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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	M-17467 US
First Inventor	Rene P. Helbing
Title	Efficient LED Array
Express Mail Label No.	electronically filed today

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ **Fee Transmittal Form** (e.g., PTO/SB/17)
   (Submit an original and a duplicate for fee processing)
2. ☑ **Applicant claims small entity status.**
   See 37 CFR 1.27.
3. ☑ **Specification** [*Total Pages* 16]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. ☑ **Drawing(s)** (*35 U.S.C. 113*) [*Total Sheets* 4]
5. **Oath or Declaration** [*Total Sheets* 2]
   a. ☑ Newly executed (original or copy)
   b. ☐ A copy from a prior application (37 CFR 1.63(d))
   (for continuation/divisional with Box 18 completed)
   i. ☐ DELETION OF INVENTOR(S)
   Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)*
   ☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission**
   (if applicable, items a. – c. are required)
   a. ☐ Computer Readable Form (CRF)
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ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
   Name of Assignee_____
10. ☐ **37 CFR 3.73(b) Statement** *(when there is an assignee)* ☐ **Power of Attorney**
11. ☐ **English Translation Document** *(if applicable)*
12. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☐ **Return Receipt Postcard** (MPEP 503)
    (Should be specifically itemized)
15. ☐ **Certified Copy of Priority Document(s)**
    (if foreign priority is claimed)
16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
17. ☐ Other:_____

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: .....

Prior application information: *Examiner* _____ *Art Unit:* _____

19. CORRESPONDENCE ADDRESS

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Signature		Date	09/29/2008
Name (Print/Type)	Norman Carte	Registration No. (Attorney/Agent)	30,455

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Attorney Docket No. M-17467 US

DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of subject matter (process, machine, manufacture, or composition of matter, or an improvement thereof) which is claimed and for which a patent is sought by way of the application entitled

EFFICIENT LED ARRAY

which (check)
- ☒ is attached hereto.
- ☐ and is amended by the Preliminary Amendment attached hereto.
- ☐ was filed on _____ as Application Serial No. _____
- ☐ and was amended on (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
Number	Country	Day/Month/Year Filed	Yes	No
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I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information, which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Application Serial No.	Filing Date	Status (patented, pending, abandoned)

Attorney Docket No. M-17467 US

I hereby appoint the following practitioners to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith:

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Full name of the sole inventor:	**Rene Peter Helbing**		
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EFFICIENT LED ARRAY

Inventor

Rene Helbing

BACKGROUND

Field

[0001] The present application relates generally to light emitting diodes, and more particularly, to an efficient LED array.

Background

[0002] A light emitting diode (LED) is a semiconductor material impregnated, or doped, with impurities. These impurities add "electrons" and "holes" to the semiconductor, which can move in the material relatively freely. Depending on the kind of impurity, a doped region of the semiconductor can have predominantly electrons or holes, and is referred to as an n-type or p-type semiconductor region, respectively. In LED applications, the semiconductor includes an n-type semiconductor region and a p-type semiconductor region. A reverse electric field is created at the junction between the two regions, which cause the electrons and holes to move away from the junction to form an active region. When a forward voltage sufficient to overcome the reverse electric field is applied across the p-n junction, electrons and holes are forced into the active region and combine. When electrons combine with holes, they fall to lower energy levels and release energy in the form of light.

[0003] During operation, a forward voltage is applied across the p-n junction through a pair of electrodes. The electrodes are formed on the semiconductor material with a p-electrode formed on the p-type semiconductor region and an n-electrode formed on the n-type semiconductor region. Each electrode includes a wire bond pad that allows an external voltage to be applied to the LED.

[0004] Generally, a device having multiple LED chips is created by mounting closely spaced LED chips on a ceramic substrate. Unfortunately, the closely spaced LED chips may interfere with each other and result in reduced light

output. Also, a ceramic substrate is used because the LED chips have thermal and electrical paths that come in contact with each other. For example, an LED chip may have electrical contacts on both top and bottom surfaces so that when the chip is mounted to a substrate, both heat and electricity may pass to the substrate. Thus, the ceramic substrate provides electrical insulating properties while allowing some heat to pass. Unfortunately, the ceramic substrate doesn't provide a very efficient thermal path so that heat generated by the closely spaced LED chips may degrade light output. To facilitate heat dissipation, the ceramic substrate may be mounted to an aluminum heat spreader, which is turn is mounted to an additional heat sink. This arrangement is costly and results in more complicated manufacture.

[0005] Accordingly, there is a need in the art for improvements in LED devices to increase light output, provide efficient heat dissipation, and simplify manufacture.

SUMMARY

[0006] In an aspect, a light emitting diode apparatus is provided that comprises a metal substrate having a reflective surface, and a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

[0007] In another aspect, a method is provided for forming a light emitting diode apparatus. The method comprises configuring a metal substrate to have a reflective surface, and mounting a plurality of LED chips directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

[0008] In another aspect, a light emitting diode lamp is provided that comprises a package, and a light emitting diode apparatus coupled to the package. The light emitting diode apparatus comprises a metal substrate having a reflective surface, and a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and

wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

[0009] In another aspect, an illumination device is provided that comprises a power source and a light emitting diode lamp in electrical communication with the power source. The light emitting diode lamp comprises a package and a light emitting diode apparatus coupled to the package. The light emitting diode apparatus comprises a metal substrate having a reflective surface, and a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

[0010] It is understood that other aspects of the present invention will become readily apparent to those skilled in the art from the following detailed description. As will be realized, the present invention includes other and different aspects and its several details are capable of modification in various other respects, all without departing from the spirit and scope of the present invention. Accordingly, the drawings and the detailed description are to be regarded as illustrative in nature and not as restrictive.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The foregoing aspects described herein will become more readily apparent by reference to the following Description when taken in conjunction with the accompanying drawings wherein:

[0012] **FIG. 1** shows top and side views of an exemplary LED chip for use in aspects of an efficient LED array;

[0013] **FIG. 2** shows an exemplary LED array constructed in accordance with aspects of the present invention;

[0014] **FIG. 3** shows an exemplary efficient LED array apparatus constructed in accordance with aspects of the present invention;

[0015] **FIG. 4** shows an exemplary method for constructing an efficient LED array apparatus in accordance with aspects of the present invention; and

[0016] **FIG. 5** shows exemplary devices comprising efficient LED arrays constructed in accordance with aspects of the present invention.

