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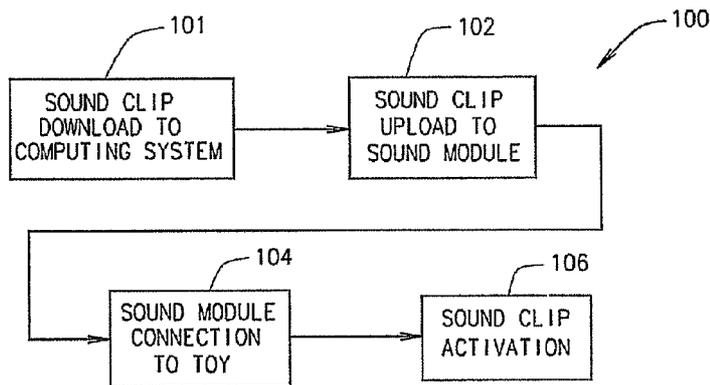


FIG. 1

(57) **Abstract:** A toy assembly capable of sound playback and other electronic animations comprising an electrical housing portion of a toy assembly having a sound module receptacle with an external facing access port where said sound module receptacle is communicable with a sound playback system. The invention can include a sound module having a programmable electronic storage medium and controller function operable to control receipt and storage of sound data to the electronic storage medium and control transmission of sound data. Receipt of the sound data can be through a first connector interfaceable with a personal computing system and where transmission of sound data can be through a second connector interfaceable with said sound module receptacle. The toy assembly can be such that the electrical housing portion can be part of a chassis of toy vehicle.

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## PROGRAMMABLE TOY SOUND MODULE

### BACKGROUND OF INVENTION

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**Field of Invention:** This invention relates generally to toys capable of playing back recorded sound clips and performing animated functions and, more particularly, to toys having sound modules containing audio data files and other data control files.

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**Background Art:** Remotely controlled toys, such as for example, radio controlled (RC) toy vehicles, or toys having on-board control buttons or switches are popular among children as well as adults because it allows the owner of the toy to control or activate on demand various functions or animated features of the toy. For example, the owner may be able to activate engine sounds for a toy vehicle or sound the horn or flash the headlights or activate other movements. The toy can have an on-board controller function that responds to selected inputs for initiation of a controllable function or animation feature. The toy can also have an on-board electronic memory media for storing data files (such as for example audio sound clips) or program files. The files can be accessed by the controller function and executed when an appropriate input is received by the controller function.

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For greater flexibility, some toys have record or reprogram functions. For example, the owner can record audio sound clips by way of an audible input, which can be stored to a storage device located in the toy. The owner of the toy can then activate the control function to playback the audio sound clip by inputting the appropriate signal or actuating the appropriate switch or button.

25

In this regard, there are various electronic toys having reprogrammable, or recordable, data storage devices, such as a recordable tape media, or electronic digital memory, whereby a user can selectively download new data or program information into the reprogrammable data storage device from an external data source to change the operating characteristics of the toy. As a result, a reprogrammed toy would generate totally different outputs in response to inputs. In this regard, not only could a toy's sounds be new, but its entire behavior and associated

30

play pattern could be replaced.

Various toys include reprogrammable digital (flash) memory for storing program data, an output device which is operatively responsive to the stored program data, and a control  
5 device associated with the memory and output device for selectively operating the output device. For example, the toy might comprise a toy vehicle having a speaker (output device) for outputting audio, and a plurality of push-button switches (inputs) which, when pressed, actuates a signal to an associated controller (control device) to access various program data stored in memory, and generate sounds therefrom. The instant concept of downloading  
10 program data enables the user to replace the existing sound data with new sound data thereby changing the sound generated when pushing a selected switch. Changing the sounds renews the play value of the toy and extends the life of the toy beyond the original characteristics. Some device concepts for downloading program information into a storage device in a toy can be extended to include download of both audio and control data.

15

One source for generating new program data includes a personal computing device or a personal computer wherein a virtually unlimited amount of program information can be accessed from various storage media, including magnetic disc, CD-ROM, and/or a remote computer system via a local or wide area network. Program information from the data source,  
20 i.e. personal computer, can be transferred to the toy's data storage device by input lines releasably connected between an output port of the data source and an input port in the reprogrammable data storage device.

There are devices that disclose an integral reprogrammable data storage device located  
25 within the toy which can be connected to a computer or other storage device to receive data for use in an un-tethered mode. The control software on the personal computer is further capable of accessing remote computer systems to gather additional input data and/or input files for use with the CD-ROM, or to provide a remote source of real-time control data and audio data to feed directly to the toy while tethered. However, the toy systems available don't  
30 provide an externally removable sound module nor an externally removable sound module that is reprogrammable thereby providing greater flexibility to the toy owner.

