CLAIMS

1. A vehicle disabling apparatus for remotely disabling a vehicle having an engine comprising: a source of high frequency energy for generating a high frequency signal; a modulator for modulating the high frequency signal by applying an effects signals package, the effects signal package comprising a plurality of respective different effects signals and each effects signal comprising a pulse train, the effects signals package being non-vehicle specific; and an antenna for directing the effects signal package modulated signal at a remote vehicle to disrupt the vehicle engine by affecting the vehicle engine management system.

2. The apparatus as claimed in claim 1 wherein the effects signals package comprises a series of effects signals and respective pulse trains of the effects signals have at least one of: different pulse widths; different pulse repetition frequencies; and different pulse groupings.

3. The apparatus as claimed in claim 1 or 2 wherein the effects signal package modulated signal is transmitted in a single burst of high frequency energy.

4. The apparatus as claimed in claim 1, 2 or 3 wherein the antenna is arranged to launch the modulated signal with a vertically orientated electric field polarization.

5. The apparatus as claimed in claim 1, 2 or 3 wherein the antenna is arranged to launch the modulated signal with a horizontally orientated electric field polarization.

6. The apparatus as claimed in any preceding claim wherein the high frequency signal has a peak power of greater than 1MW.

7. The apparatus as claimed in claim 6 wherein the high frequency signal has a peak power within the range 1MW to 5MW.

8. The apparatus as claimed in any preceding claim wherein the frequency of the source is in one of the bands 1-2GHz and 2-4GHZ.

18. The apparatus as claimed in any preceding claim wherein the effects signals are in one of: a pre-determined given order in the effects signal package; a random order in the effects signal package; and in a pseudo-random order in the effects signal package.

19. The apparatus as claimed in any preceding claim wherein the effects signals package consists of one iteration of each effects signal.

20. The apparatus as claimed in any of claims 1 to 18 wherein one or more of the effects signals are repeated within the effects signal package.

21. The apparatus as claimed in claim 20 wherein the effects signals are repeated in one of: the same order; a different predetermined order; a random order; and a pseudo-random order.

22. The apparatus as claimed in any preceding claim wherein the effects signal package modulated signal is transmitted in a single burst of high frequency energy, repeated at will.

23. The apparatus as claimed in any preceding claim and adapted to be vehicle mounted or transported.

24. A method for remotely disabling a vehicle having an engine including:

generating a high frequency signal from a high frequency source;

applying an effects signals package to modulate the high frequency signal, the effects signal package comprising a plurality of respective different effects signals and each effects signal comprising a pulse train, the effects signals package being non-vehicle specific; and

directing the effects signal package modulated signal at a remote vehicle to be disabled to disrupt the vehicle engine by affecting the vehicle engine management system.

25. The method as claimed in claim 24 wherein the effects signals package comprises a series of effects signals and respective pulse trains of the effects signals have different pulse widths and/or pulse repetition and/or pulse groupings.

26. The method as claimed in claim 24 or 25 wherein the effects signal package modulated signal is transmitted in a single burst of high frequency energy.

27. The method apparatus as claimed in claim 24, 25 or 26 and including an antenna launching the modulated signal with a vertically orientated electric field polarization.

28. The method as claimed in any of claims 24 to 27 wherein the high frequency signal has a peak power of greater than 1MW.

29. The method as claimed in any of claims 24 to 28 wherein the high frequency signal has a peak power in the range of 1MW to 5MW

30. The method as claimed in any of claims 24 to 29 wherein frequency of the source is in one of the bands 1-2GHZ and 2-4GHz.

31. The method as claimed in any of claims 24 to 30 wherein the source is a magnetron.

32. The method as claimed in any of claims 24 to 28 and including a store for storing the effects signal package and including receiving updated effects signal package information, or an updated effects signal information , and storing the updated effects signal package or an updated effects signal in the store.

33. The method as claimed in any of claims 24 to 32 and including a set of effects signal packages and a selector for selecting an effects signal packages for use from a plurality of effects signal packages available from the set.

34. The method as claimed in any of claims 24 to 33 and wherein the frequency of the source is user-selectable within predefined frequency band.