

generate the first actuator signal, wherein the first actuator signal comprises a modulated amplitude based at least in part on the vibrotactile haptic effect envelope;

generate the second actuator signal, wherein the second actuator signal comprises an amplitude based at least in part on the vibrotactile haptic effect envelope

14. The system of claim 11, wherein the signal generator is further configured to:

receive a vibrotactile haptic effect envelope;

generate the first actuator signal, wherein the first actuator signal comprises an amplitude based at least in part on the vibrotactile haptic effect envelope;

generate the second actuator signal, wherein the second actuator signal comprises a duration based at least in part on the vibrotactile haptic effect envelope.

15. The system of claim 14, wherein the vibrotactile haptic effect envelope comprises a substantially periodic signal having an envelope frequency lower than the frequency associated with the first and second actuator signals

16. The system of claim 11, wherein the actuator comprises a linear resonant actuator.

17. The system of claim 11, further comprising a housing configured to house the actuator and the signal generator.

18. The system of claim 17, wherein the housing comprises a cell phone housing.

19. The system of claim 17, wherein the housing comprises a personal digital assistant housing.

20. The system of claim 11, wherein, the signal generator comprises a processor.

21. The system of claim 11, wherein the signal generator comprises:

a rectangular wave generator configured to generate a first rectangular wave having a frequency approximately equal to the resonant frequency of the actuator;

a signal inverter configured to:

generate a second rectangular wave having approximately the same frequency as the first rectangular wave and a phase approximately 180 degrees out of phase with the first rectangular wave, and

be either enabled or disabled;

an amplifier configured to generate an amplified signal configured to drive the actuator.

22. The system of claim 21, wherein the signal generator further comprises:

a filter in communication with the signal generator, the filter configured to convert a rectangular wave to a substantially-sinusoidal wave of approximately the same frequency and phase as the first rectangular wave; and

the amplifier is further configured to generate an amplified signal configured to drive the actuator based at least in part on the output of the filter.

23. The system of claim 21, wherein the first signal generator comprises a pulse-width modulator.

24. The system of claim 21, wherein the first signal generator comprises a ripple counter.

25. The system of claim 11, further comprising a modulator configured to:

receive the first and second actuator signals, and

modulate the first and second actuator signals based at least in part on a modulating signal, the modulating signal generated by the signal generator.

26. A computer-readable medium on which is encoded program code for braking an actuator, the program code comprising:

program code for generating a first actuator signal having a frequency approximately resonant to the actuator, the first actuator signal configured to drive the actuator;

program code for transmitting the first actuator signal to the actuator;

program code for generating a second actuator signal having approximately the frequency of the first actuator signal and a phase approximately 180 degrees out of phase to the first actuator signal, the second actuator signal configured to cause a braking force on the actuator; and

program code for transmitting the second actuator signal to the actuator.

27. The computer-readable medium of claim 26, wherein the first actuator signal is configured to cause the actuator to generate a vibrotactile haptic effect.

28. The computer-readable medium of claim 26, further comprising:

program code for generating a vibrotactile haptic effect envelope before generating the first actuator signal, wherein the first actuator signal comprises an amplitude based at least in part on a vibrotactile haptic effect envelope, and the second actuator signal comprises an amplitude based at least in part on the vibrotactile haptic effect envelope.

29. The computer-readable medium of claim 26, wherein program code for generating the first actuator signal comprises:

program code for generating a first rectangular wave having a frequency approximately resonant to the actuator,

program code for generating a second rectangular wave having approximately the same frequency by logically exclusive-ORing the first rectangular wave with a digital signal in a first logic state; and

program code for generating the second actuator signal comprises:

program code for changing the digital signal to a second logic state,

program code for generating a third rectangular wave having approximately the frequency of the first actuator signal and a phase approximately 180 degrees out of phase to the first actuator signal by logically exclusive-ORing the first rectangular wave with the digital signal in a second logic state