BRIEF SUMMARY OF INVENTION

The invention is a toy assembly capable of sound playback and various other  
5 electronic animations comprising an electrical housing portion of a toy assembly having a  
sound module receptacle with an external facing access port where said sound module  
receptacle is communicable with an on-board controller and sound playback system and other  
animation systems. The invention can include a sound module having a programmable  
electronic storage medium and controller function. The controller function can be operable to  
10 control receipt and storage of sound data and other electronic data for initiation of electronic  
animation. The data can be stored to the electronic storage medium and the controller will  
control transmission of data from the module to other peripheral systems. Receipt of the  
sound data can be through a first connector interfaceable with a personal computing system  
and where transmission of sound data can be through a second connector interfaceable with  
15 said sound module receptacle of the toy vehicle or there can be a single connector for both  
functions.

The toy assembly can be such that the electrical housing portion, which can be  
adapted to receive the sound module and can be part of a chassis of toy vehicle and/or can be  
20 housed with an externally mounted or connected or otherwise associated accessory, such as  
for example, a toy trailer. The accessory can have a receptacle connector for the sound  
module similar to that of the chassis of the toy vehicle. The accessory can also have its own  
power source and speaker system. The accessory can include multiple receptacles for  
multiple types of sound modules and connectors. The accessory can also have an audio  
25 output, such as for example, for a headphone jack. The accessory can also have other  
interfaces and/or connections for other types of audio electronic systems.

The controller function that is operable to control receipt and storage of sound data  
can be operable to interface with the personal computing system to download audio sound  
30 clips stored on the personal computing system where said first connector can be a standard  
data interface connector for personal computing systems, such as for example, a USB type  
connector. The toy assembly as described above having first and second connectors can

alternatively have the first and second connectors combined functionally and physically into one connector, such as for example, a USB type connector. The data stored on the module can include data other than audio sound data, such as for example other electronic animation control data such as data to control flashing of lights.

5

The process can include the steps using a personal computing device, such as for example, a personal computer (PC), personal data assistant (PDA) or other like computing device to connect to a local or wide area network (LAN or WAN), such as for example, the internet, to access remotely stored audio sound files and/or data files and to download the files to the personal computing device. For example, a provider of audio sound clips and/or data files particular designed to function with a given toy design can provide a web site that can be accessed by the toy owner. The web site can provide a functional interface that allows the owner to navigate to, sample, and select files for download. Once selected, the owner can download the file to their personal computing device. Once downloaded the process can include the step of communicably connecting the sound module to the personal computing device by way of a standard interface connector, such as for example, a USB connector.

The sound module can have a controller function, implemented in circuitry and/or firmware, that can communicate with the personal computing device for the purpose of uploading the previously downloaded file to the sound module. The control function can also control the transmission of the data file from the sound module through the connector. The sound module containing an electronically stored audio sound and/or other category of data file can be communicably connected to the toy receptacle. The toy can then access the file on demand. Optionally the owner of the toy can also purchased multiple preprogrammed sound modules that are read only or reprogrammable. The owner can also purchase blank sound modules with upload capability.

Once installed in the receptacle of the toy, the toy can access one or more data files stored on the sound module. The data files can be merely audio files that are stored on the sound module and the toy has a control function to access the data and play back the audio sound clip. Alternatively the data files can include audio files as well as other corresponding control data that the toy controller can access for controlling other toy functions, such as for

example, toy lighting and/or movement.

One embodiment of the present invention can include a toy assembly having a data module receptacle with an external facing access port and connector where said data module  
5 receptacle connector is communicable with an on-board controller and sound playback system and/or other animation systems. The data module can also include a programmable electronic storage medium, where the on-board controller function is operable to communicate with the data module through the connector when the data module is connected to the data module receptacle connector. The controller function can be operable to control  
10 receipt and storage of sound data and other electronic data for initiation of electronic animation. The controller function can retrieve data from the data module and control on-board operations based on the data retrieved. For example, the controller function can retrieve sound clip data and transmit the sound clip data to a play back system for audio playback.

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This embodiment can also include an accessory module also having an accessory receptacle with an accessory connector communicable with an on-board accessory controller. The accessory controller can also be communicable with an external computer interface connector, such as for example a standard USB connector, where the accessory controller can  
20 be operable to receive information from a personal computing system by way of the computer interface connector. The personal computing system can obtain the information by reading and retrieving the information from a CD ROM or other media or the personal computing can be utilized to access a local or wide area network to retrieve information to be uploaded to the data module. The accessory controller can be operable to upload the received information to  
25 the data module. The data module, now containing the uploaded information, can be plugged into the data module receptacle connector, through which the on-board controller can now communicate with and retrieve data from the data module now containing the information uploaded to the data module from the computer.

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These and other advantageous features of the present invention will be in part apparent and in part pointed out herein below.

### BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present invention, reference may be made to the  
5 accompanying drawings in which:

Fig. 1 is a functional flow diagram showing the process of downloading to the sound  
module and installing the sound module;

Fig. 2 is a functional block diagram of the sound module;

10 Fig. 3 is a perspective view of a sound module and receptacle;

Fig. 4 is a perspective view of the sound module installed.

While the invention is susceptible to various modifications and alternative forms,  
15 specific embodiments thereof are shown by way of example in the drawings and will herein  
be described in detail. It should be understood, however, that the drawings and detailed  
description presented herein are not intended to limit the invention to the particular  
embodiment disclosed, but on the contrary, the intention is to cover all modifications,  
equivalents, and alternatives falling within the spirit and scope of the present invention as  
20 defined by the appended claims.

### DETAILED DESCRIPTION OF INVENTION

25 According to the embodiment(s) of the present invention, various views are illustrated  
in Fig. 1- 4 and like reference numerals are being used consistently throughout to refer to like  
and corresponding parts of the invention for all of the various views and figures of the  
drawing. Also, please note that the first digit(s) of the reference number for a given item or  
part of the invention should correspond to the Fig. number in which the item or part is first  
30 identified.

One embodiment of the present invention including an electrical housing portion of a

toy assembly having a sound module receptacle with an external facing access port where said sound module receptacle is communicable with a sound playback system and an externally connect sound module teaches a novel apparatus and method for a toy having sound playback and electronic animation control capability

5

The details of the invention and various embodiments can be better understood by referring to the figures of the drawing. Referring to Fig. 1, a functional flow diagram showing the process of downloading to a sound module and installing a sound module is shown. The functional flow diagram 100 includes a first functional block 101 representing the personal  
10 computing system download function. This functional step is representative of a user utilizing their personal computing system, such as for example a personal computer, to access, via a wide area network or local area network, a remote database containing data files for download. The user can access for example a website via the internet. Once the user accesses the website, a user interface can be provided that allows the user to navigate to a data  
15 file and download the data file to their personal computing system. Various type data files can be made available by category based on compatibility with certain toy functional capabilities. For example, certain data files may contain control data for flashing lights of the toy in a certain sequence, however, this function may only be compatible with certain toys.

20 Once the data file has been properly downloaded and stored on the personal computing system, then the user can begin the upload process. The functional block 102 is representative of the upload to sound module function where the user accesses the data file now residing on the personal computing device and then uploading the data file to the sound module. The user interface on the personal computing system can provide the appropriate  
25 prompts for selecting and uploading the desired data files. In order to perform the upload function, the user can communicably connect the sound module to the personal computing system by way of interface connection. The sound module can be equipped with a standard interface connector for communicating with a personal computing device such as a personal computer. The standardized connector can be a standard USB connector that can be  
30 connected to a personal computer through which a data file can be uploaded to the sound module. Alternatively the sound module can be communicably connected to a personal computer by way of an accessory module where the accessory module has a computer

interface and an interface for the sound module. The communicable connection between the accessory module and the personal computer can be by way of a hard-wire connection, such as for example by way of a USB cable or can be wireless, such as for example a Bluetooth or IR wireless connection. Similarly, the accessory module can have wireless connectivity with the sound module either directly or while the sound module is installed in a toy device. This flexible connectivity between the sound module and a personal computing system provide for a wide variety of entertainment options.

The data file can include sound clips as well as other data formatted in a fashion to be utilized as control data by a target toy device. Once the data file has been uploaded to the sound module, the sound module can be disconnected from the personal computing device and utilized in the target toy device. A functional block 104 is representative of communicably connecting the sound module to an external receptacle of the toy device. The owner can take the sound module and plug it into an external receptacle located on the toy device. The external location of the receptacle should be readily accessible by the user and provides for easy insertion of the sound module to provide a communicable connection. Once the sound module has been inserted into the receptacle, the toy can now access the data file(s) contained on the sound module. As an alternative to uploading a data file by way of a personal computing device, the owner can purchase pre-programmed sound modules for insertion into the sound module external receptacle of the toy. In order to access or activate the data files contained on the sound module, the owner must provide the appropriate input which could include depressing a button or switching a switch that is located on the toy device or remotely selecting a function by way of a remote selection device. The activation of the data file contained on the sound module is represented by a functional block 106.

