CLAIMS

1. A probing apparatus comprising:

a probe head comprising:

electrical connectors on one side thereof,

electrically conductive probes extending from another side thereof and electrically connected to said connectors, and

a catch for interlocking with latch assemblies of a primary sub-assembly of a probe card apparatus while said probe head is moved towards the primary sub-assembly so that the probe head is in a latching position with respect to said primary sub-assembly;

wherein:

said probe head is configured to be attached to said primary sub-assembly by closing said latch assemblies while said probe head is in said latching position, and

said probe head is configured to be detached from said primary sub-assembly by opening said latch assemblies;

further comprising a tray configured to hold said probe head while said probe head is detached from said primary sub-assembly, wherein said tray is configured to contact and thereby automatically open said latch assemblies as said tray moves said probe head toward said latching position.

2. The probing apparatus of claim 1, wherein said tray comprises:

a first moveable stage configured to hold said probe head with alignment features of said probe head coupled with corresponding alignment features of said tray, and said first stage further comprising a latch stud configured to open said latch assemblies of said primary sub-assembly as said first stage moves said probe head toward said primary sub-assembly before said probe head reaches said latch assemblies.

3. The probing apparatus of claim 2, wherein said tray further comprises a second moveable stage for temporarily holding said probe head in said latching position while said latch assemblies are open.

4. The probing apparatus of claim 3, wherein:

said first stage comprises an opening, and

said second stage is disposed in said opening.

5. The probing apparatus of claim 1, wherein said tray is configured to automatically close said latch assemblies as said tray moves away from said primary sub-assembly and out of contact with said latch assemblies.

6. The probing apparatus of claim 1, wherein said probe head comprises a machine readable identifier for uniquely identifying said probe head.

7. A probe apparatus, comprising:

a probe head comprising:

electrical connectors on one side thereof;

electrically conductive probes extending from another side thereof and electrically connected to said connectors;

a catch for interlocking with latch assemblies of a primary sub-assembly of a probe card apparatus while said probe head is in a latching position with respect to said primary sub-assembly;

a first alignment feature configured to couple with a corresponding alignment feature of said primary sub-assembly while said probe head is in said latching position; and

a second alignment feature configured to couple with a corresponding alignment feature of a tray, wherein said tray is configured to automatically open and close said latch assemblies of said primary sub-assembly as said tray is moved into and out of contact with said primary sub-assembly;

wherein the probe head is configured to be attached to said primary sub-assembly by closing said latch assemblies while said probe head is in said latching position, and said probe head is configured to be detached from said primary sub-assembly by opening said latch assemblies.

8. A probing apparatus comprising:

a probe head comprising:

electrical connectors on one side thereof,

electrically conductive probes extending from another side thereof and electrically connected to said connectors, and

a catch for interlocking with latch assemblies of a primary sub-assembly of a probe card apparatus while said probe head is moved towards the primary sub-assembly so that the probe head is in a latching position with respect to said primary sub-assembly;

wherein:

said probe head is configured to be attached to said primary sub-assembly by closing said latch assemblies while said probe head is in said latching position, and

said probe head is configured to be detached from said primary sub-assembly by opening said latch assemblies;

further comprising a tray, wherein said tray comprises:

a first moveable stage configured to hold said probe head with alignment features of said probe head coupled with corresponding alignment features of said tray, and said first stage further comprising a latch stud configured to open said latch assemblies of said primary sub-assembly as said first stage moves said probe head toward said primary sub-assembly before said probe head reaches said latch assemblies.