CLAIMS

1. A device comprising:

a housing having a proximal portion and a distal portion;

a magnetic field generator contained within the distal portion of the housing to produce a magnetic field, the magnetic field generator includes a coil electrically energized by the magnetic field generator to produce a magnetic field;

a tissue penetrating subassembly including a hub and a tissue penetrating medical device having a proximal end and a distal end;

a controller being disposed in the housing and in communication with the magnetic field generator, the controller having a printed circuit assembly that supplies and regulates power to the coil to generate a constant or variable magnetic field around the proximal end of the tissue penetrating medical device; and

the hub detachably connected to the distal portion of the housing and the proximal end of tissue penetrating medical device extending proximally from the hub such that the proximal end of the tissue penetrating medical device is exposed to the magnetic field and the distal end of the tissue penetrating medical device is magnetized upon exposure of the proximal end of the tissue penetrating medical device by the magnetic field.

2. The device of claim 1, further comprising:

a power supply in electrical communication with the magnetic field generator; and

a switch in communication with the power supply to activate and deactivate the magnetic field generator.

3. The device of claim 2, the controller being in communication with the power supply and the magnetic field generator to control magnitude of the magnetic field generated by the magnetic field generator.

4. The device of claim 2, wherein the power supply comprises a direct current power supply.

5. The device of claim 4, wherein the direct current power supply comprises a battery.

6. The device of claim 2, wherein the power supply comprises an alternating current power supply.

7. The device of claim 1, wherein the magnetic field generator is capable of generating a constant magnetic field.

8. The device of claim 1, wherein the magnetic field generator is capable of generating a variable magnetic field.

9. The device of claim 1, wherein the magnetic field generator comprises a permanent magnet.

10. The device of claim 1, wherein the hub is detachably connected to the distal portion of the housing by a latch assembly.

11. The device of claim 1, wherein the tissue penetrating medical device is a needle or stylet.

12. The device of claim 1, wherein the tissue penetrating medical device is a needle and the device further comprises a flash chamber located within the hub of the tissue penetrating medical device.

13. The device of claim 12, wherein the flash chamber includes a vent plug which seals upon flow of blood into the flash chamber.

14. The device of claim 1, wherein tissue penetrating medical device includes a needle having a notch on a distal portion of the needle to provide immediate confirmation of vessel entry at a point of insertion.

15. The device of claim 1, wherein the tissue penetrating medical device is a needle, which when magnetized, can be visualized using an ultrasound imaging device to locate and project a position of the needle during an invasive medical procedure.

16. A device comprising:

a housing having a proximal portion and a distal portion;

a magnetic field generator contained within the distal portion of the housing;

a tissue penetrating subassembly including a catheter having a proximal end and a distal end; an introducer needle extending through the catheter; a catheter adapter having a distal end and a proximal end, an internal cavity, and a tip region having a distal opening having a circumference through which the catheter extends, the catheter adapter being connected to the proximal end of the catheter;

a controller being disposed in the housing and in communication with the magnetic field generator, the controller having a printed circuit assembly that supplies and regulates power to the magnetic field generator to generate a constant or variable magnetic field around the tissue penetrating medical device; and

a hub connected to the proximal end of the introducer needle, the hub detachably connected to the distal portion of the housing; the proximal end of the introducer needle extending proximally from the hub such that the proximal end of the introducer needle is exposed to the magnetic field generator and the distal end of the introducer needle is magnetized upon exposure of the proximal end of the introducer needle to the magnetic field generator.

17. The device of claim 16, further comprising:

a power supply in electrical communication with the magnetic field generator; and

a switch in communication with the power supply to activate and deactivate the magnetic field generator.

18. The device of claim 17, the housing further including a controller in communication with the power supply and the magnetic field generator to control magnitude of the magnetic field generated by the magnetic field generator.

19. The device of claim 18, wherein the magnetic field generator is capable of generating a constant magnetic field.

20. The device of claim 18, wherein the magnetic field generator is capable of generating a variable magnetic field.

21. The device of claim 17, wherein the power supply comprises a direct current power supply.

22. The device of claim 21, wherein the direct current power supply comprises a battery.

23. The device of claim 17, wherein the power supply comprises an alternating current power supply.

24. The device of claim 16, wherein the hub is detachably connected to the distal portion of the housing by a latch.

25. The device of claim 16, further comprising a flash chamber located within the hub of the tissue penetrating subassembly.

26. The device of claim 25, wherein the flash chamber includes a vent plug which seals upon flow of blood into the flash chamber.

27. The device of claim 16, wherein the tissue penetrating subassembly comprises a needle including a notch to provide immediate confirmation of vessel entry at a point of insertion.