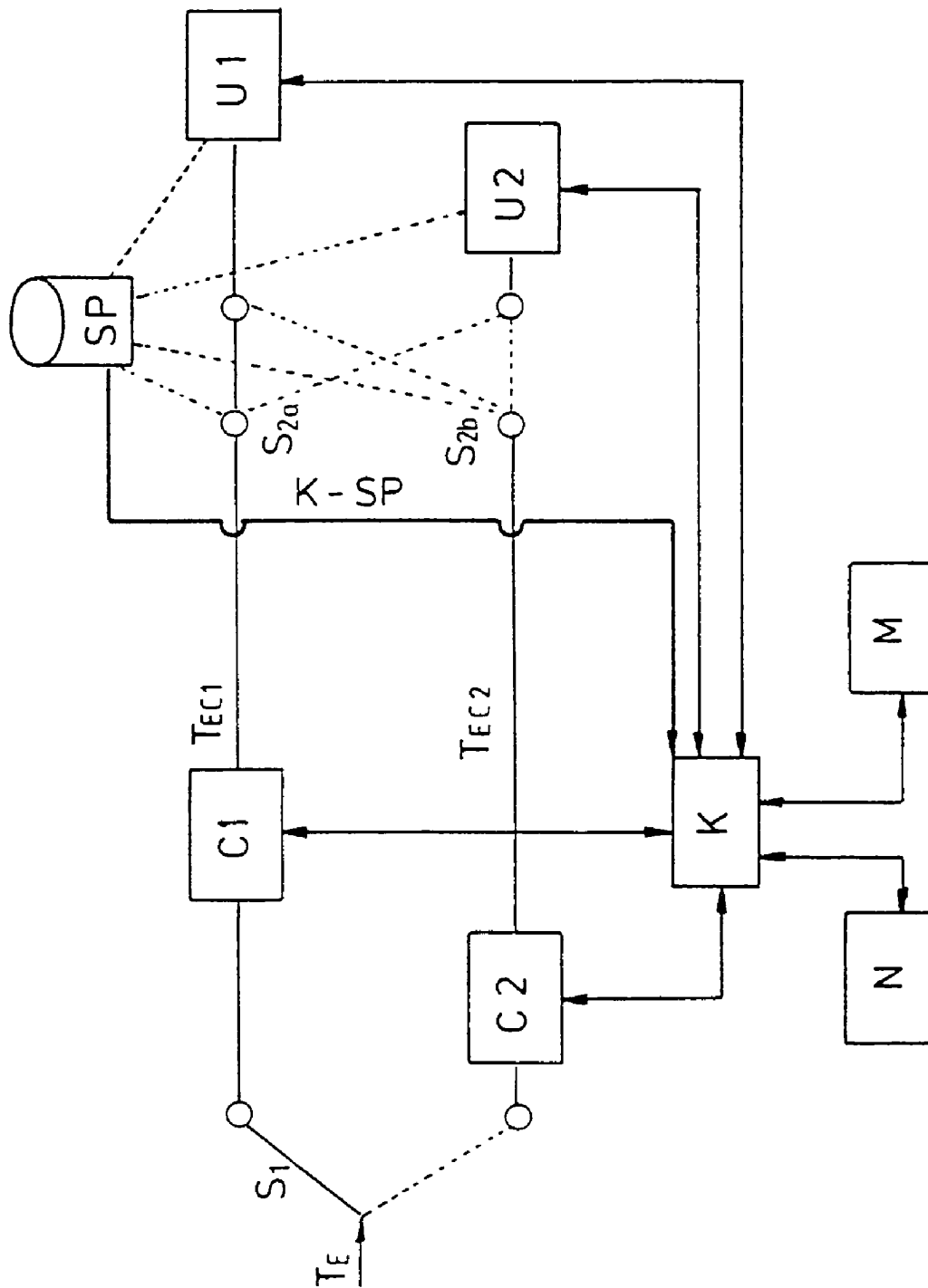
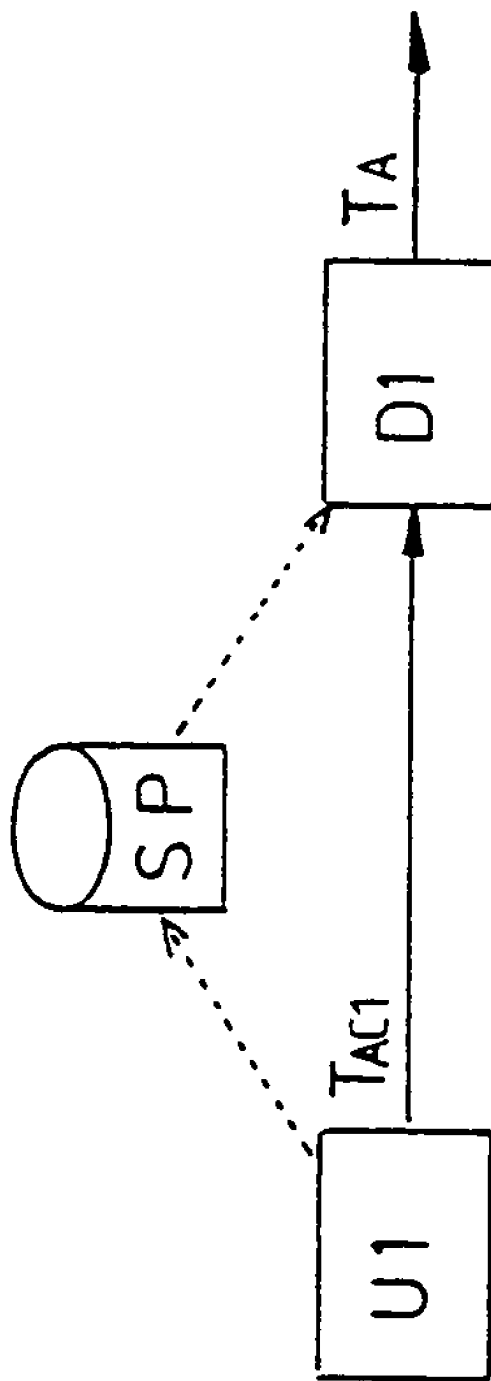