Referring to Fig. 2, a functional block diagram of the sound module is shown. The sound module 200 can include various functional components. Primarily, the sound module should include a storage media or electronic storage media for storing a data file containing for example audio sound clips or other control data files. The electronic storage media 202 can be configured to be readily accessible by the controller function 204 of the sound module. The controller function can be implemented by way of firmware and/or electronic circuitry. The controller function can be operable to control the receipt of control signals and data by

way of I/O connector 206 as well as transmit data and control signals by way of the same connector. The controller function residing on the data module can be optional or minimal. The entire controller function for reading and transmitting the data to and from the sound module can reside in the toy device. The controller function can then utilize the data from the data module to control various features of the toy device such as for example, sound clip playback, animations such as lighting, and animated movements. Optionally, the data module 200 can have a second optional I/O connector 208 such that there is a dedicated I/O connector for receipt of data files and for control signals relating to the storage of information and a separate connector related to the transmission of data files from the sound module and the related control signals. Alternatively, there can be one connector dedicated to connectivity with a personal computing device and one connector dedicated to connectivity with the toy device.

When the sound module is connected to a personal computing device, the sound module and the personal computing device can communicate through an I/O connector to upload data files to the sound module. When the sound module is communicably inserted into the receptacle of the toy, the control function of the toy can access the data files on the sound module.

Referring to Fig. 3, a perspective view of a sound module is shown. The sound module shown has a housing 300 and an I/O connector 302. The housing 302 can contain the storage media for retaining the data files. The I/O connector 302 can perform both upload and transmission functions or optionally a second connector can be utilized (NOT SHOWN) where there are dedicated connectors for upload and transmission respectively. The I/O connectors can be standard connectors such as for example a standard USB type connector. The interfacing sound module receptacle 400 can be externally located on the toy device 402. The sound module I/O connector can be inserted into the receptacle (See Fig. 4) to establish a communicable link between the sound module and the toy device. The receptacle can be recessed sufficiently such that when the sound module is inserted fully, the sound module will be positioned beneath the exterior surface 404 of the toy device such that the sound module is not damaged. However, the structure 406 surrounding the receptacles can be sufficiently wide to allow fingers to be inserted to thereby grasp the sound module and disconnect.

Considering the example of a toy vehicle, the present invention could be an effective way to continuously update an already purchased product. For example an audible sound clip could be updated to a new song and the electronic animation could be updated as well. The  
5 data stored on the sound module can be, for example, a popular audio file song stored in MP3 format.

One embodiment of the present invention is a toy assembly capable of sound playback and other electronic functions comprising a controller function integral with a toy assembly,  
10 where said toy assembly has a sound module receptacle, which is accessible externally with respect to said toy assembly and an electronic actuation function. The controller function can have a communicable link to said sound module receptacle and adapted to retrieve and interpret data signals transmitted through the sound module receptacle from the sound module. The controller can be communicable with the electronic actuation function and  
15 adapted to initiate an electronic function responsive to an actuation of the electronic actuation function and based on interpretation by the controller function of the data signals. A sound module having a programmable electronic storage medium and a module connector can be operable to receive data through the module connector and store data to the electronic storage medium and to transmit data signals from the storage medium through the module connector.  
20 The control signals can be based on data stored in the storage medium, where said module connector can be removably connected with said sound module receptacle and connectable with a communication port of personal computing system.

The communication port of the personal computing system and the sound module  
25 receptacle can be for example USB type connectors. The electronic function can be one function selected from a group of many functions including light flashing functions, audible sound emission functions, and movement functions. The sound module receptacle can be positioned in an external recessed area of the toy assembly. The toy assembly includes an actuator which is adapted to send an actuation signal to the module controller prompting the  
30 module controller to transmit a signal to the electronic function for initiation. The electronic storage medium of the module has stored there on control data for controlling light flashing, audible sound emission, and movement functions.

The invention can also include an accessory module including an accessory playback system controller integral with the accessory, where the accessory can have an accessory sound module receptacle accessible external to said accessory and an accessory electronic function where said accessory playback system controller can have a communicable link to said accessory sound module receptacle and adapted to retrieve and interpret data signals transmitted through the accessory sound module receptacle. The accessory playback system controller can be communicable with the accessory electronic function and adapted to initiate said accessory electronic function. An accessory sound module having an accessory programmable electronic storage medium, an accessory module connector and an accessory module controller function can be operable to control receipt of data through the accessory module connector and storage of data to the accessory electronic storage medium and control transmission of data from the accessory storage medium and transmission of accessory control signals through the accessory module connector. The accessory control signals can be based on data stored in the accessory storage medium and can be operable to initiate operation of the accessory electronic function. The accessory module connector can be removably connected with said accessory sound module receptacle and connectable with the communication port of personal computing system.

The various toy sound module examples shown above illustrate a novel invention for providing an external sound module (data module) containing audio playback clips and other functional data. A user of the present invention may choose any of the above toy sound module embodiment, or an equivalent thereof, depending upon the desired application. In this regard, it is recognized that various forms of the subject toy sound module invention could be utilized without departing from the spirit and scope of the present invention.

