CLAIMS

1. A mounting assembly comprising:

a light pipe mount for mounting a light pipe with respect to a light source; and

a second light pipe mount for mounting a second light pipe with respect to a second light source.

2. The mounting assembly of claim 1, wherein the mounting assembly is configured to facilitate mounting of the second light pipe independent of mounting of the light pipe.

3. The mounting assembly of claim 1, wherein the mounting assembly contacts the light pipe at a single point of contact of the light pipe.

4. The mounting assembly of claim 1, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure, and wherein the second light pipe mount is mounted to the support structure.

5. The mounting assembly of claim 1, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure below a horizontal axis extending through the light pipe and the second light pipe, and wherein the second light pipe mount is mounted to the support structure above the horizontal axis extending through the light pipe and the second light pipe.

6. The mounting assembly of claim 1, wherein the mounting assembly is configured to facilitate mounting of the second light pipe independent of mounting of the light pipe, wherein the mounting assembly contacts the light pipe at a single point of contact of the light pipe, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure, and wherein the second light pipe mount is mounted to the support structure, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure below a horizontal axis extending through the light pipe and the second light pipe, and wherein the second light pipe mount is mounted to the

support structure above the horizontal axis extending through the light pipe and the second light pipe.

7. The mounting assembly any of claim 1, wherein the light pipe mount contacts the light pipe on a first side of the light pipe and wherein the second light pipe mount contacts the second light pipe on a second side of the second light pipe opposite its first side.

8. The mounting assembly of claim 1, wherein the mounting assembly includes a support structure having a cavity, wherein the light pipe mount is mounted to the support structure having the cavity, and wherein the second light pipe mount is mounted to support structure, wherein the mounting assembly is configured so that when the light pipe mount is mounted to the support structure the light pipe extends through the cavity, the cavity having a diameter larger than a diameter of the light pipe so that when the light pipe extends through the cavity the light pipe does not contact a sidewall defining the cavity.

9. The mounting assembly of claim 1, wherein the mounting assembly is configured to facilitate mounting of the second light pipe independent of mounting of the light pipe, wherein the mounting assembly contacts the light pipe at a single point of contact of the light pipe, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure, and wherein the second light pipe mount is mounted to the support structure, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure below a horizontal axis extending through the light pipe and the second light pipe, and wherein the second light pipe mount is mounted to the support structure above the horizontal axis extending through the light pipe and the second light pipe, wherein the mounting assembly includes a support structure, wherein the light pipe mount is removably screw mounted to the support structure, and wherein the second light pipe mount is removably screw mounted to support structure, wherein the mounting assembly includes a support structure having a cavity, wherein the light pipe mount is mounted to the support structure having the cavity, and wherein the second light pipe mount is mounted to support structure, wherein the mounting assembly is configured so that when the light pipe mount is mounted to the support structure the light pipe extends through the cavity, the cavity having a diameter larger than a diameter of the light pipe so that when the light pipe extends through the cavity the light pipe does not contact a sidewall defining the cavity, wherein the mounting

assembly is configured so that when the light pipe mount is mounted with respect to the light source, there is a standoff distance between the light pipe and the light source, and further so that when the second light pipe mount is mounted with respect to the second light source, there is a defined standoff distance between the second light pipe and the second light source.

10. The mounting assembly of claim 1, wherein the mounting assembly contacts the light pipe at a single point of contact of the light pipe, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure, and wherein the second light pipe mount is mounted to the support structure, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure below a horizontal axis extending through the light pipe and the second light pipe, and wherein the second light pipe mount is mounted to the support structure above the horizontal axis extending through the light pipe and the second light pipe, wherein the mounting assembly includes a support structure, wherein the light pipe mount is removably screw mounted to the support structure, and wherein the second light pipe mount is removably screw mounted to support structure, wherein the mounting assembly includes a support structure having a cavity, wherein the light pipe mount is mounted to the support structure having the cavity, and wherein the second light pipe mount is mounted to support structure, wherein the mounting assembly is configured so that when the light pipe mount is mounted to the support structure the light pipe extends through the cavity, the cavity having a diameter larger than a diameter of the light pipe so that when the light pipe extends through the cavity the light pipe does not contact a sidewall defining the cavity, wherein the mounting assembly is configured so that when the light pipe mount is mounted with respect to the light source, there is a standoff distance between the light pipe and the light source, and further so that when the second light pipe mount is mounted with respect to the second light source, there is a defined standoff distance between the second light pipe and the second light source, wherein the light source is included in a light source bank mounted at a region of a printed circuit board, and wherein the second light source is included in a second light source bank mounted at a second region of the printed circuit board, the second region being spaced apart from the region, wherein the second region and the region are surface modified regions of the printed circuit board having surface modifications characterized by an insulator layer and a conductive metal routing layer being removed, wherein the light source bank is characterized by one or more of the following selected from the group consisting of the

light source bank comprises parallel connected light sources, the light source bank comprises series connected light sources, light sources defining the light source bank are commonly connected to a metal core layer of a printed circuit board, the light source bank comprises vertical LEDs, the light source bank comprises flip chip LEDs..

11. The mounting assembly of claim 1, wherein the mounting assembly contacts the light pipe at a single location of contact of the light pipe, wherein the single location of contact includes an adhesive matching an index of refraction of air.