FIG. 2



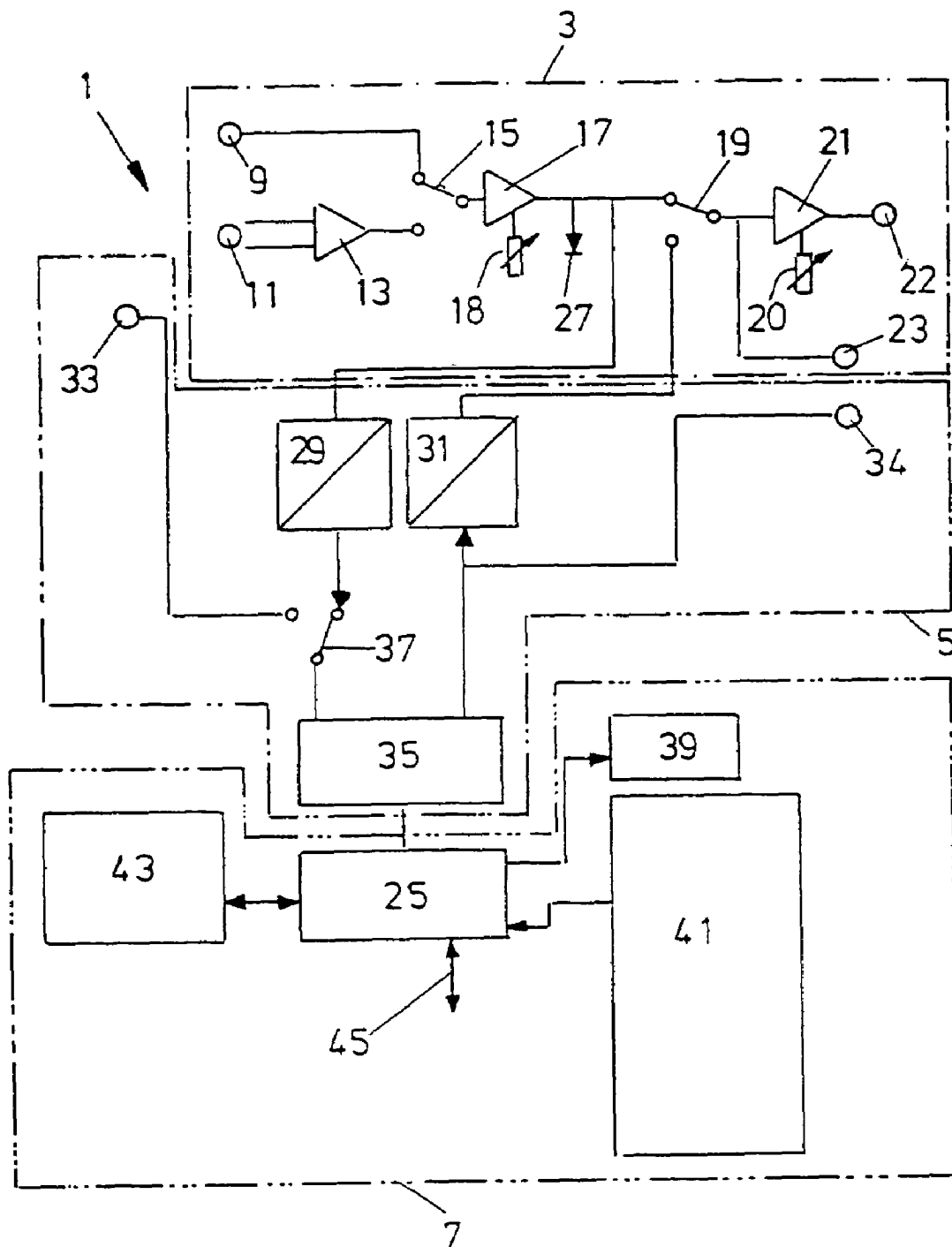
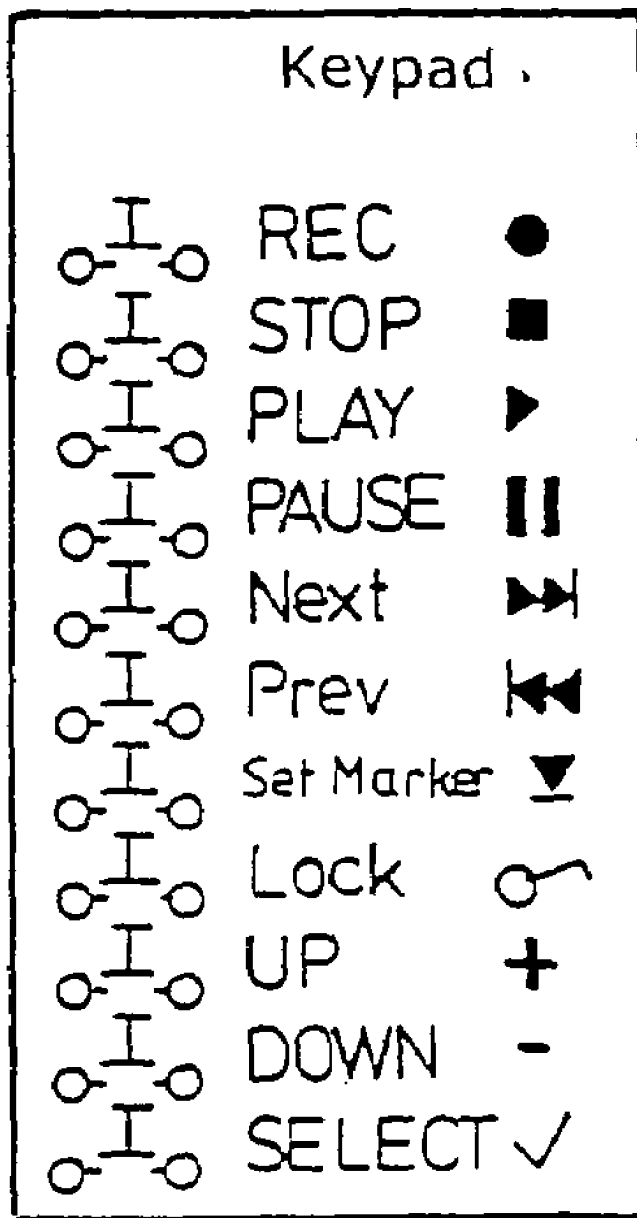


FIG. 3



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FIG. 4

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