As is evident from the foregoing description, certain aspects of the present invention are not limited by the particular details of the examples illustrated herein, and it is therefore contemplated that other modifications and applications, or equivalents thereof, will occur to those skilled in the art. It is accordingly intended that the claims shall cover all such modifications and applications that do not depart from the spirit and scope of the present invention.

Other aspects, objects and advantages of the present invention can be obtained from a study of the drawings, the disclosure and the appended claims.

WHAT IS CLAIMED IS:

1. A toy assembly capable of sound playback and other electronic functions comprising:  
a controller function integral with a toy assembly, where said toy assembly having a  
5                    sound module receptacle accessible external with respect to said toy assembly and  
                         an electronic actuation function where said controller function has a  
                         communicable link to said sound module receptacle and adapted to retrieve and  
                         interpret data signals transmitted through the sound module receptacle from the  
10                    sound module and where said controller is communicable with the electronic  
                         actuation function and adapted to initiate an electronic function responsive to an  
                         actuation of the electronic actuation function and based on interpretation by the  
                         controller function of the data signals; and  
a sound module having a programmable electronic storage medium, a module connector  
15                    and operable to receive data through the module connector and store data to the  
                         electronic storage medium and to transmit data signals from the storage medium  
                         through the module connector, where said control signals are based on data stored  
                         in the storage medium, and where said module connector is removably connected  
                         with said sound module receptacle and connectable with a communication port of  
20                    personal computing system.
2. The toy assembly as recited in **claim 1**, where the communication port of the personal  
computing system and the sound module receptacle are USB type connectors.
3. The toy assembly as recited in **claim 1**, where the electronic function is one function  
25                    selected from a group of functions consisting light flashing function, audible sound emission  
                         function, and movement function.
4. The toy assembly as recited in **claim 1**, where the sound module receptacle is positioned  
in an external recessed area of the toy assembly.
- 30                    5. The toy assembly as recited in **claim 1**, where the toy assembly includes an actuator which  
                         is adapted to send an actuation signal to the module controller prompting the module

controller to transmit a signal to the electronic function for initiation.

6. The toy assembly as recited in **claim** 1, where the electronic storage medium of the module has stored there on control data for controlling light flashing, audible sound emission,  
5 and movement functions.

7. The toy assembly as recited in **claim** 1, further comprising:  
an accessory including an accessory playback system controller integral with the accessory,  
said accessory having an accessory sound module receptacle accessible external to said  
10 accessory and an accessory electronic function where said accessory playback system  
controller has a communicable link to said accessory sound module receptacle adapted to  
retrieve and interpret data signals transmitted through the accessory sound module receptacle  
where said accessory playback system controller is communicable with the accessory  
electronic function and adapted to initiate said accessory electronic function; and  
15 an accessory sound module having an accessory programmable electronic storage medium, an  
accessory module connector and an accessory module controller function operable to control  
receipt of data through the accessory module connector and storage of data to the accessory  
electronic storage medium and control transmission of data from the accessory storage  
medium and transmission of accessory control signals through the accessory module  
20 connector, where said accessory control signals are based on data stored in the accessory  
storage medium and are operable to initiate operation of the accessory electronic function,  
and where said accessory module connector is removably connected with said accessory  
sound module receptacle and connectable with the communication port of personal  
computing system.

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8. The toy assembly as recited in **claim** 7, where the accessory electronic function is one  
function selected from a group of functions consisting a light flashing function, audible sound  
emission function, audio output function and movement function.

30 9. The toy assembly as recited in **claim** 8, where the audio output function is communicably  
linked to an audio output connector accessible external said accessory by a headphone jack  
and said audio output function operable to transmit an audio output signal to said connector.

10. The toy assembly as recited in **claim 9**, where the toy assembly is a toy vehicle and the accessory is a trailer hitched to said toy vehicle.

5 11. The toy assembly as recited in **claim 9**, where the toy assembly and the accessory each have separate power sources.

12. The toy assembly as recited in **claim 9**, where the movement function is movement of the toy vehicle by initiating wheel rotation.

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13. The toy assembly as recited in **claim 1**, where the audible sound emission function is the emission of one audible sound simulating a sound selected from a group of sounds consisting of a horn sound, siren sound and engine sound.

15

14. A toy assembly capable of sound playback and other electronic functions comprising:  
a sound module having a programmable electronic storage medium, a module connector  
and operable to receive data through the module connector and store data to the  
electronic storage medium and to transmit data signals from the storage medium  
20 through the module connector, where said control signals are based on data stored  
in the storage medium, and where said module connector is removably  
connectable with a sound module receptacle of a toy assembly and connectable  
with a communication port of personal computing system; and  
a controller function integral with the sound module, where said toy assembly having a  
25 sound module receptacle accessible external with respect to said toy assembly and  
said toy assembly having an electronic actuation function where said controller  
function has a communicable link to said sound module receptacle and adapted to  
retrieve and interpret data signals on the sound module from the sound module  
electronic storage medium and where said controller is communicable with the  
30 electronic actuation function and adapted to initiate an electronic function  
responsive to an actuation of the electronic actuation function and based on  
interpretation by the controller function of the data signals.