12. A mounting assembly comprising:

a light pipe mount for mounting a light pipe with respect to a light source; and

a second light pipe mount for mounting a second light pipe with respect to a second light source, wherein the mounting assembly is configured to facilitate mounting of the second light pipe independent of mounting of the light pipe, wherein the mounting assembly contacts the light pipe at a single point of contact of the light pipe, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure, and wherein the second light pipe mount is mounted to the support structure, wherein the mounting assembly includes a support structure, wherein the light pipe mount is mounted to the support structure below a horizontal axis extending through the light pipe and the second light pipe, and wherein the second light pipe mount is mounted to the support structure above the horizontal axis extending through the light pipe and the second light pipe, wherein the mounting assembly includes a support structure, wherein the light pipe mount is removably screw mounted to the support structure, and wherein the second light pipe mount is removably screw mounted to support structure, wherein the mounting assembly includes a support structure having a cavity, wherein the light pipe mount is mounted to the support structure having the cavity, and wherein the second light pipe mount is mounted to support structure, wherein the mounting assembly is configured so that when the light pipe mount is mounted to the support structure the light pipe

extends through the cavity, the cavity having a diameter larger than a diameter of the light pipe so that when the light pipe extends through the cavity the light pipe does not contact a sidewall defining the cavity, wherein the mounting assembly is configured so that when the light pipe mount is mounted with respect to the light source, there is a standoff distance between the light pipe and the light source, and further so that when the second light pipe mount is mounted with respect to the second light source, there is a defined standoff distance between the second light pipe and the second light source, wherein the light source is included in a light source bank mounted at a region of a printed circuit board, and wherein the second light source is included in a second light source bank mounted at a second region of the printed circuit board, the second region being spaced apart from the region, wherein the second region and the region are surface modified regions of the printed circuit board having surface modifications characterized by an insulator layer and a conductive metal routing layer being removed, wherein the mounting assembly contacts the light pipe at a single location of contact of the light pipe, wherein the single location of contact includes an adhesive matching an index of refraction of air.

13. A system comprising:

a light energy exciter comprising a plurality of light sources, a light pipe to homogenize excitation light rays from a light source of the plurality of light sources and to direct the excitation light rays from the light source, the light pipe comprising a light entrance surface to receive the excitation light rays from the light source, a second light pipe to homogenize excitation light rays from a second light source of the plurality of light sources and to direct the excitation light rays from the second light source, the second light pipe comprising a light entrance surface to receive the excitation light rays from the second light source;

a detector comprising a detector surface for supporting biological or chemical samples and a sensor array comprising light sensors spaced apart from the detector surface, wherein the detector receives excitation light from the light energy exciter and emissions signal light;

a mounting assembly for mounting the light pipe and the second light pipe, wherein the mounting assembly aligns the light pipe to the light source, and aligns the second light pipe to the second light source.

14. The system of claim 13, wherein the mounting assembly includes a support structure having a member defining a cavity, and a light pipe mount having attached thereto the light pipe, the light pipe mount attached to the support structure so that the light pipe extends through the cavity without contacting the support structure.

15. The system of claim 13, wherein the mounting assembly mounts the light pipe so that the light entrance surface of the light pipe is spaced apart from the light source, wherein the mounting assembly mounts the second light pipe so that the light entrance surface of the second light pipe is spaced apart from second the light source.

16. The system of claim 13, wherein the mounting assembly mounts the light pipe so that an outer boundary of the light pipe is provided by air, and wherein the mounting assembly is attached to the light pipe with an adhesive having an index of refraction matching an index of refraction of air.

17. The system of claim 13, wherein the mounting assembly contacts the light pipe at a single location of contact of the light pipe, wherein the single location of contact includes an adhesive matching an index of refraction of air.

18. The system of claim 13, wherein the mounting assembly includes a support structure extending forwardly from the light source and the second light source, a light pipe mount carrying the light pipe, the light pipe mount removably attached to the support structure, a second light pipe mount carrying the second light pipe, the second light pipe mount removably attached to the support structure.

19. The system of claim 13, wherein the mounting assembly includes a support structure having a member defining a cavity, and a light pipe mount having attached thereto the light pipe, the light pipe mount attached to the support structure so that the light pipe extends through the cavity without contacting the support structure, wherein the mounting assembly mounts the light pipe so that an outer boundary of the light pipe is provided by air, and wherein

the mounting assembly is attached to the light pipe with an adhesive having an index of refraction matching an index of refraction of air, wherein the mounting assembly includes a support structure extending forwardly from the light source and the second light source, a light pipe mount carrying the light pipe, the light pipe mount removably attached to the support structure, a second light pipe mount carrying the second light pipe, the second light pipe mount removably attached to the support structure, wherein the mounting assembly mounts the light pipe so that the light entrance surface of the light pipe is spaced apart from the light source, wherein the mounting assembly mounts the second light pipe so that the light entrance surface of the second light pipe is spaced apart from second the light source, wherein the system is operative for determining which of a set of light sources or second set of light sources produce less total heat on being energized, and selecting an ordering of energization of the set of light sources and the second set of light sources in dependence on the determining.

20. The system of claim 13, wherein the system is operative for determining which of a set of light sources or second set of light sources produce less total heat on being energized, and selecting an ordering of energization of the set of light sources and the second set of light sources in dependence on the determining.