DESCRIPTION

[0017] The present invention is described more fully hereinafter with reference to the accompanying drawings, in which various aspects of the present invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the various aspects of the present invention presented throughout this disclosure. Rather, these aspects are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the present invention to those skilled in the art. The various aspects of the present invention illustrated in the drawings may not be drawn to scale. Accordingly, the dimensions of the various features may be expanded or reduced for clarity. In addition, some of the drawings may be simplified for clarity. Thus, the drawings may not depict all of the components of a given apparatus (e.g., device) or method.

[0018] Various aspects of the present invention will be described herein with reference to drawings that are schematic illustrations of idealized configurations of the present invention. As such, variations from the shapes of the illustrations as a result, for example, manufacturing techniques and/or tolerances, are to be expected. Thus, the various aspects of the present invention presented throughout this disclosure should not be construed as limited to the particular shapes of elements (e.g., regions, layers, sections, substrates, etc.) illustrated and described herein but are to include deviations in shapes that result, for example, from manufacturing. By way of example, an element illustrated or described as a rectangle may have rounded or curved features and/or a gradient concentration at its edges rather than a discrete change from one element to another. Thus, the elements illustrated in the drawings are schematic in nature and their shapes are not intended to illustrate the precise shape of an element and are not intended to limit the scope of the present invention.

[0019] It will be understood that when an element such as a region, layer, section, substrate, or the like, is referred to as being "on" another element, it can be directly on the other element or intervening elements may also be

present. In contrast, when an element is referred to as being "directly on" another element, there are no intervening elements present. It will be further understood that when an element is referred to as being "formed" on another element, it can be grown, deposited, etched, attached, connected, coupled, or otherwise prepared or fabricated on the other element or an intervening element.

[0020] Furthermore, relative terms, such as "lower" or "bottom" and "upper" or "top," may be used herein to describe one element's relationship to another element as illustrated in the drawings. It will be understood that relative terms are intended to encompass different orientations of an apparatus in addition to the orientation depicted in the drawings. By way of example, if an apparatus in the drawings is turned over, elements described as being on the "lower" side of other elements would then be oriented on the "upper" sides of the other elements. The term "lower", can therefore, encompass both an orientation of "lower" and "upper," depending of the particular orientation of the apparatus. Similarly, if an apparatus in the drawing is turned over, elements described as "below" or "beneath" other elements would then be oriented "above" the other elements. The terms "below" or "beneath" can, therefore, encompass both an orientation of above and below.

[0021] Unless otherwise defined, all terms (including technical and scientific terms) used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. It will be further understood that terms, such as those defined in commonly used dictionaries, should be interpreted as having a meaning that is consistent with their meaning in the context of the relevant art and this disclosure.

[0022] As used herein, the singular forms "a", "an" and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof. The term "and/or" includes any and all combinations of one or more of the associated listed items

[0023] It will be understood that although the terms "first" and "second" may

be used herein to describe various regions, layers and/or sections, these regions, layers and/or sections should not be limited by these terms. These terms are only used to distinguish one region, layer or section from another region, layer or section. Thus, a first region, layer or section discussed below could be termed a second region, layer or section, and similarly, a second region, layer or section may be termed a first region, layer or section without departing from the teachings of the present invention.

[0024] Referring now to **FIG. 1**, top **102** and side **110** views are shown of an exemplary LED chip **100** for use in aspects of an efficient LED array. Referring to the top view **102**, the LED chip (or die) **100** comprises a body portion **104** and an active region that is located within the area **106**. For example, the area **106** includes an n-type semiconductor region having predominantly electrons and a p-type semiconductor region having predominately holes. During operation, a reverse electric field is created at the junction between the n-type and p-type regions, which cause the electrons and holes to move away from the junction to form the active region. When a forward voltage sufficient to overcome the reverse electric field is applied across the p-n junction, electrons and holes are forced into the active region and combine. When electrons combine with holes, they fall to lower energy levels and release energy in the form of light.

[0025] The LED chip **100** also comprises electrical contacts **108** that are used to apply power. For example, wires that carry an electrical signal to provide power are bonded to the contacts **108**. When power is applied through the bonded wires to the contacts **108**, the active region operates to emit light of a selected color.

[0026] Referring now to the side view **110**, it can be seen that the LED chip **100** comprises a bottom mounting surface **112** that can be used to mount the LED chip **100** to a substrate. For example, any suitable adhesive may be used to mount the LED chip **100** to the substrate. As can be further seen in the side view **110**, the electrical contacts **108** on the top surface of the LED chip **100** form a horizontal electrical path as illustrated by the arrow **114**. Since there are no electrical connections in contact with the mounting surface **112** of the LED chip **100**, it can be mounted directly to a metal substrate without the need for an insulating dielectric. By mounting the LED chip **100** directly on a metal substrate, an efficient thermal path is created (as indicated by the arrow **116**) to

allow heat to pass from the LED chip **100** to the metal substrate. By providing the efficient thermal path **116**, the LED chip **100** is able to reduce or minimize any loss in optical power due to the effects of heating.

[0027] Therefore, the LED chip **100** provides for different electrical and thermal paths to enable the LED chip **100** to be directly mounted to a metal substrate without the need for an insulating dielectric, thereby providing an efficient thermal path to reduce or minimize the degrading effects of heat on light output.

[0028] **FIG. 2** shows an exemplary LED array **200** constructed in accordance with aspects of the present invention. The LED array **200** comprises a metal substrate **204** that has a reflective surface **206**. For example, the metal substrate may be constructed from aluminum and the reflective surface **206** may be bare or polished aluminum. Alternatively, the reflective surface **206** may be formed by silver plating on the substrate **204**. Thus, the reflective surface **206** may be formed from any suitable material and formed upon the substrate **204** in any suitable way. In various aspects, the reflective surface **206** has a reflectivity index of 70% or greater.

