CLAIMS

1. A method of testing an integrated circuit of a device, comprising:

holding the device against a surface of a holder;

moving a contactor board assembly comprising a distribution board substrate and a contactor substrate mounted to the distribution board substrate relative to the holder to bring terminals of the contactor substrate into contact with contacts on the device, wherein electrical components are located between a stiffener substrate and the distribution board substrate;

transferring force from the contactor substrate to the stiffener substrate through a stand-off component, wherein the stand-off component is a layer with a plurality of holes formed therethrough and is located between the stiffener substrate and the distribution board substrate, and the electrical components are located in the holes; and

providing signals through the terminals and contacts to the integrated circuit.

2. The method of claim 1, further comprising:

actuating first and second components of an actuator to move a contactor support structure of the contactor board assembly relative to an apparatus frame and urge the terminals on the contactor substrate against contacts on the device.

3. The method of claim 1, wherein the electrical components are mounted on a side on the distribution board substrate opposing the terminals held by the contactor substrate.

4. The method of claim 1, wherein the distribution board substrate has a plurality of layers having a plurality of different stiffnesses, one of the layers in a half of the distribution

board substrate opposing the terminals held by the contactor substrate of the contactor board assembly being stiffer than a majority of the layers.

5. The method of claim 1, further comprising:

removably mounting a cartridge frame of a cartridge to an apparatus frame, the contactor board assembly forming part of the cartridge; and

connecting a surface of a connector interface to a surface of a contactor interface.

6. The method of claim 5, wherein a plurality of conductors is held by a connector body to form a connector, the connector interface being surfaces of the conductors.

7. An apparatus for testing an integrated circuit of a device, comprising:

an apparatus frame;

a holder for the device, secured to the apparatus frame;

a contactor support structure held by the apparatus frame, the contactor support structure includes a distribution board substrate and a contactor substrate mounted to the distribution board substrate;

a plurality of terminals held by the contactor substrate, the holder and contactor support structure being movable relative to one another so that each one of the terminals makes releasable contact with a respective contact of the device;

a plurality of electrical components mounted on the distribution board substrate;

a stiffener substrate, the electrical components being located between the stiffener substrate and the distribution board substrate;

a stand-off component between the stiffener substrate and the distribution board

substrate to transfer force from the contactor substrate to the stiffener substrate, wherein the stand-off component is a layer with a plurality of holes formed therethrough and the electrical components are located in the holes;

a power source;

a power electrical path connecting the power source to a power terminal of the terminals held by the contactor substrate;

a signal source; and

a plurality of signal electrical paths, each connecting the signal source to a respective signal terminal of the terminals held by the contactor substrate.

8. The apparatus of claim 7, further comprising:

an actuator connected between the apparatus frame and the contactor support structure, having first and second portions that are movable relative to one another to move the contactor support structure relative to the apparatus frame and toward the surface of the holder so that the terminals are urged against contacts of the device.

9. The apparatus of claim 7, wherein the electrical components are mounted on a side on the distribution board substrate opposing the terminals held by the contactor substrate.

10. The apparatus of claim 7, wherein the distribution board substrate has a plurality of layers having a plurality of different stiffnesses, one of the layers in a half of the distribution board substrate opposing the terminals held by the contactor substrate being stiffer than a majority of the layers.

11. The apparatus of claim 7, further comprising:

a cartridge, including a cartridge frame that is removably mountable to the apparatus frame, the contactor support structure forming part of the cartridge;

a contactor interface on the contactor support structure; and

a connector interface having a surface for connecting to a surface of the contactor interface.

12. The apparatus of claim 11, further comprising a connector including:

a connector body; and

a plurality of connector conductors held by the connector body, the connector interface being surfaces of the connector conductors.

13. A cartridge, comprising:

a cartridge frame;

formations on the cartridge frame for mounting the cartridge frame in a fixed position to an apparatus frame;

a contactor support structure, the contactor support structure includes a distribution board substrate and a contactor substrate mounted to the distribution board substrate;

a contactor interface on the contactor support structure;

a plurality of electrical components mounted on the contactor support structure;

a stiffener substrate, the electrical components being located between the stiffener substrate and the distribution board substrate;

a stand-off component between the stiffener substrate and the distribution board substrate to transfer force from the contactor substrate to the stiffener substrate, wherein the

stand-off component is a layer with a plurality of holes formed therethrough and the electrical components are located in the holes;

a plurality of terminals, held by the contactor substrate, for contacting contacts on a device; and

a plurality of conductors, held by the contactor support structure, connecting the contactor interface to the terminals.

14. The cartridge of claim 13, further comprising:

an actuator connected between the cartridge frame and the contactor support structure, having first and second portions that are movable relative to one another to move the contactor support structure relative to the cartridge frame and toward the surface of the holder so that the terminals are urged against contacts of the device.

15. The cartridge of claim 13, wherein the electrical components are mounted on a side on the distribution board substrate opposing the terminals held by the contactor substrate.

16. The cartridge of claim 13, wherein the distribution board substrate has a plurality of layers having a plurality of different stiffnesses, one of the layers in a half of the distribution board substrate opposing the terminals held by the contactor substrate being stiffer than a majority of the layers.

17. The cartridge of claim 13, further comprising a connector including:

a connector body; and

a plurality of connector conductors held by the connector body, a connector interface

being surfaces of the connector conductors is operable for connecting to a surface of the contactor interface.