erence to FIG. **6**, there is illustrated a vibration control pulse **21** and a vibration control pulse **21'** having an opposite rotation direction.

[0034] Once the parameters for the API are provided, the shape of the vibration control pulse **21** can be computed. First, there is calculated an ISA control value (ISA_cont_value). Specifically, ISA_cont_value is equal to (Vvibra/(3.6* (zvibra/(zvibra+zdriver)))*32767* (Intensity/200)+a where Vvibra is the nominal voltage of a vibration motor, zvibra is the impedance of the vibration motor, zdriver is the output impedance of the driving amplifier stage, and where Intensity is equal to the intensity parameter. If the Intensity>=1, a=0.75. If the Intensity<=1, a=−0.75. And, if the Intensity=0, the vibration control pulse is a uniform zero volts. Furthermore the value "3.6" represents an exemplary and non-limiting embodiment of a default battery voltage of 3.6V. The resulting ISA_cont_value ranges, depending on the specified intensity parameter and vibration nominal voltage, from 0.75 . . . 1.25 times the vibration nominal voltage. In the instance of an opposite rotation of the vibration control pulse **21**, the resulting ISA_cont_value ranges from −0.75 . . . −1.25 times the vibration nominal voltage.

[0035] As illustrated, nominal voltage period **27** corresponds to a period wherein the voltage of the vibration control signal is equal to the vibration nominal control voltage. Similarly, nominal voltage period **27'** corresponds to a period wherein the voltage of the vibration control signal is equal to the vibration nominal control voltage times 0.75. As is further illustrated, nominal voltage period **27"** corresponds to a period wherein the voltage of the vibration control signal is equal to the vibration nominal control voltage times 1.25.

[0036] Start pulse **23** is a pulse that extends, at a substantially uniform positive voltage for a defined period of time. In an exemplary embodiment, the uniform positive voltage is equal to the direct Vbatt minus losses of the driver. The period of time over which the start pulse **23** extends is variable and ranges from 0.5 . . . 1.5*times the vibrational nominal start pulse parameter. This start pulse **23** time period (ISA_Start) is equal to Start*((Intensity/100)+0.5) where Start is the vibrational nominal start pulse parameter. In an exemplary and non-limiting embodiment, the value of the vibrational nominal start pulse parameter is approximately equal to 30 ms. As illustrated, when the intensity parameter is equal to fifty, the result is start pulse **23**. When the intensity parameter is equal to one, the result is start pulse **23'** wherein the duration of start pulse is approximately one half of the value of the vibrational nominal start pulse parameter. Similarly, when the intensity parameter is equal to one hundred, the result is start pulse **23"** wherein the duration of start pulse is approximately one and one half times the value of the vibrational nominal start pulse parameter. In the instance that the intensity parameter is equal to zero, the vibration control pulse remains at a uniform zero volts.

[0037] Stop pulse **25** is a pulse that extends, at a substantially uniform negative voltage for a defined period of time. In an exemplary and non-limiting embodiment the uniform negative voltage is of a substantially equal but opposite magnitude as that of the uniform voltage of start pulse **23**. The period of time over which the start pulse **23** extends is variable and ranges from 0.0 . . . 1.33*times a constant value. In the exemplary embodiment illustrated, this constant value is equal to 30 ms. As noted above, this constant value can be altered by supplying a different value in the form of an optional vibration nominal stop pulse parameter. The stop pulse **25** time period (ISA_Stop) is equal to 60*(Intensity/(intensity+50)). As illustrated, when the intensity parameter is equal to fifty, the result is stop pulse **25** with a time period of 30 ms. When the intensity parameter is equal to one hundred, the result is stop pulse **25'** wherein the duration of stop pulse is approximately one and one third times the value of the 30 ms constant. In the instance that the intensity parameter is equal to zero, the vibration control pulse remains at a uniform zero volts.

[0038] With reference to FIG. **3**, there is illustrated in detail the derivation of the attributes of vibration control pulse **21**. As illustrated, the intensity parameter and vibration nominal start pulse parameters form inputs as do the vibration parameters Vvibra, zvibra, and zdriver. As described above, these input parameters are output from the mobile operating system **13**. From these parameters, there are derived the values for ISA_cont_value, ISA_Start, and ISA_Stop as described above.

[0039] The outputted ISA_cont_value serves as input to the Audio DSP **17** as does the Vbatt parameter derived from analog measurement of the battery voltage. Using these inputs, a CDSP-Cont_value is calculated (where "CDSP" is a cellular DSP) as equal to ((ISA_cont-value/Vbatt)*3.6). In an exemplary embodiment, Audio DSP **17** provides linear compensation of the battery voltage with a 1 mV resolution.

[0040] Lastly, the computed values ISA_cont_value, ISA_Start, ISA_Stop, and CDSP_cont_value serve as inputs to the hardware **19**. Specifically, the Acodec PWM generator **33** outputs a pulse width modulated signal in the form of the vibration control pulse **21** to a vibration element **37** via an H-bridge **35**.

[0041] With reference to FIG. **4**, there is illustrated a schematic diagram of a mobile device **41** for implementing exemplary embodiments of the invention. In an exemplary and non-limiting embodiment of the invention, mobile device is **41** is a mobile phone. A digital processor **43** is coupled to a memory **45**. Memory **45** can be any memory medium, such as internal or external RAM or flash memory, capable of storing and retrieving digital data. At least an executable program **47** including an API **49** is stored on memory **45**. When retrieved and executed by digital processor **43**, the executable program **47** serves to implement API **49** via operation in a mobile operating system **13** at least partially resident on digital processor **43**. As described above, the digital processor **43** outputs a signal to hardware **19** via an audio DSP **17**. As illustrated, hardware **19** includes a vibration element **48**, such as a haptic or tactile feedback element, that vibrates in accordance with the vibration control signal **21** output from DSP **17**. In an exemplary and non-limiting embodiment, the vibration element **48** forms part of a touch screen display.

[0042] With reference to FIG. **5**, there is illustrated a method according to an exemplary embodiment of the invention. At step **1**, the parameters defining the vibration control pulse **21** are provided via the API **49**. As described above, the parameters allow for the varying of the intensity and duration of the start and stop pulses forming the vibration control pulse **21**. At step **2**, the API **49** is executed, for example by executing an executable program containing the API **49**, to produce a vibration effect in a vibration element **48**. As discussed above, this process can be repeated as desired and may be formed with varying polarity and intensity parameters to produce desired vibrational effects.

[0043] As is evident from the description above, exemplary embodiments of the invention provide a vibration interface, in