[0029] An array of LED chips is mounted directly onto the reflective surface **206** of the metal substrate **204**. For example, the array of LED chips may be comprised of the LED chip **100** shown in **FIG. 1**. Since the LED chip **100** has a mounting surface **112** that is separate from the electrical path **114**, the LED chip **100** can be mounted directly onto the reflective surface **206**. In doing so, an efficient thermal path is formed allowing heat to pass from the array of LED chips to the metal substrate **204**. It should also be noted that while nine LED chips are shown in **FIG. 2**, there is no limit on the number of LED chips that may be used and in fact, as the number of LED chips increases the optical gain increases.

[0030] In various aspects, the LED array **200** is mounted on the substrate **204** with a pre-determined spacing. For example, the LED chips are mounted having a vertical spacing as indicated at **208**, and a horizontal spacing as indicated at **210**. In various aspects, the horizontal and vertical spacing between the LED chips is .5 millimeters or greater. The spacing exposes regions **212** of the reflective surface **206** between the LED chips. By exposing these regions **212**, light emitted from the LED chips may reflect off the exposed

portions of the reflective surface **206** to increase the amount of light output from the LED array. It should be noted that the LED array may have uniform spacing, non-uniform spacing, or a combination thereof and is not limited to a single fixed spacing.

[0031] **FIG. 3** shows an exemplary efficient LED array apparatus **300** constructed in accordance with aspects of the present invention. The apparatus **300** comprises the LED array **200** with LED chips (i.e., LED **100**) mounted directly to the reflective surface **206** at a pre-determined spacing to expose regions of the reflective surface to allow light to reflect from the reflective surface located between the LED chips as illustrated at **308**.

[0032] To enable electrical connections, a layer of dielectric insulator **302**, which may be aluminum oxide, is mounted to the aluminum metal substrate of the LED array **200**. On top of the dielectric **302** copper traces **304** are run to a bonding pad **306**. Bonding wires are then routed from the bonding pad **306** in a chip to chip fashion so that power may be applies to all chips in the LED array **200**. As a result, an electrical path is formed as illustrated at **312**.

[0033] The LED array **200** is mounted directly to a heat sink **310**. The heat sink **310** comprises any suitable material and the LED array **200** is mounted directly to the heat sink **310** without any dielectric insulation. This provides for efficient transfer of heat from the metal substrate of the LED array **200** to the heat sink **310**. Thus, not only does the metal substrate operate to keep the LED chips cooler, but since the substrate is mounted directly on heat sink the heat sink can be smaller. For example, ceramic substrates need an aluminum heat spreader which is larger and increases costs. Since the LED chips are mounted directly to the aluminum substrate and the aluminum substrate is mounted directly to the heat sink **310**, an efficient thermal path is formed as illustrated at **314**. The thermal path allows heat generated at the LED chips to be dissipated through the metal substrate and into the heat sink **310**, thereby reducing the degrading effects of heat on light output.

[0034] **FIG. 4** shows an exemplary method **400** for constructing an efficient LED array in accordance with aspects of the present invention. For clarity, the method **400** is described below with reference to the efficient LED array apparatus **300** shown in **FIG. 3**.

[0035] At block **402**, a metal substrate is configured with a reflective surface. For example, the substrate may be aluminum and the reflective surface is polished aluminum or silver plating.

[0036] At block **404**, the spacing of LED chips in an LED array is determined. For example, horizontal and vertical LED spacing is determined to be uniform, non-uniform, or a combination thereof. In an aspect, the horizontal and vertical spacing selected is approximately equal to greater than .5 millimeters.

[0037] At block **406**, the LED array is mounted on the reflective surface of the metal substrate at the pre-determined spacing. Since the LED array has separate electrical and thermal paths, the LED chips are mounted directly onto the metal substrate without the use of a dielectric insulator. The spacing of the LED chips exposes regions of the reflective surface between the chips and these regions operate to reflect light thereby increasing the optical output of the LED array.

[0038] At block **408**, electrical connections are made to form an electrical path that is different from the thermal path. For example, wires are bonded across the chips of the LED array as described above to allow power to be applied to the chips. The electrical path formed is separate from the thermal path.

[0039] At block **410**, the LED array is mounted directly to a heat sink. Since the substrate of the LED array is metal, it can be mounted directly to the heat sink without the use of a dielectric insulator.

[0040] Therefore, the method **400** operates to construct an efficient LED array in accordance with aspects of the present invention. It should be noted that the operations of the method **400** may be rearranged or otherwise modified within the scope of the various aspects. Thus, other implementations are possible with the scope of the various aspects described herein.

[0041] **FIG. 5** shows exemplary devices **500** comprising efficient LED arrays constructed in accordance with aspects of the present invention. The devices **500** comprise a lamp **502**, an illumination device **504**, and a street light **506**. Each of the devices shown in **FIG. 5** includes an efficient LED array as described herein. For example, the lamp **502** comprises a package **516** and an efficient LED array **508** that includes an array of LEDs with pre-determined spacing mounted directly on a metal substrate having a reflective surface. The

pre-determined spacing operates to increase light output. The lamp **502** may be used for any type of general illumination. For example, the lamp **502** may be used in an automobile headlamp, street light, overhead light, or in any other general illumination application. The illumination device **504** comprises a power source **510** that is electrically coupled to a lamp **512**, which may be configured as the lamp **502**. In an aspect, the power source **510** may be batteries or any other suitable type of power source, such as a solar cell. The street light **506** comprises a power source connected to a lamp **514**, which may be configured as the lamp **502**. In an aspect, the lamp **514** comprises a package and an efficient LED array that includes an array of LEDs with pre-determined spacing mounted directly on a metal substrate having a reflective surface. The pre-determined spacing operates to increase light output.

[0042] It should be noted that aspects of the efficient LED array described herein are suitable for use with virtually any type of LED assembly, which in turn may be used in any type of illumination device and are not limited to the devices shown in **FIG. 5**. Thus, the efficient LED array described herein provides for efficient light output and heat dissipation and can be used in a variety of device applications.