15. The toy assembly as recited in **claim** 14, further comprising an accessory having a communicable sound module interface and a communicable personal computing device interface for connectivity between the personal computer and the sound module.

5

16. The toy assembly as recited in **claim** 15, where the communicable sound module interface and the communicable personal computing device interface is wireless.

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10 17. A method of utilizing a data module with a toy assembly comprising the steps of:  
connecting electronically a data module having a programmable electronic storage medium  
and a data module controller to a personal computing system;  
uploading data from the personal computing system to and storing to the programmable  
electronic storage medium of the data module;  
15 connecting electronically the data module to a toy assembly having a toy assembly controller  
and an electronic function; and  
actuating selectively an actuator of the toy assembly, where said actuator is electronically  
connected to the toy assembly controller, selectively actuating the controller to retrieve data  
from the data module, interpreting the data with the controller, and initiating operation of the  
20 electronic function with the toy assembly controller based on the interpreted data.

18. The method of utilizing a data module with a toy assembly as recited in **claim** 17, where  
initiating operation of the electronic function is initiation of a function selected from a group  
consisting of light flashing, audible sound emission, and movement functions.

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19. The method of utilizing a data module with a toy assembly as recited in **claim** 17, further  
comprising the steps of:  
connecting electronically an accessory data module having a accessory programmable  
electronic storage medium and an accessory data module controller to the personal computing  
30 system;  
uploading accessory data from the personal computing system to and storing to the accessory  
programmable electronic storage medium of the accessory data module;

- connecting electronically the accessory data module to an accessory having an accessory controller and an accessory electronic function; and  
actuating selectively an accessory actuator of the accessory, where said accessory actuator is electronically connected to the accessory controller, selectively actuating the accessory
- 5 controller to retrieve accessory data from the accessory data module, interpreting the accessory data with the accessory controller, and initiating operation of the accessory electronic function with the accessory connecting electronically a data module having a programmable electronic storage medium and a data module controller to a personal computing system;
- 10 uploading data from the personal computing system to and storing to the programmable electronic storage medium of the data module;  
connecting electronically the data module to a toy assembly having a toy assembly controller and an electronic function; and  
actuating selectively an actuator of the toy assembly, where said actuator is electronically
- 15 connected to the toy assembly controller, selectively actuating the controller to retrieve data from the data module, interpreting the data with the controller, and initiating operation of the electronic function with the toy assembly controller based on the interpreted data controller based on the interpreted data.
- 20 20. The method of utilizing a data module with a toy assembly as recited in **claim 19**, where initiating the accessory electronic function is initiation of an accessory function selected from a group consisting light flashing, audible sound emission, audio output and movement functions.
- 25 21. The method as recited in **claim 20**, where the audio output function is communicably linked to an audio output connector accessible external said accessory by a headphone jack and said audio output function operable to transmit an audio output signal to said connector.
- 30 22. The method as recited in **claim 21**, where the toy assembly is a toy vehicle and the accessory is a trailer hitched to said toy vehicle.
23. The method as recited in **claim 22**, where the toy assembly and the accessory each have

separate power sources.

24. A method of utilizing a data module with a toy assembly comprising the steps of:  
connecting electronically a data module having a programmable electronic storage medium to  
5 a personal computing system;  
uploading data from the personal computing system to and storing to the programmable  
electronic storage medium of the data module;  
connecting electronically the data module to a toy assembly having a toy assembly controller  
and an electronic function; and  
10 actuating selectively an actuator of the toy assembly, where said actuator is electronically  
connected to the toy assembly controller, selectively actuating the controller to retrieve data  
from the data module, interpreting the data with the controller, and initiating operation of the  
electronic function with the toy assembly controller based on the interpreted data.
- 15 25. The method of utilizing a data module as recited in **claim** 24, where connecting the data  
module to the personal computing system is wirelessly connecting to the personal computer  
by way of the toy assembly having wireless connectivity with the personal computer.

