Disclosed is headgear with audio recording and playback capability that may capture the sound of the voice of the wearer or other sounds in the vicinity of the headgear. An electronic module containing specialized recording and playback integrated circuitry (IC), together with a microphone and speaker, are integral components of the semi-rigid brim of the headgear. A series of microchips, are used to record a vocal message, a music track, or a desired sound proximate the wearer of the hat, in selected increments of time. The material thusly recorded may be played back via an integral speaker so as to be audible to the wearer or other persons nearby.
HAT WITH AUDIO RECORDING AND PLAYBACK FEATURES

CROSS-REFERENCES TO OTHER PUBLICATIONS

[0001] Not applicable.

REFERENCE TO RELATED APPLICATION

[0002] Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0003] Not applicable.

NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT

[0004] Not applicable.

BACKGROUND OF THE INVENTION

[0005] (1) Field of the Invention
[0006] The inventive concepts presented herein generally are concerned with garments, particularly headgear, that are manufactured or outfitted with electronic audio devices and equipment for entertainment of the wearer or other persons proximate to the wearer.
[0007] (2) Description of the Related Art
[0008] In recent years, the popularity of portable audio devices has increased significantly, particularly among the younger generation. Whether in the form of cell phones, ipods, blue tooth devices, or custom made ear phones, a variety of means of acquiring and enjoying telecommunication, videography, and music abounds. Portable audio equipment that is designed to function in close proximity to the listener's ears may easily provide high quality sound reproduction. Further, there are many innovative products which combine portable and/or miniaturized audio equipment with clothing.
[0009] U.S. Pat. No. 5,530,626 (1996) disclosed an athletic shoe with a pocket containing a “unitary assembly” of a battery, microchip, speaker, and an on/off switch. The device also featured a push-button switch to activate the speaker.
[0012] US2008/0144872 (2008) is an invention featuring a headgear assembly with pouches therein for holding components of a music playing system. The music player, wire harness and speakers are concealed within the fabric of the headgear.
[0013] US 2009/0280340 is a US patent application disclosing a hat configured to carry earphones and a music player. An attachment clip supports the music player onto the cap. Retractable earphones, or “earbuds” are wired to the music player. The inventor also claims a cowboy hat as an embodiment of his invention.

BRIEF SUMMARY OF THE INVENTIVE CONCEPT

[0014] The inventive concept herein discloses a hat with audio recording capability that may capture the sound of the voice of the wearer or other sounds in the vicinity of the hat. A module containing a specialized recording integrated circuit (IC) connected to a miniature microphone is an integral part of the hat. A microchip, or other audio input device, is used to record a vocal message, a music track, or a desired sound proximate the wearer of the hat. The material thusly recorded is stored in a recording chip which has a direct electrical lead to an integral speaker. The speaker may transmit the previously recorded matter so as to be audible to the wearer or other persons nearby.

BRIEF DESCRIPTION OF THE VIEWS OF THE DRAWINGS

[0015] The objects, features, and advantages of the concept presented in this application are more readily understood when referring to the accompanying drawings. The drawings, totaling four figures, show the basic functions of the inventive concept. In the several figures, like reference numbers are used in each figure to correspond to the same component as may be depicted in other figures.
[0016] FIG. 1 depicts a baseball-style cap with an exposed playback push-button on the hat/cap brim.
[0017] FIG. 2 is an exploded view of the baseball cap with the inner electronic circuitry, upper brim cover, and lower brim cover.
[0018] FIG. 3 is an inverted view of the baseball cap, with the lower brim cover removed.
[0019] FIG. 4 presents a simplified block diagram of the multi-purpose module containing various arrangements of integrated circuitry (IC) components.

Nomenclature For Invention Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper brim cover</td>
<td>1</td>
</tr>
<tr>
<td>Lower brim cover</td>
<td>2</td>
</tr>
<tr>
<td>Brim grid structure</td>
<td>3</td>
</tr>
<tr>
<td>Speaker</td>
<td>4</td>
</tr>
<tr>
<td>Electrical lead to speaker</td>
<td>5</td>
</tr>
<tr>
<td>Push-button for recorder</td>
<td>6</td>
</tr>
<tr>
<td>Electrical lead to recording button</td>
<td>7</td>
</tr>
<tr>
<td>Microphone</td>
<td>8</td>
</tr>
<tr>
<td>Electrical lead to microphone</td>
<td>9</td>
</tr>
<tr>
<td>Push-button for playback</td>
<td>10</td>
</tr>
<tr>
<td>Opening for microphone</td>
<td>11</td>
</tr>
<tr>
<td>Electrical lead to playback button</td>
<td>12</td>
</tr>
<tr>
<td>Playback button cover</td>
<td>13</td>
</tr>
<tr>
<td>Multi-purpose recording module</td>
<td>14</td>
</tr>
<tr>
<td>Button-cell lithium battery</td>
<td>15</td>
</tr>
<tr>
<td>Adhesive</td>
<td>16</td>
</tr>
<tr>
<td>Crown</td>
<td>17</td>
</tr>
<tr>
<td>Recording chip</td>
<td>18</td>
</tr>
<tr>
<td>Microphone chip</td>
<td>19</td>
</tr>
<tr>
<td>Playback chip</td>
<td>20</td>
</tr>
<tr>
<td>Pre-recorded material chip</td>
<td>21</td>
</tr>
<tr>
<td>Erase button</td>
<td>22</td>
</tr>
<tr>
<td>Opening for erase button</td>
<td>23</td>
</tr>
</tbody>
</table>
DETAILED DESCRIPTION OF THE INVENTIVE CONCEPT

[0021] The embodiment of the invention presented herein displays a hat in the form of a baseball-style cap in which the electronic circuitry and function controls of the device are embedded within the brim of the hat. The baseball cap is presented herein only for the convenience of illustration. Other types of headgear may be easily outfitted with the inventive concept presented herein. The baseball cap is designed to be streamlined, with the internal mechanisms unobvious to a person viewing the exterior of the cap. As shown in FIG. 1, only the cover for the playback push-button switch 13 is visible on the upper brim cover 1 of the cap.