[0043] The various aspects of this disclosure are provided to enable one of ordinary skill in the art to practice the present invention. Various modifications to aspects presented throughout this disclosure will be readily apparent to those skilled in the art, and the concepts disclosed herein may be extended to other applications. Thus, the claims are not intended to be limited to the various aspects of this disclosure, but are to be accorded the full scope consistent with the language of the claims. All structural and functional equivalents to the elements of the various aspects described throughout this disclosure that are known or later come to be known to those of ordinary skill in the art are expressly incorporated herein by reference and are intended to be encompassed by the claims.

[0044] Moreover, nothing disclosed herein is intended to be dedicated to the public regardless of whether such disclosure is explicitly recited in the claims. No claim element is to be construed under the provisions of 35 U.S.C. §112, sixth paragraph, unless the element is expressly recited using the phrase

"means for" or, in the case of a method claim, the element is recited using the phrase "step for."

[0045] Accordingly, while aspects of an efficient LED array have been illustrated and described herein, it will be appreciated that various changes can be made to the aspects without departing from their spirit or essential characteristics. Therefore, the disclosures and descriptions herein are intended to be illustrative, but not limiting, of the scope of the invention, which is set forth in the following claims.

CLAIMS

WHAT IS CLAIMED IS:

1. A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

2. The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. The apparatus of claim 1, wherein the reflective surface comprises silver plating

4. The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

8. The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

9. A method for forming a light emitting diode (LED) apparatus, the method comprising:

configuring a metal substrate to have a reflective surface; and

mounting a plurality of LED chips directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

10. The method of claim 9, wherein said configuring comprises configuring the reflective surface to comprise polished aluminum.

11. The method of claim 9, wherein said configuring comprises configuring the reflective surface to comprise silver plating

12. The method of claim 9, wherein said configuring comprises configuring the reflective surface to have a reflectivity of 70% or greater.

13. The method of claim 9, further comprising forming an array having a chip spacing that is approximately .5 millimeters or greater from the at least a portion of the LED chips.

14. The method of claim 9, further comprising configuring the plurality of LED chips to provide separate thermal and electrical paths.

15. The method of claim 9 further comprising configuring the plurality of LED chips to have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

16. The method of claim 9, further comprising mounting the metal substrate directly to a heat sink.

17. A light emitting diode (LED) lamp comprising:

a package; and

a light emitting diode apparatus coupled to the package and comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

18. The lamp of claim 17, wherein the reflective surface comprises polished aluminum.

19. The lamp of claim 17, wherein the reflective surface comprises silver plating

20. The lamp of claim 17, wherein the reflective surface has a reflectivity of 70% or greater.

21. The lamp of claim 17, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

22. The lamp of claim 17, wherein the plurality of LED chips provide separate thermal and electrical paths.

23. The lamp of claim 17, wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

24. The lamp of claim 17, wherein the metal substrate is mounted directly to a heat sink.

25. An illumination device comprising:

a power source;

a light emitting diode lamp in electrical communication with the power source, the light emitting diode lamp comprising:

a package; and

a light emitting diode apparatus coupled to the package and comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

26. The illumination device of claim 25, wherein the reflective surface comprises polished aluminum.

27. The illumination device of claim 25, wherein the reflective surface comprises silver plating

28. The illumination device of claim 25, wherein the reflective surface has a reflectivity of 70% or greater.

29. The illumination device of claim 25, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

30. The illumination device of claim 25, wherein the plurality of LED chips provide separate thermal and electrical paths.

31. The illumination device of claim 25, wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

32. The illumination device of claim 25, wherein the metal substrate is mounted directly to a heat sink.

EFFICIENT LED ARRAY

ABSTRACT

[0046] An efficient LED array. In an aspect, an LED apparatus includes a metal substrate having a reflective surface, and LED chips mounted directly to the reflective surface to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips. In another aspect, a method includes configuring a metal substrate to have a reflective surface, and mounting a plurality of LED chips directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