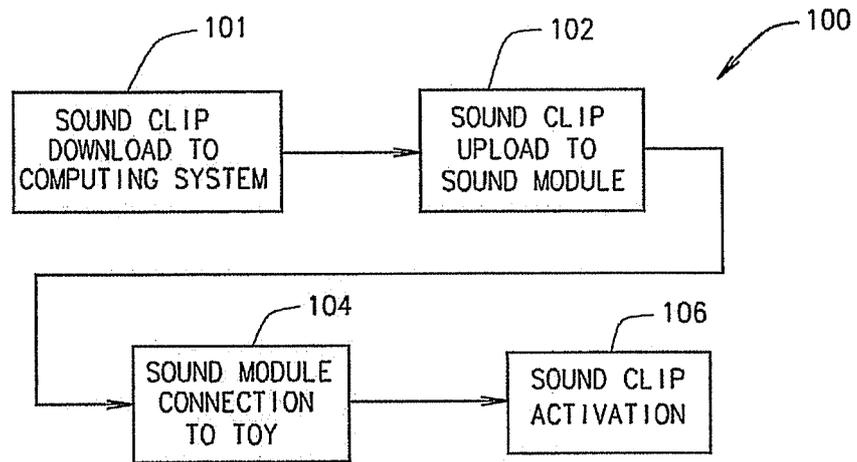


FIG. 1

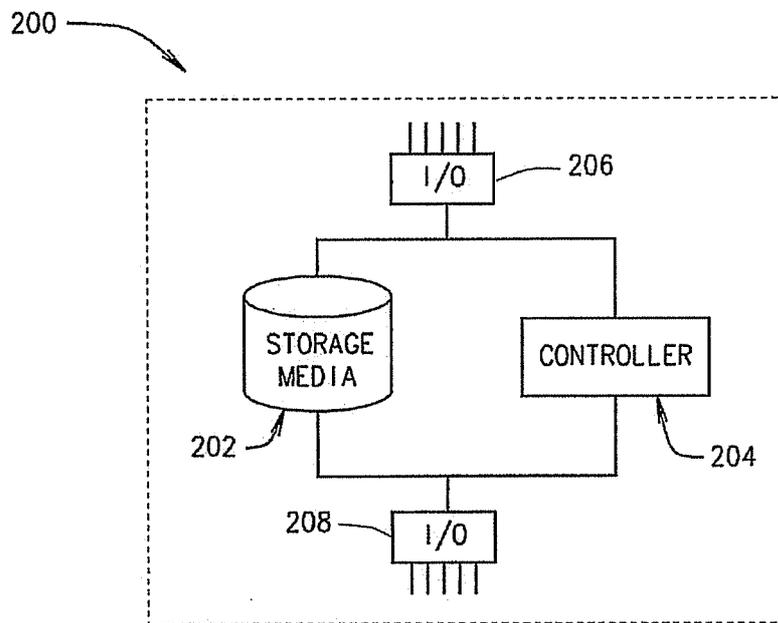


FIG. 2

