What is claimed is:

1. An electromagnetic generating transformer, comprising:

one or more flux assembly having one or more magnetic field source having a positive pole and a negative pole and a magnetic field passing in a path between the positive pole and the negative pole;

a conductor magnetically coupled with the one or more magnetic field source, the magnetic field source and the conductor being fixed relative to one another;

a shunt; and

a motive source operably coupled with the shunt and configured to move the shunt into a primary position and a secondary position, wherein a strength of the magnetic field passing between the positive pole and the negative pole varies when the shunt is moved between the primary position and the secondary position.

2. The electromagnetic generating transformer of claim 1, wherein the shunt is magnetically permeable.

3. The electromagnetic generating transformer of claims 1 or 2, wherein the shunt comprises one or more magnetic field permeable segment alternating with one or more magnetic field impermeable segment.

4. The electromagnetic generating transformer of claims 1 or 2, wherein the shunt is guided in a predetermined path between the primary position and the secondary position.

5. An electromagnetic generating transformer, comprising:

one or more flux assembly having one or more magnetic field source having a positive pole and a negative pole and a magnetic field passing in a path between the positive pole and the negative pole;

a conductor magnetically coupled with the one or more magnetic field source, the magnetic field source and the conductor being fixed relative to one another;

a shunt at least partially positioned in the path between the positive pole and the negative pole, and having a first magnetic permeability and a second magnetic permeability; and

a controller operably coupled with the shunt and influencing the shunt's magnetic permeability to switch the magnetic permeability of the shunt from the first magnetic permeability to the second magnetic permeability.

6. The electromagnetic generating transformer of claim 5, wherein the shunt is substantially stationary relative to the one or more magnetic field source.

7. The electromagnetic generating transformer of claim 5, wherein the shunt is movable relative to the one or more magnetic field source.

8. An electromagnetic generating transformer, comprising:

one or more flux assembly having one or more magnetic field source having a positive pole and a negative pole and a magnetic field passing in a path between the positive pole and the negative pole;

a conductor magnetically coupled with the one or more magnetic field source, the magnetic field source and the conductor being fixed relative to one another;

a magnetic control device operably coupled with the magnetic field source; and

a controller operably coupled with the magnetic control device and configured to cause the magnetic control device to change at least one of a strength and a polarity of the magnetic field of the one or more magnetic field source.

9. The electromagnetic generating transformer of claim 8, wherein the conductor is at least partially positioned in the path between the positive pole and the negative pole.

10. The electromagnetic generating transformer of claims 8 or 9, further comprising a second conductor magnetically coupled with the one or more magnetic field source.

11. The electromagnetic generating transformer of claims 8 or 9, wherein the one or more magnetic field source includes a magnetostrictive material, and wherein the magnetic control device is configured to apply mechanical force to the one or more magnetic field source.

12. The electromagnetic generating transformer of claims 8 or 9, wherein the one or more magnetic field source includes a superconductor material, and wherein the magnetic control device is configured to apply thermal energy to the one or more magnetic field source.

13. The electromagnetic generating transformer of claim 12, wherein the thermal energy includes an optical signal.

What is claimed is:

1. An electromagnetic generating transformer, comprising:

at least two flux assemblies with a first flux assembly of the at least two flux assemblies having one or more first magnetic field source and a first coil magnetically coupled with the first magnetic field source, the first magnetic field source being fixed relative to the first coil, and with a second flux assembly of the at least two flux assemblies having one or more second magnetic field source and a second coil magnetically coupled with the second magnetic field source, the second magnetic field source being fixed relative to the second coil, the first flux assembly and the second flux assembly being magnetically isolated from one another, and the first magnetic field source and the second magnetic field source having a positive pole and a negative pole and a magnetic field passing in a path between the positive pole and the negative pole;

a shunt; and

a motive source operably coupled with the shunt and configured to move the shunt through a path into primary positions a first distance away from the respective first and second flux assembly and secondary positions a second distance away from the respective first and second flux assembly, wherein a strength of the magnetic field passing between the positive pole and the negative pole varies when the shunt is moved between the primary position and the secondary position.

