

Extract

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It assumes an existing compact electric drums with midi connections with the midi from a midi cable to a box which is connected to a MIDI interface converts the MIDI signals into PWM signals or LED lights and the light of this visible in round holes of various sizes in the lid of the trunk does light up the pads, which we further describe vibrating motors call in a belt felt on the skin around the waist of the body of a deaf can be done and which belt connected to a cord and plug the interface, controller board, in the case and that the vibration motors controls.

Music for deaf people

The new invention is based on the earlier I published inventive sound-feeling pads for deaf people under number NL 1026311 which aims sound observations and audio signals from electronic devices in which the device is connected to a microphone, headphone output, wave files, the USB port, the midi port, etc., into pads that vibrate and can be felt through skin contact. The pads may vary in different sizes, speed and strength of vibration. These pads were in my previously published number NL 1026311 invention installed in a device that were felt by the fingertips, an armband which were felt pads on the skin of the wrist and a device behind the ear pads which were felt on the skin behind the ear.

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The interface, controller board, in the case can also be connected to electrical musical instruments with MIDI in and out like keyboards, synthesizer, computer, the MIDI signals are converted into PWM signals and the lamps or LEDs and vibrating motors controls. The waist belt with vibrating motors can also be of great importance to deaf blind people to learn rhythms, but also for communication because the communication with these people occurs mainly through physical contact.

The round holes of various sizes in the lid of the trunk and their sequence correspond to the drums and the order of the connected electric drum set. When hitting the kick with his foot on the pedal of the electric drum kit explains the great round hole front and center of the lid by means of lamps or LEDs mounted on the bottom of the case and also vibrates the middle motor in the belt around the waist near the navel abdomen. With a strong blow, we see strong light and feel strong vibration and a less powerful stroke, we feel less light and less vibration.

In an attack with a stick or hand on the snare drum of the electric light drums the round hole on the bottom left of the lid and the vibrating motor vibrates the left of the vibration motor in the abdomen in the umbilical waist belt. So does the same in the attack on the cymbals and other drums of the electric drum set, the lighting of lamps or LED in the lid of the suitcase and feeling the vibration motors in the waist belt.

In my example, the lid of the case made nine round holes and nine vibration motors in the waist belt corresponding to the number of drums and cymbals in the drum set electrically connected. The lamps or LEDs on the bottom of the case have confirmed different colors so that each hole in the lid of the suitcase in a certain color can light up. The attack on the kick drum of the red light for example in that round hole in the lid of the suitcase. The vibration motors in the waist belt are different sizes and can be strong or less strong, fast or slow vibration. In a blow to the kick drum vibrates the vibrating motor with a large slow vibration and a blow on a small drum with a small vibrating motor speed vibrations. Thus, each drum or cymbal of the drum corresponds to a rate of vibration of the vibrating motors and large in the waist belt. The strength of the blow on a drum or cymbal of the drum determines whether the light in the lid of the box strong or less strong lights and vibrating motors vibrate strongly or less strongly. To scattering of light in the suitcase to be among each hole in the lid round tubes inserted from the bottom to the lid. The number of lamps or LEDs in a tube depends on the size of the drum or cymbal. Under the lid is a thin translucent plastic plate.

People with cochlear implants can hear but hear music is virtually no rhythm. For these people, the waist belt with vibrating motors a godsend. The sync of the wave files to be heard by the people through the speakers of the electric drum kit, headphone or amplifier with speakers connected to the audio output of the electric drum kit, with the midi files on the midi out of the drum which is then converted by the interface, controller board, in the suitcase to pwm files and pass this on to the vibrating motors in the belt belongs to the person with a cochlear implant the music of the wave files and feel the rhythm in the waist belt of the body through the vibrating motors. This can be with anything that has a midi in and out and have audio in and out.

At a computer software wave files to be converted to midi files that enable the midi files with a music editing and suitable for people with a cochlear implant. These midi files are edited via MIDI or USB port of the computer are converted by the interface, controller board, as in the case files used to PWM. When you sync those files to the person hears with a cochlear implant the wave files and feels the rhythm through vibration motors in the waist belt.

For the deaf may also involve the whole case with light and belt use. It looks and feels only the edited midi file and then converted to PWM file.