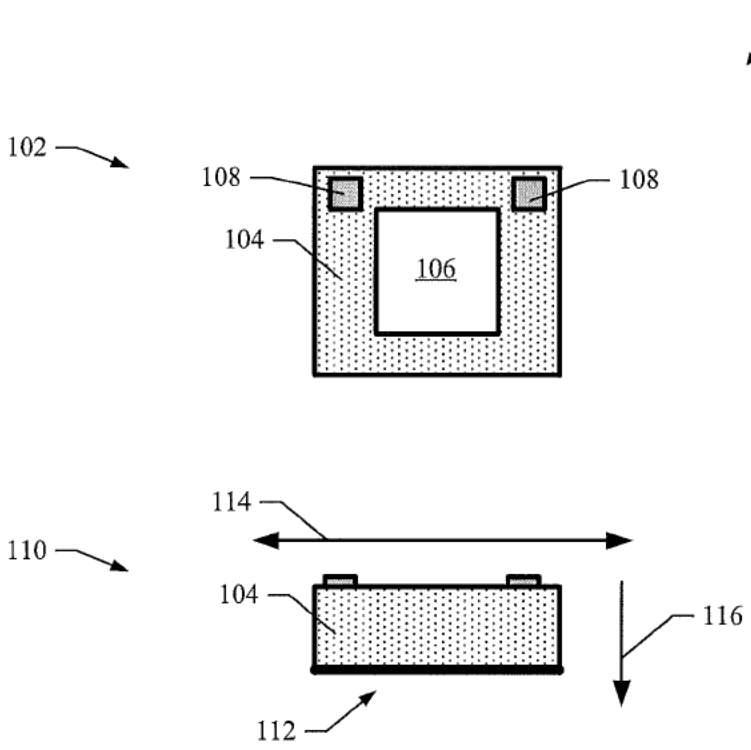

100
102
108
108
104
106
114
110
104
116
112

FIG. 1

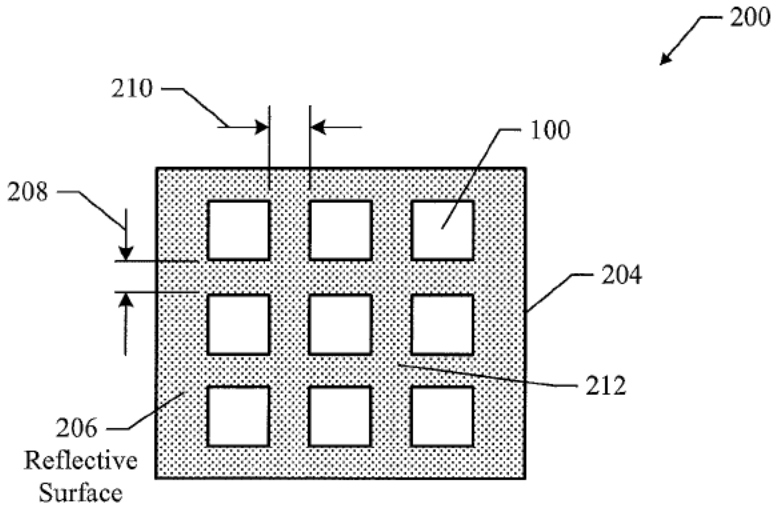

200
210
100
208
204
212
206
Reflective
Surface

FIG. 2

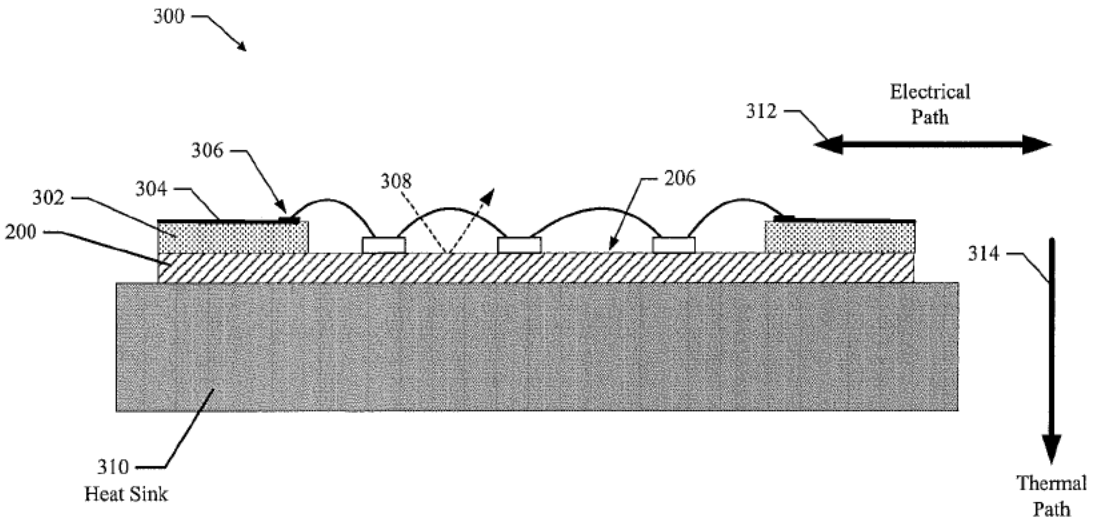

300
312
Electrical
Path
306
304
308
206
302
200
314
310
Heat Sink
Thermal
Path

FIG. 3

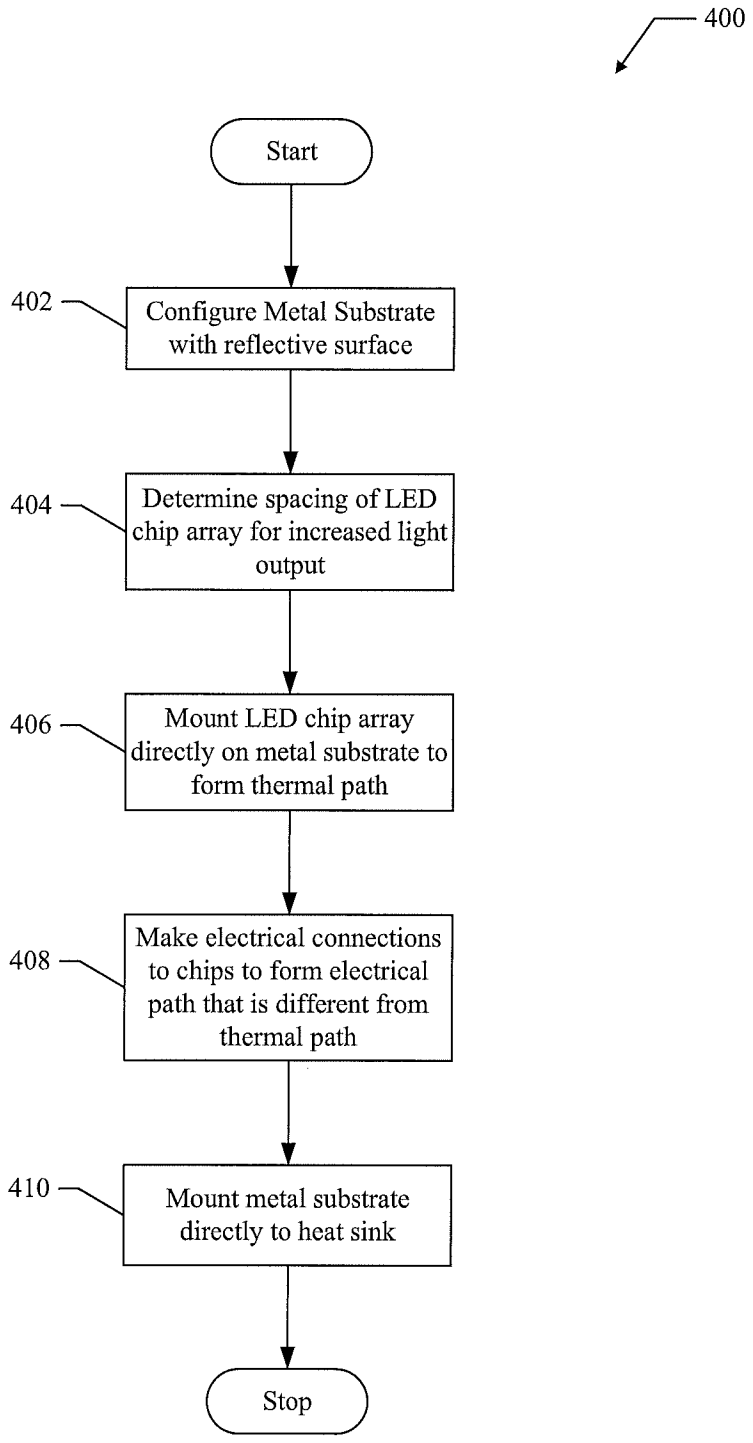

400
Start
402
Configure Metal Substrate with reflective surface
404
Determine spacing of LED chip array for increased light output
406
Mount LED chip array directly on metal substrate to form thermal path
408
Make electrical connections to chips to form electrical path that is different from thermal path
410
Mount metal substrate directly to heat sink
Stop

FIG. 4

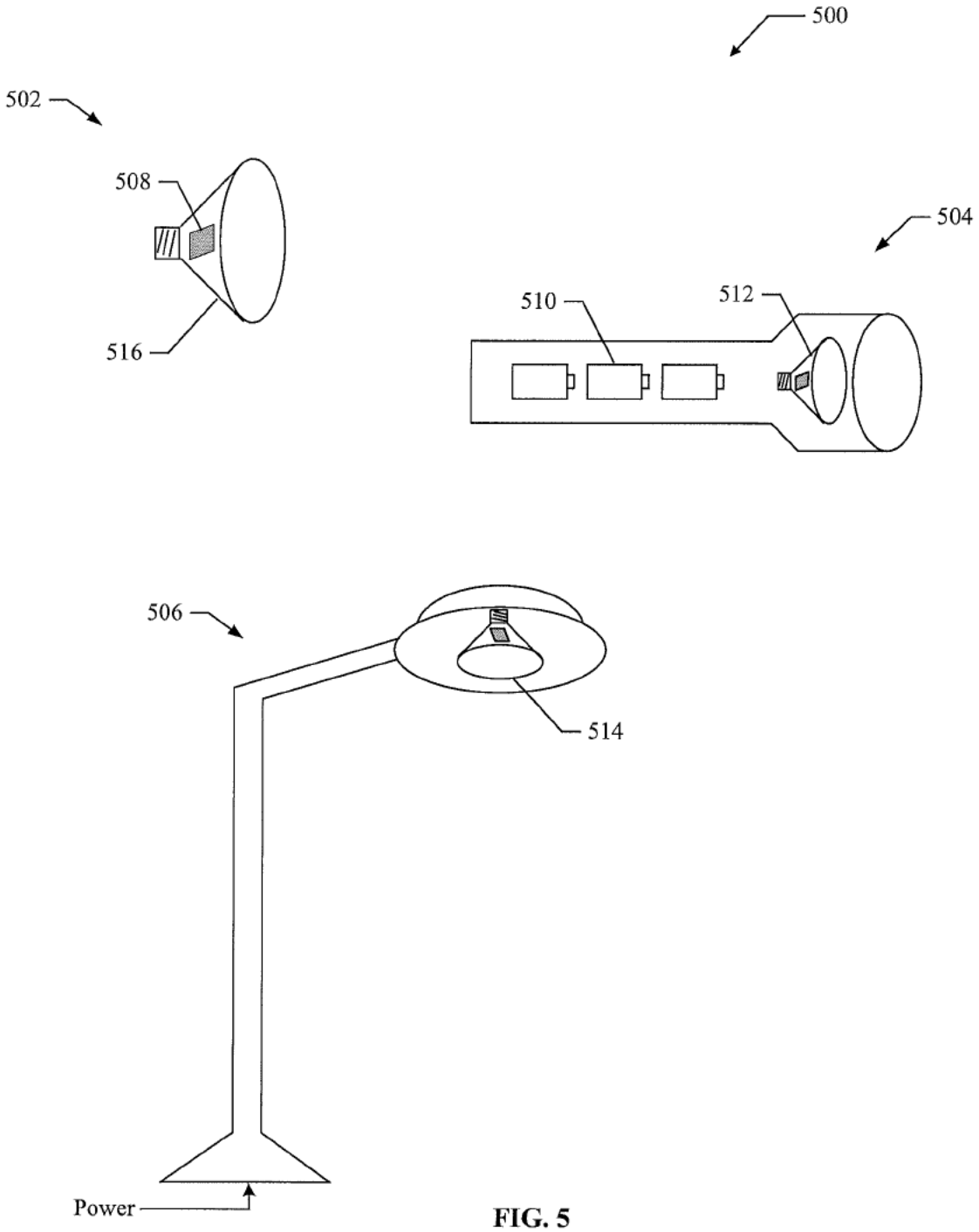


FIG. 5

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Gregory J. Michelson/Nuo Qu
Attorney Docket Number:	M-17467 US

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	75	75
Utility Search Fee	2111	1	255	255
Utility Examination Fee	2311	1	105	105
Pages:				
Claims:				
Claims in excess of 20	2202	12	25	300
Independent claims in excess of 3	2201	1	105	105
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**840**

Electronic Acknowledgement Receipt

EFS ID:	4021010
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Gregory J. Michelson/Nuo Qu
Filer Authorized By:	Gregory J. Michelson
Attorney Docket Number:	M-17467 US
Receipt Date:	29-SEP-2008
Filing Date:	
Time Stamp:	13:07:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$840
RAM confirmation Number	8836
Deposit Account	502257
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		M-17467NewPatApp.pdf	2109632 dffdc208f11e10a22323de48803b2a832cc50d5e	yes	23

Multipart Description/PDF files in .zip description

Document Description	Start	End
Transmittal of New Application	1	1
Oath or Declaration filed	2	3
Specification	4	14
Claims	15	18
Abstract	19	19
Drawings-only black and white line drawings	20	23