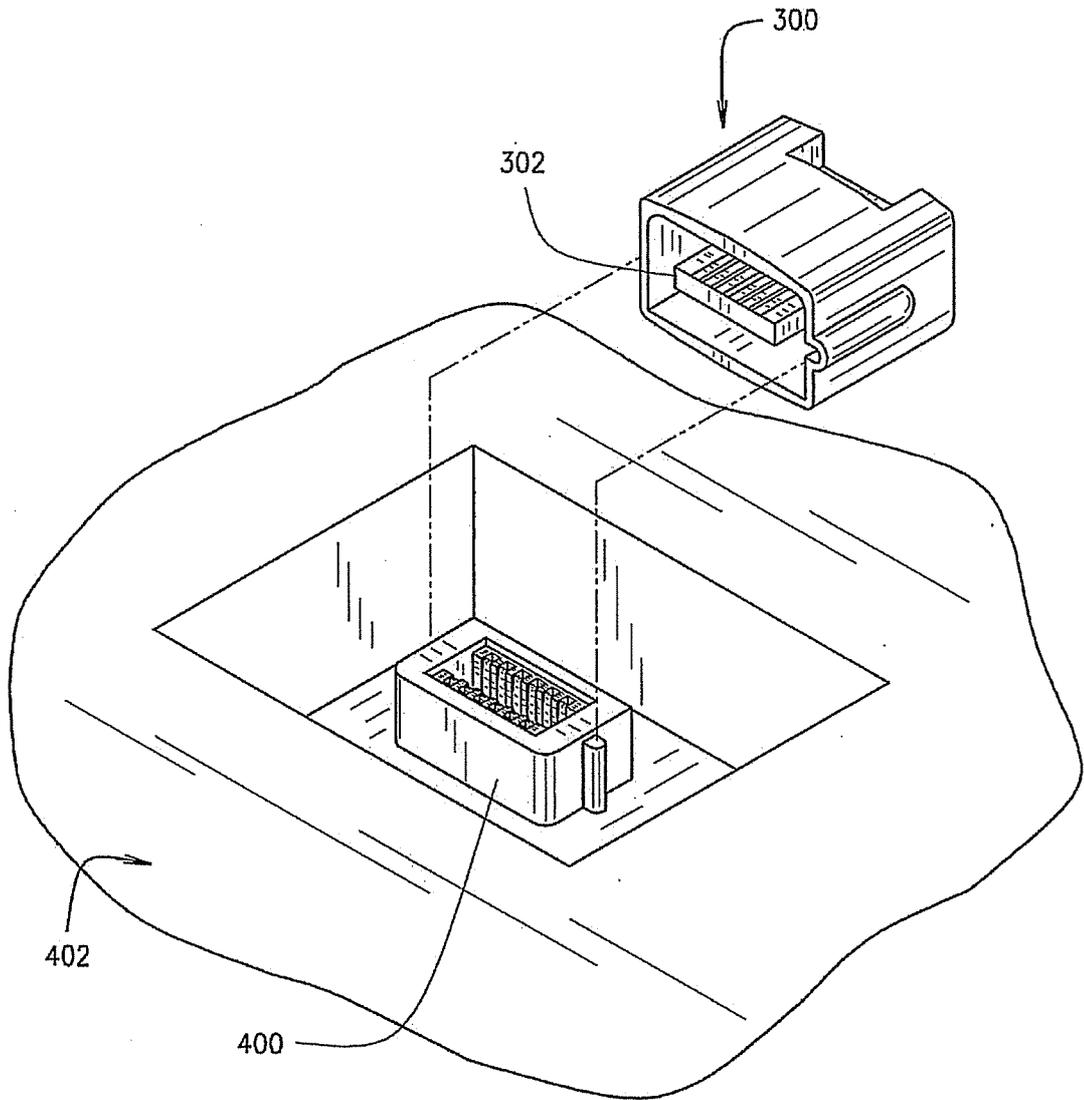


FIG. 3

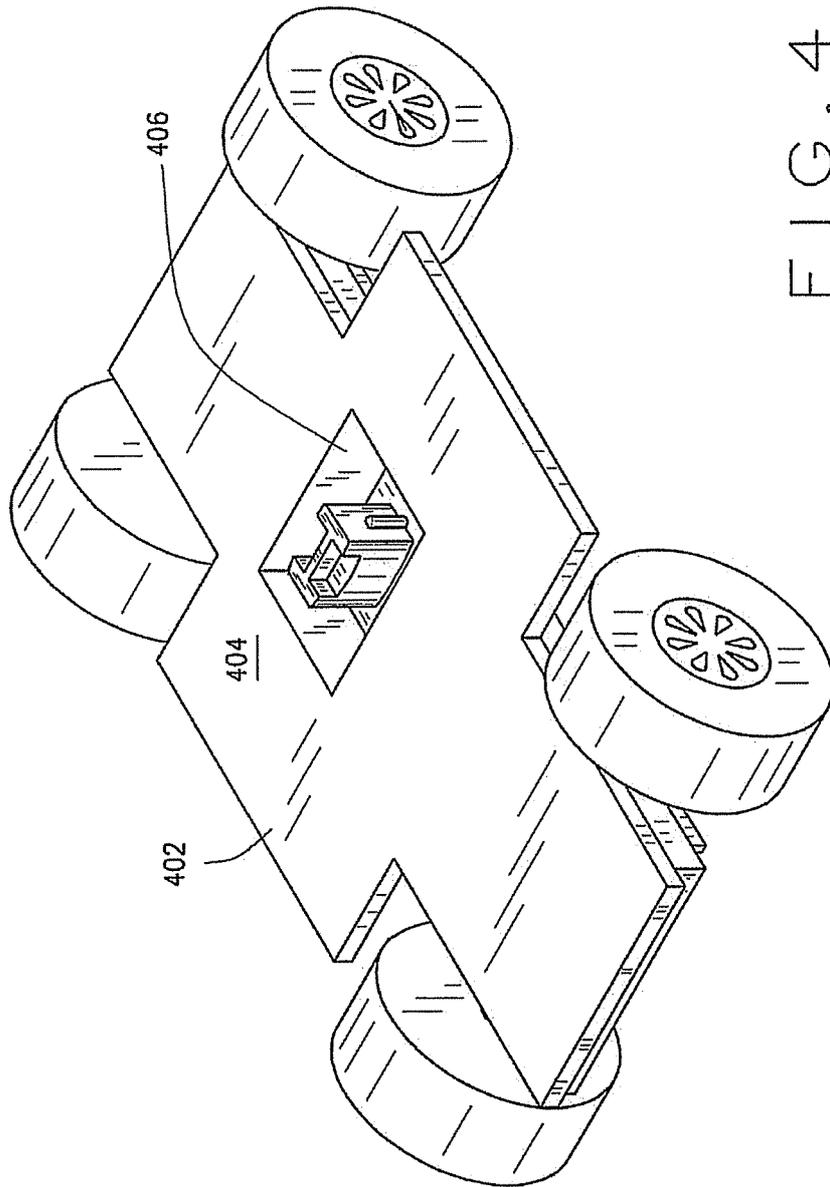


FIG. 4