With an electric drum set with cymbals and drums attached to loose standards and frame work with a separate drum machine, it is possible to highlight strong or weak in themselves to handle drums. The interface, controller board, the case will be separately connected to the midi out of the drum machine and then the attacks on a drum, and those signals are converted into PWM signals and directly transmitted into the lamps or LEDs in the drum and vibration motors in the waist belt.

The invention will be further detailed to put the basis of the figures shown embodiment of the construction according to the invention.

Fig. 1 shows a top view of the drums again for deaf people.

Fig. 2 is a section of the trunk of the drums for deaf people.

Fig. 1 The case 1a consists of a rectangular room with a handle 2 and a lid that can be folded via a hinge. The lid 1a are circular cutout holes, 9, 10, 11, 12, 13, 14, 15, 16 and 17 where light from lamps or LEDs 22 through to at the bottom of the case 1a confirmed in the middle of the holes. The interface 6 is a controller board that converts MIDI signals into PWM signals. 7 is the power supply. 8 is a ledversterker print. 5 is in power. 4 is electrically connected for MIDI drums and any other equipment with midi in and out. 3 is a plug wire that is controlled by the interface, controller board, 6 and attached to a belt 18 containing the vibrating pads vibrating motors 9a, 10a, 11a, 12a, 13a, 14a, 15a, 16a, and 17a.

Fig. 2 Under the circular cutout holes in the lid is a thin translucent plastic sheet 19. To avoid stray light at the bottom of trunk 1a centric tubes 20 placed under the sawn round holes 9 t / m 17 in the lid with a slightly larger diameter than the diameter of the holes. At the bottom of the tubes 20 are mounted cooling plates 21 containing the 22 LEDs in each light tube with a different color.

Conclusions

1. Device in which deaf people can see the rhythm of music by means of lamps or LEDs and feel through vibrating motors on the skin of the body.
2. Device according to claim 1 waarbij in a case with round holes in the lid of the suitcase size match the holes in the drums of an existing electric drum set and it connected to a cable box and plug the midi out of the electric drum set which midi signals from the electric drumkit converted by an interface, controller board, in the case files to PWM the bottom of the suitcase standing lamps LEDs or controls so that light can be seen through the round holes in the lid.
3. Device according to claim 1 and 2 that the light through the holes have a certain color through colored lights or LEDs or colored translucent material mounted above the non-colored LEDs or lamps.
4. Device of 1, 2 and 3 that the interface controller board in the trunk via a plug and cord belt with vibrating motors as described in the claims of my patent number 1026311 is attached to the waist of a body is done so at a blow on a drum of the electric drum kit through MIDI from this signal is converted by the interface controller board in the case of a PWM file and then it is the vibration motor of the corresponding drum in the middle or left / right of body the belt driving.
5. Device according to claim 1, 2, 3 and 4 that the intensity of the light from the lamps or LEDs in the trunk and the intensity of vibration of the vibrating motors in the belt around the waist of a body, hinges on the strength of a stroke with drumsticks on a drum of the electric drum kit and thus a strong blow strong light bulbs or LEDs through the round holes in the lid of the trunk light and vibration by the vibrating motors can be felt on the body from the waist belt. With a less powerful stroke less light from the lamps or LEDs are visible and less powerful vibrations felt in the body through the vibrating motors. So the light from the lamps or LEDs and vibration of the vibrating motors are velocity which is controlled by the interface controller board in the trunk.
6. Device according to claim 1, 2, 3, 4 and 5 that for scattering of light from the lamps or LEDs in the trunk with one another to avoid in the case centered below the circular holes in the lid of the box corresponding to the different drums of electric drums, tubes in the bottom of the suitcase containing the bottom are placed in the middle of the LEDs.
7. Device according to claim 1, 2, 3, 4, 5, and 6 for deaf people with cochlear implant the rhythm of music hardly hear the music more interesting is the sync of wave files to MIDI files which they wave traffic hearing and seeing and feeling the rhythm converted midi - files through the interface controller board in the PWM signal lamps or LEDs and vibrating motors controls.
8. Device according to claim 1, 2, 3, 4, 5, 6 and 7 in which a computer converts wave files using a software program for midi files and midi files can be edited into a music program for a specific audience such as a clear rhythm deaf people with cochlear implant use MIDI files synchronize it with the wave files which convert midi files through a USB connector and cable to the interface controller board in the case and people with a cochlear implant and hearing the processed wave files rhythm, feel the vibration in the belt motors and light bulbs or LEDs through the holes in the lid of the suitcase.
9. Device of 1, 2, 3, 4, 5, 6, 7, 8 and 9 that the case with strap also can be connected via MIDI in and out of a drum module of an electric drum kit with the drum pads independently placed on standards and a frame.
10. Device according to claim 9 that the drum pads of the electric drum kit can be fitted with transparent sheets such as lamps or LEDs are controlled by an interface, controller board and a transparent sheet that lights up on impact. The apparatus of claim 9 can be fitted with transparent colored sheets or lamps or LEDs are different colors.
11. Device according to claim 1, 3 an acoustic drum kit also can be converted for deaf people the same goals, to see and feel the rhythm of music from drum triggers, vibration sensors on the skins of the drums to place and or microphones in the drums to place and to convert those signals into colored lights or LEDs in the drums themselves, and the vibration motors in the belt around the waist of the body. In a battle with the drumstick on a drum drum colored light corresponding to the lamps or LEDs which are visible through the sheets of a drum. Similarly, this battle than felt by the vibration motors in the belt on the body.