2. The electromagnetic generating transformer of claim 1, wherein the shunt is magnetically permeable.

3. The electromagnetic generating transformer of claim 1, wherein the shunt comprises one or more magnetic field permeable segment alternating with one or more magnetic field impermeable segment.

4. The electromagnetic generating transformer of claim 1, wherein the shunt is guided in a predetermined path between the primary position and the secondary position.

5. An electromagnetic generating transformer, comprising:

one or more flux assembly having one or more magnetic field source having a positive pole and a negative pole and a magnetic field passing in a path between the positive pole and the negative pole;

a conductor magnetically coupled with the one or more magnetic field source, the magnetic field source and the conductor being fixed relative to one another;

a shunt at least partially positioned in the path between the positive pole and the negative pole, and having a first magnetic permeability and a second magnetic permeability; and

a controller operably coupled with the shunt and influencing the shunt's magnetic permeability to switch the magnetic permeability of the shunt from the first magnetic permeability to the second magnetic permeability.

6. The electromagnetic generating transformer of claim 5, wherein the shunt is substantially stationary relative to the one or more magnetic field source.

7. The electromagnetic generating transformer of claim 5, wherein the shunt is on a drum assembly rotatable with respect to the one or more magnetic field source.

8. An electromagnetic generating transformer, comprising:

one or more flux assembly having one or more magnetic field source having a positive pole and a negative pole and a magnetic field passing in a path between the positive pole and the negative pole;

a conductor magnetically coupled with the one or more magnetic field source, the magnetic field source and the conductor being fixed relative to one another;

a magnetic control device operably coupled with the magnetic field source; and

a controller operably coupled with the magnetic control device and configured to cause the magnetic control device to change at least one of a strength and a polarity of the magnetic field of the one or more magnetic field source.

9. The electromagnetic generating transformer of claim 8, wherein the conductor is at least partially positioned in the path between the positive pole and the negative pole.

10. The electromagnetic generating transformer of claim 8, further comprising a second conductor magnetically coupled with the one or more magnetic field source.

11. The electromagnetic generating transformer of claim 8, wherein the one or more magnetic field source includes a magnetostrictive material, and wherein the magnetic control device is configured to apply mechanical force to the one or more magnetic field source.

12. The electromagnetic generating transformer of claim 8, wherein the one or more magnetic field source includes a superconductor material, and wherein the magnetic control device is configured to apply thermal energy to the one or more magnetic field source.

13. The electromagnetic transformer of claim 12, wherein the thermal energy includes an optical signal.

14. The electromagnetic generating transformer of claim 1, wherein the first flux assembly and the second flux assembly are mounted on a base plate constructed of a material selected from the group consisting of non-conductive materials, non-ferrous materials, and combinations thereof.

15. The electromagnetic generating transformer of claim 5, wherein the one or more flux assembly is mounted on a base plate constructed of a material selected from the group consisting of non-conductive materials, non-ferrous materials, and combinations thereof.

16. The electromagnetic generating transformer of claim 8, wherein the one or more flux assembly is mounted on a base plate constructed of a material selected from the group consisting of non-conductive materials, non-ferrous materials, and combinations thereof.

17. An electromagnetic generating transformer, comprising:

at least two flux assemblies with a first flux assembly of the at least two flux assemblies having one or more first magnetic field source and a first coil magnetically coupled with the first magnetic field source, the first magnetic field source being fixed relative to the first coil, and with a second flux assembly of the at least two flux assemblies having one or more second magnetic field source and a second coil magnetically coupled with the second magnetic field source, and the first magnetic field source and the second magnetic field source having a positive pole and a negative pole and a magnetic field passing in a path between the positive pole and the negative pole;

a drum assembly comprising a first shunt and a second shunt aligned with the positive pole and the negative pole of the at least two flux assemblies;

a magnetic field impermeable zone interleaved with the first shunt and the second shunt wherein rotation of the drum assembly alternately positions the first shunt, the magnetic field impermeable zone and the second shunt into primary positions a first distance away from the respective first and second flux assembly and secondary positions a second distance away from the respective first and second flux assembly, wherein a strength of the magnetic field passing between the positive pole and the negative pole varies when the shunt is moved between the primary position and the secondary position; and

wherein the first and second shunts and the first and second flux assembly are arranged such that only one of the first and second shunts is in the primary position at an instant in time.