Warnings:

Information:

2	Fee Worksheet (PTO-06)	fee-info.pdf	38035 57524f4180ac5d74451baa13f949ca6f2c414d47	no	2

Warnings:

Information:

Total Files Size (in bytes):	2147667

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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Electronic Acknowledgement Receipt

EFS ID:	4021010
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Gregory J. Michelson/Nuo Qu
Filer Authorized By:	Gregory J. Michelson
Attorney Docket Number:	M-17467 US
Receipt Date:	29-SEP-2008
Filing Date:	
Time Stamp:	13:07:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$840
RAM confirmation Number	8836
Deposit Account	502257
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		M-17467NewPatApp.pdf	2109632 dffdc208f11e10a22323de48803b2a832cc50d5e	yes	23

Multipart Description/PDF files in .zip description

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Drawings-only black and white line drawings	20	23

Warnings:

Information:

2	Fee Worksheet (PTO-06)	fee-info.pdf	38035 57524f4180ac5d74451baa13f949ca6f2c414d47	no	2

Warnings:

Information:

Total Files Size (in bytes):	2147667

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New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Filing Date: 09/29/2008

Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: **12/240,011**

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)	OR	LARGE ENTITY RATE ($)	LARGE ENTITY FEE ($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	255		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	105		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	32 minus 20 =	12	X$ 25	300	OR	2X$50	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	1	X$105	105		1X$210	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $260 ($130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			185			370	
			TOTAL	840		TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR	N/A	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR	N/A	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

DocCode - SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 12240011 Document Date: 9/29/2008

The presence of this form in the IFW record indicates that the following document type was received in paper and is scanned and stored in the SCORE database.

- Design Drawings

The original paper documents are in the physical artifact folder. The original documents are scanned using a higher quality capture process and stored in SCORE. A copy of these documents are scanned in IFW using the standard quality scanning process. Defects visible in both IFW and SCORE are indicative of defects in the original paper documents.

To access the documents in the SCORE database, refer to instructions developed by SIRA.

At the time of document entry (noted above):

- Examiners may access SCORE content via the eDAN interface.
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Form Revision Date: October 12, 2006

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
12/240,011	09/29/2008	2875	840	M-17467 US	32	4

CONFIRMATION NO. 4526

32605
MACPHERSON KWOK CHEN & HEID LLP
2033 GATEWAY PLACE
SUITE 400
SAN JOSE, CA 95110

FILING RECEIPT

OC000000032484846

Date Mailed: 10/09/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Rene Peter Helbing, Sunnyvale, CA;

Power of Attorney: The patent practitioners associated with Customer Number 32605

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 10/07/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/240,011**

Projected Publication Date: 04/01/2010

Non-Publication Request: No

Early Publication Request: No
** **SMALL ENTITY** **

Title

EFFICIENT LED ARRAY

Preliminary Class

362

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

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For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbeing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson JR,	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
February 8, 2010

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

Prior to examination of the above application, please amend the above-identified application as follows.

LAW OFFICES OF
MACPHERSON, KWOK CHEN
& HEID LLP

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SUITE 210
IRVINE, CA 92612
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FAX (949) 752-7049

IN THE CLAIMS

1. (Original) A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

2. (Original) The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. (Original) The apparatus of claim 1, wherein the reflective surface comprises silver plating

4. (Original) The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. (Original) The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. (Original) The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. (Original) The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

8. (Original) The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

9. (Original) A method for forming a light emitting diode (LED) apparatus, the method comprising:

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configuring a metal substrate to have a reflective surface; and

mounting a plurality of LED chips directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

10. (Original) The method of claim 9, wherein said configuring comprises configuring the reflective surface to comprise polished aluminum.

11. (Original) The method of claim 9, wherein said configuring comprises configuring the reflective surface to comprise silver plating

12. (Original) The method of claim 9, wherein said configuring comprises configuring the reflective surface to have a reflectivity of 70% or greater.

13. (Original) The method of claim 9, further comprising forming an array having a chip spacing that is approximately .5 millimeters or greater from the at least a portion of the LED chips.

14. (Original) The method of claim 9, further comprising configuring the plurality of LED chips to provide separate thermal and electrical paths.

15. (Original) The method of claim 9 further comprising configuring the plurality of LED chips to have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

16. (Original) The method of claim 9, further comprising mounting the metal substrate directly to a heat sink.

17 – 32 (Canceled)

LAW OFFICES OF
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FAX (949) 752-7049

CONCLUSION

Claims 18-26 have canceled, no new claims have been added. Applicant reserves the right to file one or more divisional or continuation application directed to the canceled subject matter. Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 752-7040 is welcomed and encouraged.

Certification of Electronic Transmission
I hereby certify that this paper is being electronically transmitted to the U.S. Patent and Trademark Office on the date shown below.

Nuo Qu — **February 8, 2010** Date of Signature

Respectfully submitted,

Norman R. Carte
Agent for Applicant
Reg. No. 30,455

LAW OFFICES OF
MACPHERSON, KWOK CHEN
& HEID LLP

2402 MICHELSON DRIVE
SUITE 210
IRVINE, CA 92612
(949) 752-7040
FAX (949) 752-7049

Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Norman E. Carte/Nuo Qu
Attorney Docket Number:	M-17467 US

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Publ. Fee- early, voluntary, or normal	1504	1	300	300
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**300**

Electronic Acknowledgement Receipt

EFS ID:	6969358
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Nuo Qu
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	08-FEB-2010
Filing Date:	29-SEP-2008
Time Stamp:	15:21:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$300
RAM confirmation Number	1360
Deposit Account	081394
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		109GTPPpetition.pdf	875987 34c36d4f787a2882b8b6afb82d2f18a5104558ca	yes	9

Multipart Description/PDF files in .zip description

Document Description	Start	End
Miscellaneous Incoming Letter	1	1
Fee Worksheet (PTO-875)	2	2
Petition for Green Tech Pilot	3	3
Miscellaneous Incoming Letter	4	5
Preliminary Amendment	6	9

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	30097 e0858f3f6abf5804d2084a7451586279a4419531	no	2

