

[0010] The present invention is designed to overcome these problems and provide a device for mixing of compressed digital audio data format sound recordings that eliminates the need for cumbersome transporting of equipment and that simultaneously allows the required manual dexterity.

#### SUMMARY OF THE PRESENT INVENTION

[0011] In summary, the present invention is a single device that includes a disc jockey mixing console with analog controls such as sliders, crossfader and scratchpad and is used to mix audio tracks from compressed digital audio data sound recordings. One device substitutes for disc jockey mixing console, turntables and a stack of records. The device includes two audio outputs—a headphone and a main speaker output—in the form of digital to analog convertors, analog controls in the form of knobs and sliders, a touch screen LCD panel (sometimes referred to herein as a “touch screen”) for selecting and queuing songs and a computer with a processor, ROM storage means, RAM storage means, software and a hard disc to store audio track files. The software converts each audio track from compressed digital audio data format to digital format, applies special effects to each audio track based on speed parameters supplied by the sliders and based on special effects parameters supplied the touch screen LCD panel and tone parameters supplied by the equalizing knobs and mixing the audio tracks that are in digital format using volume parameters provided by the analog controls to generate a final mix. The device also may contain an optional interface between the device and personal computer to upload songs from the personal computer and to download songs on to the personal computer for marketing the final mix performance over the Internet, and it may contain optional means, an audio input, to convert analog vinyl LP discs to compressed digital audio data format and other optional means, a CD ROM drive, to convert digitally recorded songs on CDs into compressed digital audio data format while they are being played.

#### OBJECTS AND ADVANTAGES

[0012] The following are important objects and advantages of the present invention:

- [0013] (1) to provide a device for mixing sound recordings in compressed digital audio data format;
- [0014] (2) to provide a device for mixing compressed digital audio data that allows the level of manual dexterity that is commonly available to disc jockeys doing mixing using analog controls and which is of a level of manual dexterity that far exceeds the level afforded by a computer mouse or other computer pointing device;
- [0015] (3) to provide a single compact device for mixing compressed digital audio data that carries out the function of a disc jockey mixing console, a stack of records and a plurality of turntables;
- [0016] (4) to provide a device for mixing compressed digital audio data comprising a headphone and a main speaker output in the form of digital to analog convertors, analog controls in the form of knobs and sliders, a touch screen LCD panel for selecting and queuing songs and a computer with a processor,

ROM storage means, RAM storage means, software and a hard disc to store audio files;

[0017] (5) to provide a device for mixing compressed digital audio data with the optional capability of also mixing audio of traditional formats such as digital data records on CD's and vinyl records by converting the vinyl records or CD records to compressed digital audio data format while or before they are being played and mixed; and

[0018] (6) to provide a device for mixing compressed digital audio data that has an interface between the device and a personal computer in order to upload songs from the personal computer to the device and in order to download sound recordings containing the mixing performed with the device to the personal computer for further sale and advertisement on the Internet or other global communications network.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0019] FIG. 1 is a block diagram of the elements of the device of the present invention.

[0020] FIGS. 2A, 2B are front views of the disc jockey mixing console of the device of the present invention showing the analog controls in various positions.

[0021] FIG. 3 is a block diagram of the steps performed by the device of the present invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0022] In this patent application, the term song is used interchangeably with the term sound recording since a song is a type of sound recording.

[0023] In general, as seen in FIG. 1, the device 10 of the present invention is a single unit that encompasses the functions of a disc jockey mixing console, turntables and a stack of records.

[0024] Device 10 is used for mixing audio tracks of sound recordings that are in compressed digital audio data format. This eliminates the need for a disc jockey mixing console, a plurality of turntables or a plurality of vinyl LP records. Device 10 comprises a disc jockey mixing console 20 with three or more audio tracks 22, 24, 26. Mixing console 20 has analog controls 30 including, for each audio track 22, 24, 26, a slider 31a, 31b, 31c, (assuming there are three audio tracks) for adjusting speed and a main output volume knob 32 for adjusting volume heard on the main speaker output 40, equalizing knobs 33h, 33m, 33l and including a crossfader slider forming part of crossfader 60 for single-handed fading from one audio track to another on a main speaker output 40 and a scratchpad 66 for special effects. Typically, for each audio track there are also three equalizing knobs 33—one for high or treble, one for mid-level and one for low or bass.

[0025] In the main embodiment but not the alternative embodiment, each equalizing knob 33, each main output volume knobs 42, each slider 31 and the crossfader slider 65, which are all analog controls 30, is connected to an analog to digital convertor 99 to translate the analog position of these analog controls into a numerical value for the computer 11.