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(54) Title: MOBILE FEEDBACK DETECTOR

(57) Abstract: A mobile feedback detector comprising a main machine to collect all safety information (e.g. detection of door and window opening, temperature, smoke, vibration, carbon monoxide, etc) from the detectors mounted at fixed positions in preset room by means of the transmission and reception of radio waves, and the user outdoors can be informed of a detected abnormal situation by an automatic dialing device through cable or radio telephone or B. B. Call, and so that the present invention is easy to be carried outdoors in addition to the individual power supply and the easy installation; also, it is suitable for the theft-protective detection on motorcycles and cars or in the travelling; even, the satellite mobile telephone can be used as communication medium to inform the user at the remote place to control the safety of the preset rooms and to have a timely handling; thus, a double-side communication without distance restriction is created.

MOBILE FEEDBACK DETECTOR

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a mobile feedback detector, and more particularly a portable and anywhere, easily installable device by which the user outdoors can be informed of an emergency, household safety detection and break-in through cable or mobile telephone or B. B. Call.

2. Description of the Prior Art

Due to the development of the society and the change of the external environment, the modern life becomes more and more complicated. Not only is the social order worsened, and the accidents (e.g. fire) in which people need help happen more frequently. Therefore, people live in a threatened environment. Accordingly, people in the modern society should have sharp insight to make adjustment in order to reduce the loss to the greatest extent.

The conventional household guard against theft has the function of informing users or the police of the detection result through telephone. However, it's necessary to install the detecting devices (e.g. microswitch, magnetleafswitch at the hidden position of the room respectively to connect to a main machine, receiving the vibration and movement situation from all places and then processing it. An automatic dialing device can be activated in accordance with the demand. By means of the cable telephone, the user outdoors or the police can be informed of the detection result. As the installation is complicated and requires the professional knowledge and experience so that it's not

easily used by common people. A more developed embodiment makes use of the method of ultrasonic reflection. In spite of the easier installation, the application is very restricted because of ultrasonic reflection feature, e.g. it can't detect vibration, temperature, etc. This is the application difficulty of the current common guards against theft.

Moreover, the conventional guard against theft has to be installed at fixed places, e.g. at home, factory, stores, etc. In addition, the conventional cable telephone is used as transmission medium so that it lacks the application flexibility and mobility. Also, If the telephone line is intentionally cut off by theft or others, the emergency situation can't be transmitted so that the informing function is lost. This is also an application disadvantage.

Accordingly, it is necessary to develop a mobile feedback detector against theft comprising a main machine to collect all safety information (e.g. detection of door and window opening, temperature, smoke, vibration, carbon monoxide, etc) from the detectors mounted at fixed positions in preset rooms by means of the transmission and reception of radio waves, and the user outdoors can be informed of a detected abnormal situation by an automatic dialing device through cable or radio telephone or B. B. Call, and so that the present invention is easy to be carried outdoors in addition to the individual power supply and the easy installation; also, it is suitable for the theft-protective detection on motorcycles and cars or in the travelling; even, the satellite mobile telephone can be used as communication medium to inform the user at the remote place to control the safety of the preset rooms and to have a timely handling.

SUMMARY OF THE INVENTION

It is a main object of the present invention to provide a mobile feedback detector,

comprising a main machine to collect all safety information (e.g. detection of door and window opening, temperature, smoke, vibration, carbon monoxide, etc) from the detectors mounted at fixed positions in preset rooms by means of the transmission and reception of radio waves, and the user outdoors can be informed of a detected abnormal situation by an automatic dialing device through cable or radio telephone or B. B. Call, and so that the present invention is easy to be carried outdoors; also, it is suitable for the theft-protective detection on motorcycles and cars or in the travelling; even, the satellite mobile telephone can be used as communication medium to inform the user at the remote place to control the safety of the preset rooms and to have a timely handling; thus, a double-side communication without distance restriction is created.

