

CLAIMS

1. An electrosurgical apparatus comprising:
an oscillator for generating electromagnetic energy;
5 a controller operable to select an energy delivery
profile for the oscillator;
a feed structure for conveying the electromagnetic energy
to an output;
a rechargeable power source arranged to supply power to
10 the oscillator; and
a receiver circuit comprising an inductive coupler
configured to wirelessly receive power from a transmitter and
supply received power to the rechargeable power source.
- 15 2. An electrosurgical apparatus according to claim 1,
wherein the feed structure comprises a transformer.
3. An electrosurgical apparatus according to claim 2,
wherein the inductive coupler comprises a secondary coil of
20 the transformer.
4. An electrosurgical apparatus according to claim 2 or
claim 3, wherein a for every one turn of a primary coil of
the transformer there are at least ten turns of a secondary
25 coil of the transformer.
5. An electrosurgical apparatus according to any one of
the preceding claims, wherein the apparatus comprises a
radiofrequency electromagnetic energy generator, and wherein
30 the feed structure comprises a radiofrequency channel to
convey the radiofrequency electromagnetic energy to the
output.
6. An electrosurgical apparatus according to any one of
35 the preceding claims, wherein the apparatus comprises a
microwave frequency electromagnetic energy generator, and
wherein the feed structure comprises a microwave channel to
convey the microwave frequency electromagnetic energy to the
40 output.

7. An electrosurgical apparatus according to any one of the preceding claims, wherein the rechargeable power source is a lithium-ion polymer battery.

5 8. An electrosurgical apparatus according to any one of the preceding claims, further comprising a switching circuit operable to switch the rechargeable power source between a first mode for receiving power from the receiver circuit and a second mode for providing power to the oscillator.

10 9. An electrosurgical apparatus according to claim 8, wherein the controller is configured to operate the switching circuit.

15 10. An electrosurgical apparatus according to any one of the preceding claims, wherein the receiver circuit is configured to allow wired charging of the rechargeable power source.

20 11. An electrosurgical apparatus according to claim 10, wherein the output forms a connector configured to receive energy for charging the rechargeable power source.

25 12. An electrosurgical apparatus according to any one of the preceding claims, further comprising an electrosurgical instrument connected to receive electromagnetic energy from the output.

30 13. An electrosurgical apparatus according to claim 12, wherein the electrosurgical instrument is detachably connected to the output.

35 14. An electrosurgical apparatus according to claim 12 or claim 13, wherein the electrosurgical instrument is a bipolar coaxial cutting tool.

40 15. An electrosurgical apparatus according to any one of the preceding claims, wherein the electrosurgical apparatus comprises a housing which is adapted to be handheld by a user.

 16. An electrosurgical system comprising:

an electrosurgical apparatus according to any one of claims 1 to 15; and

a transmitter for wirelessly providing power to the electrosurgical apparatus.

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17. An electrosurgical system according to claim 16, wherein the transmitter comprises a transmitter circuit having an inductive coupler arranged to transmit power to the receiver circuit via inductive coupling.

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18. An electrosurgical system according to claim 16 or 17, wherein the transmitter comprises a housing which is adapted to receive a portion of the electrosurgical apparatus.

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19. An electrosurgical system according to any one of claims 16 to 18, further comprising a wired charger configured to form a wired electrical connection with the electrosurgical apparatus for providing wired power transfer to the electrosurgical apparatus.

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