WHAT IS CLAIMED IS:

1. A method of establishing an interconnect between a substrate and an electronic component populated thereon using a magnetically-alignable anisotropic conductive adhesive (ACA), the method comprising the steps of:

a) establishing the dimensions and location on the substrate of a first component to be placed on and connected to the substrate;

b) determining the placement location of a first magnet corresponding to the dimension and location established for the first component in step a);

c) determining the dimensions and strength of the first magnet required in step b);

d) mapping the flux lines of the magnetic field for the first magnet;

e) repeating steps a) –d) for each additional component to be placed on and connected to the substrate to determine the properties and placement location for each additional magnet needed;

f) creating a magnetic tray and securing each magnet in its respective placement location on the magnetic tray;

g) creating an alignment tray and adapting the alignment tray to retain the substrate during alignment and curing;

h) placing the substrate on the alignment tray;

i) applying the ACA on the substrate in one or more locations where components are to be placed;

j) populating the substrate with the first and each additional component;

k) assembling the alignment tray and the magnetic tray;

l) allowing columns to form in the Z-axis in the ACA; and

m) curing the ACA, thereby establishing the interconnects between the substrate and the first and each additional component;

wherein the alignment tray and the magnetic tray are made of nonmagnetic material and the magnet tray is adapted to receive the first and each additional magnet in their respective placement locations on the magnetic tray; and wherein an assembly

comprising the magnet tray with magnets, the alignment tray with substrate populated with components and ACA can be placed in a curing oven.

2. The method of claim 1 wherein the magnets comprise permanent magnets.

3. The method of claim 2 wherein the magnets comprise rare earth magnets.

4. The method of claim 3 wherein the size and strength of each magnet is independently and empirically determined to optimize the height of the columns, to optimize the interconnection strength, to decrease the number of shorts, to increase the expected lifetime of the completed device or board, to increase the yield of usable product, or to decrease failures or rejects as a result of creating the interconnections.

5. The method of claim 4 wherein for each magnet in the magnet tray, the magnetic flux lines are substantially parallel to each other and substantially perpendicular to the X-Y plane in an area corresponding to the area of the substrate upon which the component and ACA are located.

6. The method of claim 1 wherein the ACA forms substantially uniform columns in terms of height and diameter.

7. The method of claim 1 wherein the ACA forms substantially uniform columns, which are substantially perpendicular to the X-Y plane of the component and the substrate.

8. The method of claim 1 wherein the substrate can only be placed in the alignment tray in one orientation.

9. The method of claim 1 wherein the alignment tray comprise alignment means to ensure the magnetic tray and the alignment tray can only be assembled in the proper orientation with respect to each other.

10. The method of claim 1 wherein the alignment tray and the magnet tray comprise materials that can withstand curing conditions for curing the ACA.

11. A system for creating interconnects between a substrate and electronic components attached thereto using a magnetically-alignable anisotropic conductive adhesive (ACA), the system comprising:

a magnet tray comprising a nonmagnetic tray adapted to receive and retain each of one or more magnets placed therein in a location that corresponds to the location of one or more electronic components on the substrate to which the components are to be connected;

an alignment tray adapted to retain the substrate populated with one or more components to be connected thereto with the ACA during alignment and curing of the ACA;

and the ACA comprising magnetically-alignable particles capable of forming interconnections conductive in the Z-axis;

wherein the alignment tray and the magnetic tray are made of nonmagnetic material;

wherein the magnet tray and the alignment tray are arranged together vertically in removable fashion such that the components on the substrate are vertically aligned with the magnets in the magnet tray and the ACA is exposed to the magnetic field such that the flux lines are substantially perpendicular to an X-Y plane defining the substrate; and

wherein the substrate can only be placed in the alignment tray in one orientation.

12. The system of claim 11 wherein the magnets are permanent magnets.

13. The system of claim 11 wherein the magnets are rare earth magnets.

14. The system of claim 13 wherein for each magnet in the magnet tray, the magnetic flux lines are substantially parallel to each other and substantially perpendicular to the X-Y plane in an area corresponding to the area of the substrate upon which the component and ACA are located.

15. The system of claim 11 wherein the ACA forms substantially uniform columns, which are substantially perpendicular to the X-Y plane of the component and the substrate in the presence of the magnets.

16. The system of claim 11 where an assembly comprising the magnet tray, the alignment tray, and the substrate populated with components can be placed or conveyed directly into a curing oven.

17. The system of claim 16 wherein the assembly or the magnet tray serves as a rack that can slide into or be conveyed into the oven directly and does not requires any supporting shelf, additional rack, or other support.

18. A kit for creating interconnects between a substrate and electronic components attached thereto using a magnetically-alignable anisotropic conductive adhesive, the kit comprising:

at least one magnetic tray comprising a nonmagnetic tray adapted to retain one or more magnets in locations corresponding to a desired placement of each of said electronic components on and connection of the component to the substrate using the ACA;

sufficient magnets to complete the magnet tray, each magnet of a desired size and strength for making an interconnection between each said component and the substrate using the ACA;

at least one alignment tray adapted to receive and retain the substrate and components populated thereon during the alignment and curing of the ACA to form the interconnect;

and optionally, the ACA suitable for use with the kit to create at least one interconnect between a component and the substrate using the kit;

wherein the magnet tray and the alignment tray are configured to be oriented vertically with respect to each other and assembled such that each said electronic component placed on the substrate on the alignment tray is brought into vertical alignment with

one of the one or more magnets on the magnet tray when the magnet tray and the alignment tray are so oriented and assembled.

19. The kit of claim 18 wherein the oriented and assembled magnet tray and alignment tray can be placed or conveyed directly into a curing oven.

20. The kit of claim 19 wherein the magnet tray or the assembled trays function as a rack in the oven.