It is another object of the present invention to provide mobile feedback detector whose elements own the individual power supply so that the portable and informing feature can always be achieved without worrying about the telephone or power line being cut down

BRIEF DESCRIPTION OF THE DRAWINGS

The drawings disclose illustrative an embodiment of the present invention which serves to exemplify the various advantages and objects hereof, and are as follows:

Fig. 1 is a block diagram of the present invention;

Fig. 2 is a circuit diagram of a preferred embodiment of the main machine in accordance with the present invention; and

Fig. 3 is a circuit diagram of a preferred embodiment of the dialing device in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Fig. 1 shows a block diagram of the present invention. The mobile feedback detector includes a main machine 11, an automatic dialing device 12, an automatic transmitter 13, a manual transmitter 14 and a portable warning device 15. The dotted lines show the connection relationship between the radio wave transmission and reception while the real lines show the wire connections. The main machine 11 edits input and output signals, and its input terminal is fitted with a main machine receiver 111 while its output terminal is fitted with a main machine transmitter 112. The automatic dialing device 12 is used to drive a radio telephone to dial a preset telephone number, and its input terminal is fitted with a receiver 121 and a hazard-warning system 122 while its output terminal is connected with the radio telephone. The automatic transmitter 13 is connected to all kinds of detectors 131 (including clinical thermometer detector, carbon monoxide detector, electricity breaking detector, temperature detector, magnet leaf switch, automatic switch, etc). When the detectors 131 detect an abnormal situation, the automatic transmitter 13 will immediately and automatically transmit warning signals. The manual transmitter 14 is used to activate or stop the operation with remote control. An attached manual transmitter 141 for the old can be used by them staying alone at home. When an emergency happens, the manual transmitter 141 can be activated to give warning signals. The portable warning device 15 is used for the user to be always carried with him, and it includes a receiver 151 which can receive the hazard-warning signals transmitted by the main machine 11 in the effective area so that a timely emergency notice is created.

The operation and the function of all elements are describe as follows:

When each detector 131 detects an abnormal situation, the hazard-warning signals

will be transmitted by the automatic transmitter 13 through radio waves, and the main machine receiver 111 will receive these hazard-warning signals. After being processed, the hazard-warning signals will then be directly transmitted by the main machine transmitter 112 through radio waves. At this time, the signals can be received by a stationary receiver 121 and a mobile receiver 151. After receiving hazard-warning signals, the stationary receiver 121 directly drives a hazard-warning system 122 to give hazard-warning tones, and then drives the automatic dialing device 12 by which the preset number of the radio telephone or B. B. Call will be dialed for informing the user of the emergency at his home. (At this time, he hears the hazard-warning tones or symbol tones of the B. B. Call.) Since the mobile receiver 151 and the portable warning device 15 are moving with the user in different distance, the portable warning device 15 can receive the signals of the main machine transmitter 112 in certain range of short distance to give the hazard-warning tones for informing the user of coming back to deal with it. If the distance exceed the effective area of the main machine transmitter 112, the signals are unable to be received.

The manual transmitter 14 is used to activate or stop the operation with remote control. An attached manual transmitter 141 for the old can be used by them staying alone at home. When an emergency happens, the manual transmitter 141 can be activated to drive the main machine 11 and the automatic dialing device 12 to give warning signals.

All detectors 131 of the present invention are connected to one another with the radio transmission and reception so that there are no complicate connection procedures, and the installation and using procedures will be effectively simplified. The configuration of all transmitters and receivers isn't special and the same to the conventional remote control and reception device so that it won't be described hereinafter.

All transmitters, receivers, the main machine 11 and the automatic dialing device 12 in accordance with the present invention have their own battery-powered sources so that

the present invention can be completely carried anywhere without worrying about the power source (e.g. when it was taken to travel abroad, the voltage difference won't be worried about; when it was installed on the motorcycles or cars, it's necessary to worry about the power connection.).

Fig. 2 shows a circuit diagram of a preferred embodiment of the main machine in accordance with the present invention. The integrated circuit U1 is a central processing unit. The eighth terminal thereof is used to be signal input terminal for all detectors 131 to receive the detection signal (The detectors 131 are connected to one another by means of radio waves, and symbolized with S1.) to detect the abnormal situation of vibration, movement etc to input signals into the integrated circuit U1. The seventh terminal of the integrated circuit U1 is connected with a stabilizing power circuit 21 consisting of related elements and batteries ET1 for supplying the whole body with necessary power. The ninth and tenth terminal is connected to an oscillation resistance R2 while the third terminal can be connected to both the hazard-warning system 122 comprising a summer LS1 and relevant elements and the automatic dialing device 12 by means of the radio transmission and reception, and the signals of the third terminal will be amplified to be hazard-warning tones. The fourth terminal of the integrated circuit U1 is formed to be a hazard-warning flashing circuit 22 comprising a relevant element and a lighting body LP1 to transform the output signals to be light signals for enhancing the warning effect.

