Claims

1. A component handling assembly, comprising,

an index table which comprises one or more nests each of which is configured to cooperate with a component to hold the component as the index table is indexed, wherein the one or more nests each comprise a flat surface on which a component can be supported, wherein the flat surface defines a top of the nest such that no part of the nest extends above the plane of the flat surface, ~~are configured~~ such that a component which cooperates with a nest is supported above the nest so that the one or more nests can cooperate with components of various sizes;

a turret, having component handling heads each of which can hold a component by vacuum, and wherein the turret is configured such that it can rotate to transport components which are held by the component handling heads to the index table, and the component handling heads on the turret can deliver a component onto the flat surface of a nest; and

an alignment means operable to move a component into a predefined orientation before a component co-operates with a nest on the index table, wherein the alignment means is configured such that it can move a component into the predefined orientation while the component is held by a component handling head on the turret.

~~2. A component handling assembly according to claim 1 comprising a turret on which one or more components can be held, and which can rotate to transport the one or more components, and the alignment means is configured such that it can move a component into the predefined orientation while the component is held on the turret.~~

~~3. A component handling assembly according to claim 1 or 2, wherein each of the one or more nests comprise a flat surface which defines at a top of the nest, wherein the flat surface is configured such that it can cooperate with a component to support a component.~~

~~4.~~2. A component handling assembly according to ~~any one of the preceding~~ claim~~s~~ 1, wherein the one or more nest each comprises a means by which a vacuum force may be applied to components which co-operate with the one or more nests, to hold the components on the one or more nest.

~~5.~~3. A component handling assembly according to claim ~~4~~2 wherein the means by which a vacuum force may be applied to a component comprise a conduit which is configured to be in fluid communication with the flat nest and can be configured to be in fluid communication with a vacuum generating means.

~~6.~~4. A component handling assembly according to claim ~~5~~3 wherein the conduit is integral to each of the one or more nests.

~~7.~~5. A component handling assembly according to claim ~~5~~3 or ~~6~~4 further comprising a vacuum generating means which is arranged in fluid communication with the conduits defined in the one or more nests.

~~8.~~6. A component handling assembly according to any one of the preceding claims, further comprises a detection means operable to detect the orientation of a component which cooperates with a nest.

~~9.~~7. A component handling assembly according to claim ~~8~~6, wherein the assembly further comprises a position

correction means which is operable to move a component, which has become displaced from a predefined orientation, to return the component to the predefined orientation.

~~10.~~8. A method of handling a component using a component handling assembly according to any one of the preceding claims, comprising the steps of transporting a component using ~~a~~ the turret; moving the component into a predefined orientation, while the component is held on the turret; transferring the component onto said flat surface of a nest of ~~an~~the index table such that the component is supported above the nest and has a predefined orientation on the nest of the index table.

~~11. A method of according to claim 10 wherein the step of transferring the component onto an index table comprises the step of transferring the component onto a top surface of a nest on the index table.~~

~~12.~~9. A method of according to claim ~~10~~ 8 ~~or 11~~ further comprising the step of apply a vacuum force to the component to hold the component in the predefined orientation on a nest of the index table.

~~13.~~10. A method of according to ~~any one of~~ claim~~s~~ ~~10~~8~~-12~~ 12 or 9 further comprising the step of detecting the orientation of a component on a nest of the index table.