CLAIMS

1. A method performed by a conducted electrical weapon to generate a stimulus signal, the method comprising:

measuring a current delivered by the stimulus signal to provide a measured current; and

setting a duration of the stimulus signal in accordance with the measured current.

2. The method of claim 1, wherein measuring the current comprises measuring a current of a pulse of the stimulus signal.

3. The method of claim 1, wherein measuring the current comprises measuring a peak current of the stimulus signal.

4. The method of claim 1, wherein measuring the current comprises measuring the stimulus signal while the stimulus signal is delivered.

5. The method of claim 1, wherein measuring the current comprises measuring the stimulus signal within a period after delivery of the stimulus signal is initiated.

6. The method of claim 5, wherein the period comprises less than twenty microseconds.

7. The method of claim 1, further comprising delivering the stimulus signal to a target at a constant current.

8. The method of claim 1, comprising measuring a second current delivered by a second stimulus signal to provide a second measured current; and

setting a second duration of the second stimulus signal in accordance with the second measured current, wherein the second duration of the second stimulus signal is different from the duration of the stimulus signal.

9. The method of claim 8, wherein the second duration of the second stimulus signal is greater than the duration of the stimulus signal; and

the second measured current is less than the measured current.

10. The method of claim 8, wherein a first charge delivered in accordance with the measured current and duration is different from a second charge delivered in accordance with the second measured current and the second duration.

11. The method of claim 10, wherein the second charge is greater than the first charge and the measured current is greater than the second measured current.

12. The method of claim 1, wherein selecting the duration comprises matching the measured current with a corresponding duration using a table that correlates measured currents to

corresponding pulse durations, wherein the duration comprises the corresponding duration and the table is stored in a processor of a conducted electrical weapon or accessed from a non-transitory, computer-readable memory of the conducted electrical weapon by the processor.

13. A conducted electrical weapon configured to conduct an electrical stimulus signal through a target, the conducted electrical weapon comprising:

a signal generator configured to generate the stimulus signal;

a plurality of electrodes electrically coupled to the signal generator to receive the stimulus signal;

a pulse sensor coupled to the signal generator; and

a processing circuit communicatively coupled to the plurality of electrodes, signal generator, and the pulse sensor, wherein the processing circuit is further configured to perform operations, comprising:

measuring, via the pulse sensor, a current of a pulse of the stimulus signal delivered to the target via the plurality of electrodes; and

setting, via the signal generator, a duration of the pulse of the stimulus signal in accordance with the measured current.

14. The conducted electrical weapon of claim 13, wherein the pulse sensor comprises a peak current sensor and the current of the stimulus signal comprises a peak current of the stimulus signal.

15. The conducted electrical weapon of claim 13, wherein:

the signal generator is configured to generate the stimulus signal at a constant current; and

the operations comprise initiating delivery of the pulse of the stimulus signal, wherein initiating the delivery of the pulse comprises providing the pulse of the stimulus signal to the target at the constant current.

16. The conducted electrical weapon of claim 13, wherein setting the duration comprises selecting the duration from a range of pulse durations for which the pulse of the stimulus signal may be applied by the conducted electrical weapon, and wherein the range of pulse durations comprises a range of increasing pulse durations associated with a range of increasing charges.

17. The conducted electrical weapon of claim 16, wherein the range of increasing pulse durations comprises:

a first pulse duration associated with a first charge and a first measured current in a range of measured currents; and

a second pulse duration associated with a second charge and a second measured current in the range of measured currents, wherein the second charge is greater than the first charge and the first measured current is greater than the second measured current.

18. The conducted electrical weapon of claim 16, wherein the range of pulse durations comprises a second range of increasing pulse durations associated with a range of constant charges.

19. The conducted electrical weapon of claim 13, wherein the current of the pulse of stimulus signal is determined in accordance with a load impedance of the target to which the pulse of the stimulus signal is delivered.

20. The conducted electrical weapon of claim 13, wherein measuring the current of the pulse comprises measuring the current of the pulse of the stimulus signal within a period of less than twenty microseconds after delivery of the pulse of the stimulus signal is initiated.