A double-pole triple-throw switch SW2 is mounted between the integrated circuit U1 and the switch S1 and between one terminal of the lighting body LP1 and grounding. When the junction points 1, 2 of the switch SW2A are connected to each other, the junction points 7, 8 of the switch SW2B are just connected to each other. At this time, the part of the switch S1 works. When the junction points 2, 3of the switch SW2A are connected to each other, the junction points 7, 6 of the switch SW2B are just connected to each other. At this time, the insert hole J1 (which can be inserted with a insert pin. When the insert pin is pulled out, the junction points are connected.) works. When the

junction points 7, 5 of the switch SW2B are just connected to each other, the lighting body LP1 is continuously connected and serves a lighting device.

Fig. 3 shows a circuit diagram of a preferred embodiment of the automatic dialing device 12 in accordance with the present invention. The timing oscillator U2A and relevant elements compose a timing circuit as timing basis to control the whole dialing process of the integrated circuit U4. The second terminal of the integrated circuit U5 is its input terminal for receiving output signals of the main machine 11 (switch S3 is a test switch). The twelfth terminal of the integrated circuit U5 is used to control the dialed telephone set (mobile telephone). The relay K1 is driven by relevant elements for connecting to junction points J1, J2 of the mobile telephone PH to complete the dialing preparation. The dialing process will be performed by a switch circuit U3A. The thirteenth terminal is used to control the repeated dialing. When the dialing process is not successful, a dialing repetition of the telephone set is controlled by a switch circuit U3B. The fourteenth terminal symbolizes the "#"-key for B. B. Call. In connecting to B. B. Call, after dialing its number, a "#"-key will be then dialed by a switch circuit U3C. The fifteenth terminal can display the B. B. Call number by means of a switch circuit U3D. The sixteenth terminal is a sound output, making the user to hear certain tones in receiving telephone. The nineteenth terminal is used to control the interval length of the section dialing.

Concluded from the above-mentioned, the present invention is small, easy to carry and has complete functions so that it is suitable to be used as safety warning detection in the travel, e.g. earthquake-, fire-, theft-protective in staying at hotel or in walking.

Many changes and modifications in the above-described embodiment of the invention can, of course, be carried out without departing from the scope thereof. Accordingly, to promote the progress in science and the useful arts, the invention is disclosed and is intended to be limited only by the scope of the appended claims.

What Is Claimed Is:

1. A multifunctional storage case at least comprising:

an automatic transmitter connected to all kinds of detectors at the front end thereof, when said detectors detect abnormal situations, the automatic transmitter will immediately give control signals with radio waves;

a main machine with a main machine receiver at the front end of the input, the output terminal thereof for receiving said control signals of radio waves given by said automatic transmitter, after processing, the output terminal is fitted with a main machine transmitter for giving warning signals with radio waves in the abnormal situations; and

an automatic dialing device with a stationary receiver at the front end thereof for receiving said control signals of radio waves given by said automatic transmitter, and a hazard-warning system mounted at the rear side of said stationary receiver for giving hazard-warning signals timely; thereafter, the preset number of telephone or B. B. Call is dialed to inform the user of an emergency happening at home or in other preset rooms.

2. The mobile feedback detector as claimed in claim 1, wherein the main machine receiver can receive the control signals of a manual transmitter for activating or stopping the operation of said main machine with remote control method.

3. The mobile feedback detector as claimed in claim 1, wherein the manual

transmitter is attached with a manual transmitter for the old, and wherein, when the old alone at home face emergency, the main machine can be directly activated.

4. The mobile feedback detector as claimed in claim 1, wherein the hazard-warning signals of radio waves given by said main machine transmitter can be received by a mobile receiver inside of said portable warning device within the effective range of short distance, and wherein hazard-warning sound or light can be timely given.

5. The mobile feedback detector as claimed in claim 1, wherein said main machine consists of an integrated circuit, a stabilizing power circuit, a hazard-warning flashing circuit and relevant selector switch.

6. The mobile feedback detector as claimed in claim 5, wherein said function control switches are respectively mounted between signal input terminal of integrated circuit and contact switch and between one terminal of lighting body and grounding so as to switch between input and output status to create different functions.

7. The mobile feedback detector as claimed in claim 1, wherein said automatic dialing device consists of a timing circuit, an integrated control circuit, an integrated dialing circuit, a relay and a number of switch circuits.