[0022] In referring to FIG. 2, an exploded view of the main components of the baseball cap embodiment is presented, showing the upper brim cover 1, the crown 17, which is connected to the brim grid structure 3, and the lower brim cover 2.

[0023] To activate the entertainment functions of the device, electronic components are incorporated within the brim grid structure 3. The source of all functionality of the device is initiated in the multi-purpose module 14 containing a variety of integrated circuitry.

[0024] Momentarily referring to FIG. 4, there is shown a blow-up view of a simplified block diagram of the multi-purpose recording module 14. Representations of the circuitry for the recording chip 18, microphone chip 19, playback chip 20, and pre-recorded music chip 21 are depicted. FIG. 4 also illustrates the two batteries 15 necessary for the various electronic circuits. Generally, lithium button-cell batteries having a minimum of 3.0 volts emf are utilized in the device. Commercially available CR2032 batteries are the preferred driving power for the multi-purpose recording module 14; however, other equivalent batteries may also be installed.

[0025] The recording chip 18 is activated by a push-button for recorder 6, accessible on the lower brim cover 2 of the hat. When the push button 6 is pressed and held, a signal is sent via the electrical lead 7 to the recording chip 18, which then digitally records the voice of the baseball cap wearer, or any sound within a short range of the recording chip 18. The recording duration may be selected from a series of preset time increments, or tracks, ranging from 60 seconds to 300 seconds.

[0026] When playback of the recordings stored in either the pre-recorded chip 21 or the recording chip 18 is desired, the user depresses the cover 13 of the push-button for playback 10, which in turn activates the playback chip 20. The previously recorded sound or music is then played according to selectable time intervals determined by the wearer of the hat, and the selection is audible through the speaker 4.

[0027] If erasure of any of the recorded material stored in the recording chip 18 or the pre-recorded chip 21 is desired, the user presses the erase button 22 on the lower brim cover 2.

[0028] FIG. 3 displays the baseball cap embodiment in the inverted position, with the lower brim cover 2 removed. The undersurface of the brim grid 3 is exposed, thereby presenting another view of the main electronic components. The brim grid 3 is composed of a semi-rigid material and contains variously-shaped cutouts to accommodate the multi-purpose recording module 14, the speaker 4, microphone 8, push-button for recorder 6, push-button for playback 10, and the erase button 22. In the final stages of assembly of the device, the upper and lower brim covers 1, 2 are attached to the brim grid 3 by means of adhesive material 16. Likewise, electrical leads such as the electrical lead to speaker 5 are also adhesively attached to the brim grid 3.

[0029] While preferred embodiments of the present inventive concept have been shown and disclosed herein, it will be obvious to those persons skilled in the art that such embodiments are presented by way of example only, and not as a limitation to the scope of the inventive concept. Numerous variations, changes, and substitutions may occur or be suggested to those skilled in the art without departing from the intent, scope, and totality of the inventive concept. Accordingly, it is intended that this inventive concept be limited only by the spirit and scope of the accompanying claims.

What is claimed is:

1. Hat or headgear apparel having audio recording, audio storage, and audio playback components, comprising a crown;
   a brim grid having an upper and a lower surface, said brim grid attached to said crown, wherein said brim grid internally houses
   a) a multi-purpose recording module
   b) microphone
   c) speaker
   d) lithium button-cell batteries
   e) wire leads
   f) push-button recording switch
   g) push-button playback switch
   h) erase button
   i) recording microchip
   and j) pre-recorded material microchip;
   and an upper brim cover attached to upper portion of said brim grid; and
   a lower brim cover removably attached to lower portion of said brim grid.

2. The device as in claim 1, wherein the crown and the brim grid are constructed in the manner of a baseball-style cap.

3. The device as in claim 1, wherein the crown and the brim grid are constructed in the manner of an American cowboy hat.

4. The device as in claim 1, wherein the crown and the brim grid are constructed in the manner of a wide-brimmed Stetson hat.

5. A method of providing selected time intervals of sound and/or music recording, selected time intervals of sound and/or music playback, and sound and/or music erasure capability, all integral to an item of headgear, which comprises:
   Selecting an item of headgear apparel consisting of at least a crown and a brim;
   constructing a brim grid of dimensions suitable for fitting within the front portion of said brim;
   installing within the interior of said brim grid
   a) a multi-purpose recording module
   b) microphone
   c) speaker
   d) lithium button-cell batteries
   e) wire leads
   f) push-button recording switch
   g) push-button playback switch
   h) erase button
   i) recording microchip
   and j) pre-recorded material microchip;
   incising, from the front portion of said brim, openings sufficient to accommodate the components of said brim grid;
   constructing an upper brim cover and attaching same to upper surface of said brim grid; and
   constructing a lower brim cover and attaching same to lower surface of said brim grid.