(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 2 461 299 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
29.07.2015 Bulletin 2015/31

(43) Date of publication A2:
06.06.2012 Bulletin 2012/23

(21) Application number: **11394025.8**

(22) Date of filing: **02.12.2011**

(51) Int Cl.:
G08B 1/08 *(2006.01)* ***G08B 29/14*** *(2006.01)*

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **06.12.2010 IE 20100762**

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(54) Alarm device testing using time-encoded acoustic messages

(57) A smoke alarm device has an interface (1) with a microprocessor (2), and transistors (3, 4) controlling a piezo horn (5). The microprocessor (2) is programmed to generate a test output record including various items of data such as the device's serial number, the battery level, a contamination level if it is an optical alarm, an event log, and an installation date. This information is encoded by control of the transistors (3, 4) in an acoustic output from the piezo horn (5) using an encoding technique akin to Morse code. The data is decoded by any electronic testing device having a microphone and a processing capability, such as a PDA, a laptop computer, or even a mobile phone. Devices with stereo microphones can also be used for better performance. If the device has a camera then it could both capture the acoustic signal and take an image of the alarm device to provide a more comprehensive record. In one example, a mobile phone downloads over a mobile network an application to do this processing. In order to do an audit it is only necessary for the technician to press a test button upon which the microprocessor (1) generates the acoustic signal with audit data. This acoustic signal is captured by the testing device and either decoded by that device or uploaded to a central host for decoding and further processing and storage.

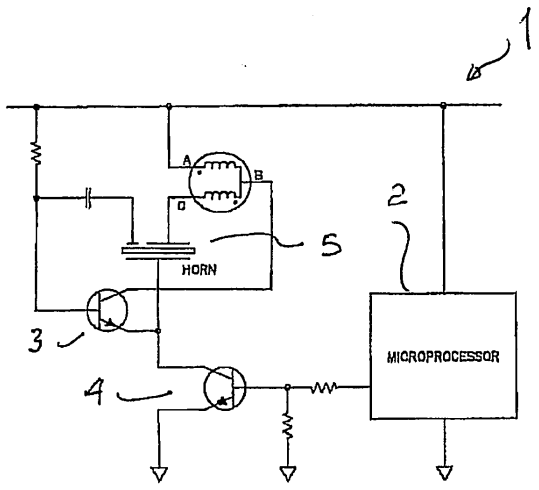

Fig. 1
CIRCUIT

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EUROPEAN SEARCH REPORT

Application Number
EP 11 39 4025

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	15 June 2015	Malagoli, M

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EPO FORM 1503 03.82 (P04C01)

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