8. The mobile feedback detector as claimed in claim 1, wherein a selector switch is mounted between a number of switch circuits for dialing the number of telephone or B. B. Call.

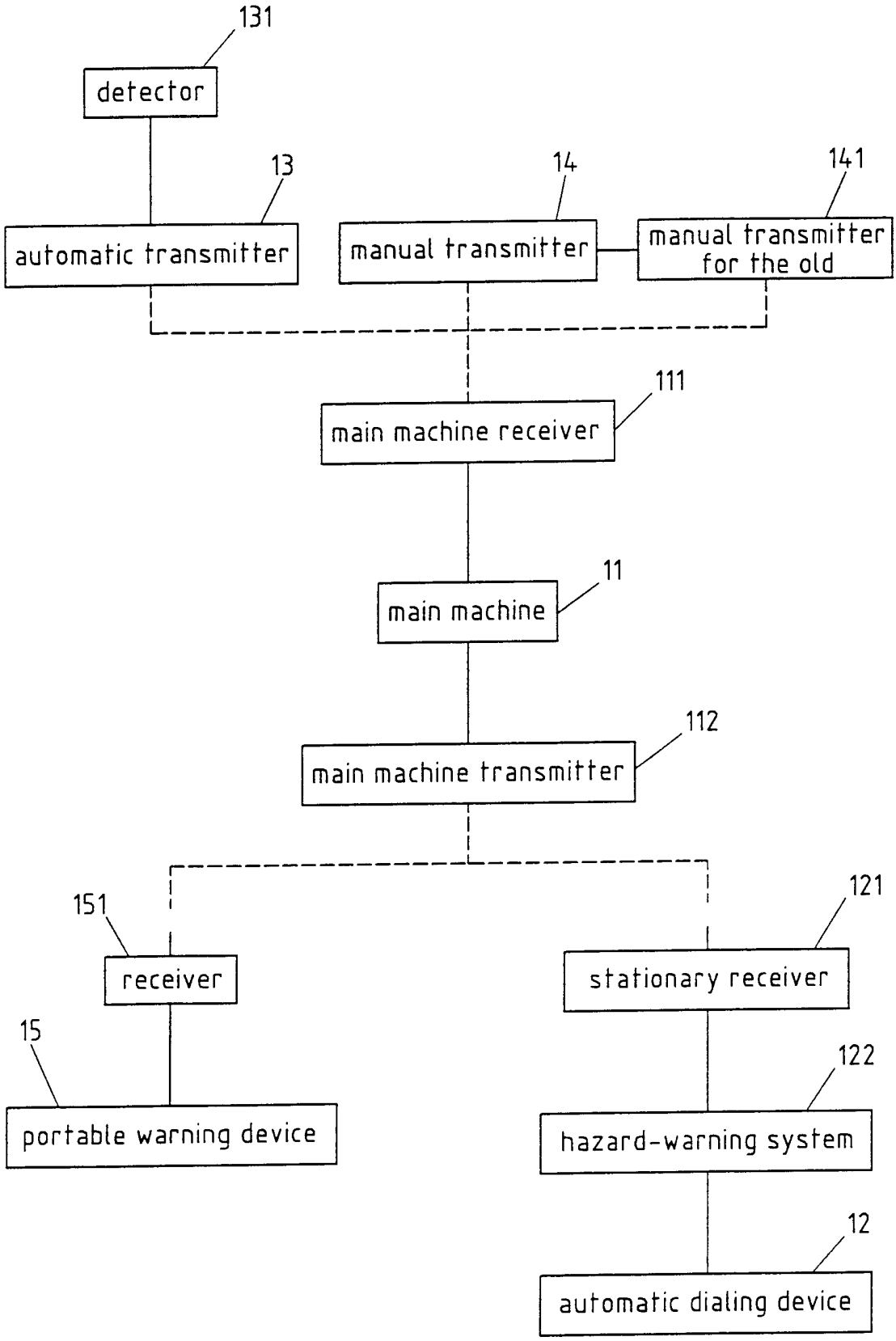
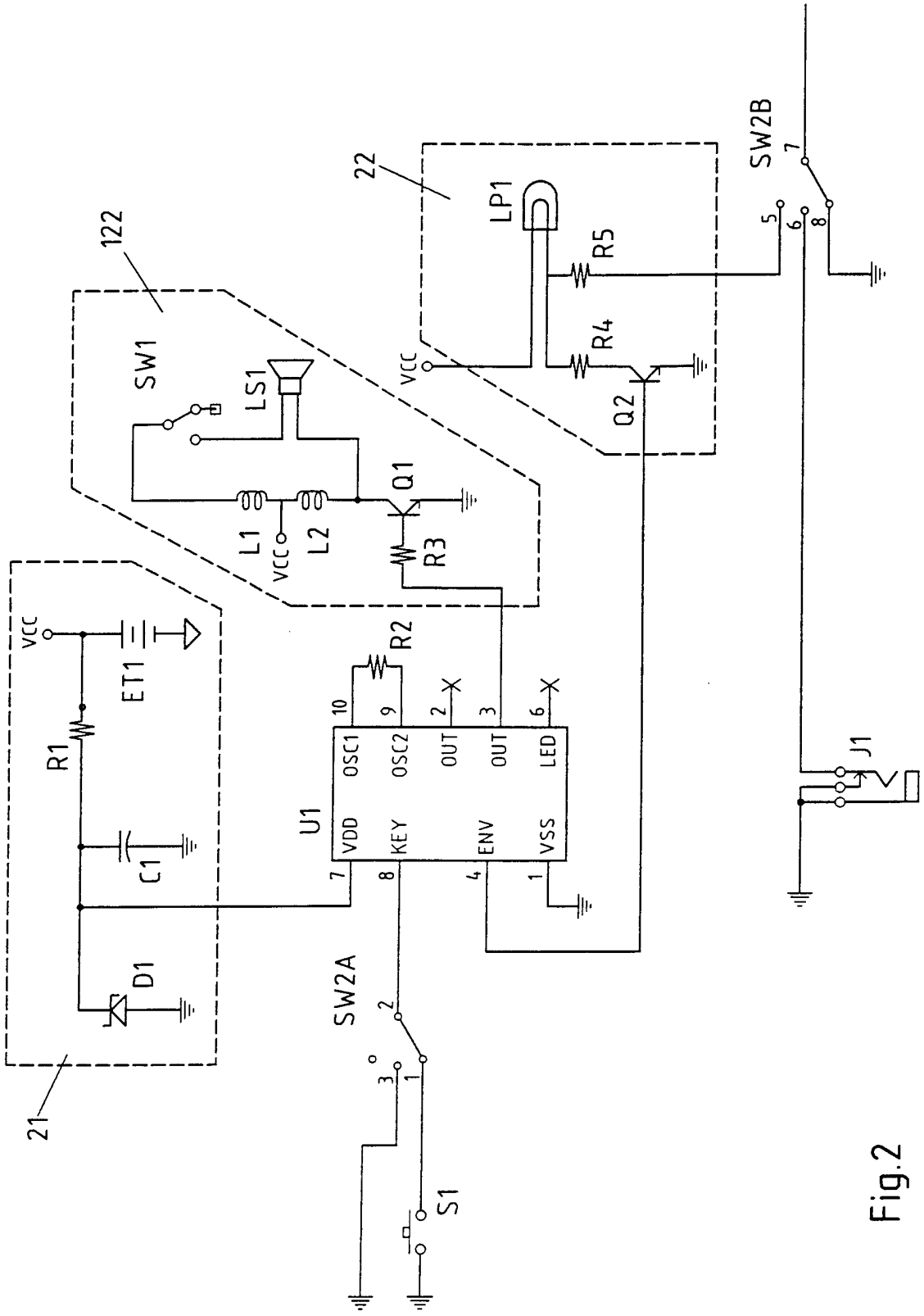