Fig.1

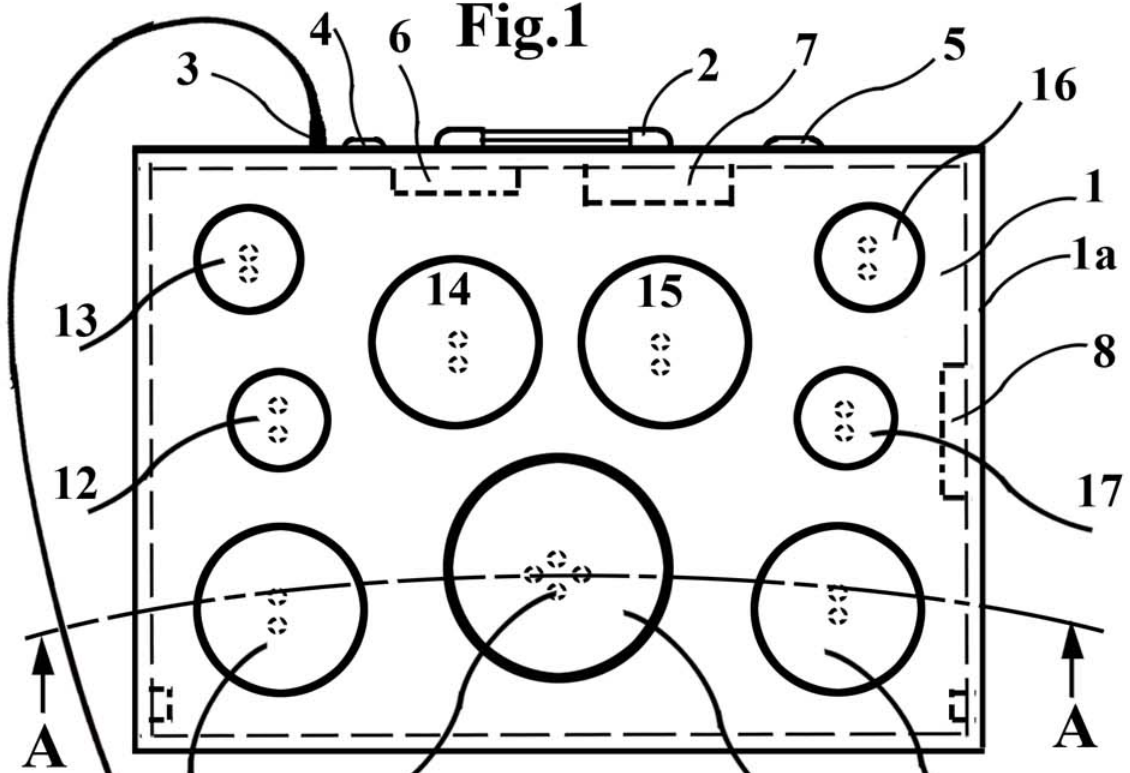


Fig.2