131
detector
13
automatic transmitter
14
manual transmitter
141
manual transmitter for the old
111
main machine receiver
11
main machine
112
main machine transmitter
151
receiver
15
portable warning device
121
stationary receiver
122
hazard-warning system
12
automatic dialing device

Fig.1


122
22
SW1
LS1
LP1
R5
R4
Q2
SW2B
Q1
L1
L2
R3
VCC
R2
ET1
R1
C1
D1
U1
VDD
KEY
ENV
VSS
OSC1
OSC2
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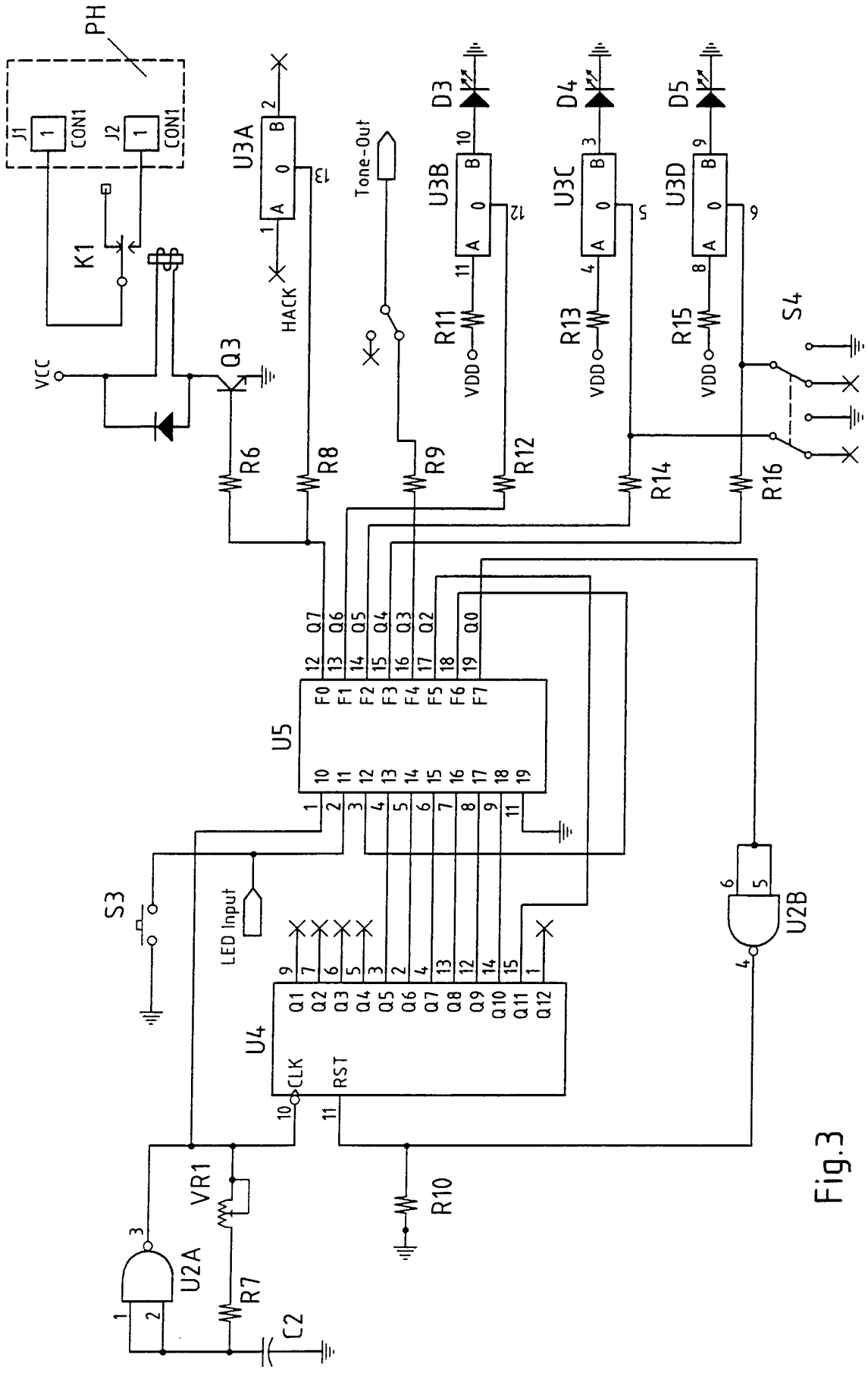
OUT
LED
J1
SW2A
S1
21

Fig.2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J1
CON1
J2
CON1
K1
VCC
Q3
HACK
U3A
Tone-Out
D3
D4
D5
U3B
U3C
U3D
R11
R13
R15
VDD
S4
R6
R8
R9
R12
R14
R16
U5
F0 F1 F2 F3 F4 F5 F6 F7
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7
S3
LED Input
U4
CLK
RST
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12
U2B
VR1
R10
U2A
R7
C2

Fig.3

INTERNATIONAL SEARCH REPORT

Internatio. . Application No
PCT/EP 99/05962

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G08B25/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G08B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 5 148 148 A (SHIMA HIROSHI ET AL) 15 September 1992 (1992-09-15) the whole document	1

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
15 February 2000	22/02/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Kelperis, K

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Internatio... Application No
PCT/EP 99/05962

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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