Warnings:

Information:

Total Files Size (in bytes):	906084

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (01-08)
Approved for use through 04/30/2008. OMB 0651-0031
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	12240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

ENCLOSURES *(Check all that apply)*

- [✓] Fee Transmittal Form
- [✓] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [✓] Other Enclosure(s) (please identify below):

Remarks

Petition To Make Special Under GTPP;
Statement & Suggested Classification;
Preliminary Amendment;

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature			
Printed name	Norman E Carte		
Date	02/08/2010	Reg. No.	30,455

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Nuo Qu	Date	02/08/2010

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/17 (10-08)
Approved for use through 06/30/2010. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2009

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 300.00

Complete if Known	
Application Number	12/240,011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Examiner Name	James W. Cranson JR.
Art Unit	2875
Attorney Docket No.	70257.109 (M-17467US)

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 08-1394 Deposit Account Name: Haynes and Boone, LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☑ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☑ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☑ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
Application Type	**Fee ($)**	**Small Entity Fee ($)**	**Fee ($)**	**Small Entity Fee ($)**	**Fee ($)**	**Small Entity Fee ($)**	**Fees Paid ($)**
Utility	330	165	540	270	220	110	
Design	220	110	100	50	140	70	
Plant	220	110	330	165	170	85	
Reissue	330	165	540	270	650	325	
Provisional	220	110	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	**Fee ($)**	**Small Entity Fee ($)**
Each claim over 20 (including Reissues)	52	26
Each independent claim over 3 (including Reissues)	220	110
Multiple dependent claims	390	195

Total Claims		**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____	- 20 or HP =	_____	x _____	= _____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____	- 3 or HP =	_____	x _____	= _____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims

Fee ($)	**Fee Paid ($)**

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		**Extra Sheets**		**Number of each additional 50 or fraction thereof**	**Fee ($)**	**Fee Paid ($)**
_____	- 100 =	_____	/ 50 =	_____ (round **up** to a whole number)	x _____	= _____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): Early publication fee	300.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 30,455	Telephone 949-202-3000
Name (Print/Type)	Norman E. Carte		Date 02/08/2010

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PET.GREEN
Document Description: Petition for Green Tech Pilot

PTO/SB/420 (12-09)
Approved for use through 05/31/2010. OMB 0651-0062
U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE
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PETITION TO MAKE SPECIAL UNDER THE GREEN TECHNOLOGY PILOT PROGRAM

Attorney Docket Number: 70257.109 (M-17467US)	Application Number (if known): 12/240,011	Filing date: 09/29/2008

First Named Inventor: Rene Peter Helbing

Title: EFFICIENT LED ARRAY

APPLICANT HEREBY REQUESTS TO PARTICIPATE IN THE GREEN TECHNOLOGY PILOT PROGRAM FOR THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.

This petition must be timely filed electronically using the USPTO electronic filing system, EFS-Web.

1. By filing this petition:

   Applicant is requesting early publication: Applicant hereby requests early publication under 37 CFR 1.219 and the publication fee set forth in 37 CFR 1.18(d) accompanies this request. Applicant hereby rescinds under 37 CFR 1.213(b) any previous filed request that the above-identified application not be published under 35 U.S.C. 122(b).

   If the application has been published, the petition must still be accompanied by the publication fee set forth in 37 CFR 1.18(d) and a statement that the application has been published.

2. By filing this petition: applicant is agreeing to make an election without traverse in a telephonic interview and elect an invention that meets the eligibility requirement and classification requirement set forth in the notice entitled "Pilot Program for Green Technologies Including Greenhouse Gas Reduction" that was published in the Federal Register if the Office determines that the claims are not obviously directed to a single invention.

3. This request is accompanied by statements of special status for the eligibility requirement.

4. The application contains no more than three (3) independent claims and twenty (20) total claims.

5. The application does not contain any multiple dependent claims.

6. Other attachments: _____

Signature	Date 02/08/2010
Name (Print/Typed) Norman E Carte	Registration Number 30,455

Note: *Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*.*

☐ *Total of_____ forms are submitted.

The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbeing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson JR,	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
February 8, 2010

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT AND SUGGESTED CLASSIFICATION

Dear Sir:

The basis for this Petition to Make Special Under the Green Technology Pilot Program is energy conservation. This invention contributes to energy conservation and thus qualifies for the Green Technology Pilot Program because the invention facilitates the manufacture and/or use of light emitting diodes (LEDs) which use substantially less energy than contemporary incandescent and fluorescent lights. Thus, it is respectfully submitted that the materiality standard is met.

Application hereby suggests that this invention be classified in 257/88. Class 257 is Active Solid State Devices. Subclass 88 is for Plural Light Emitting Devices. The subject invention is Light Emitting Device (LED), which is an active solid state device having plural light emitting devices.

Haynes & Boone, LLP
Attorney & Counselors

18100 Van Karman
Suite 750
Irvine, CA 92612-0169

CONCLUSION

Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 752-7040 is welcomed and encouraged.

Certification of Electronic Transmission
I hereby certify that this paper is being electronically transmitted to the U.S. Patent and Trademark Office on the date shown below.

Nuo Qu — **February 8, 2010** Date of Signature

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

Haynes & Boone, LLP
Attorney & Counselors

18100 Van Karman
Suite 750
Irvine, CA 92612-0169

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
12/240,011	09/29/2008	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	02/08/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 16	Minus	** 20	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $110 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/STELLA LITTLE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 02/24/2010

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	**PAPER NUMBER**
2875	

MAIL DATE	DELIVERY MODE
02/24/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas TX 75219

In re Application of	:	
Rene Peter Helbing	:	DECISION ON PETITION
Application No. 12/240,011	:	TO MAKE SPECIAL UNDER
Filed: 29 September 2008	:	THE GREEN TECHNOLOGY
Attorney Docket No. M-17467 US	:	PILOT PROGRAM

This is a decision on the petition under 37 CFR 1.102, filed 08 February 2010, to make the above-identified application special under the pilot program for applications pertaining to Green Technologies as set forth 74 Federal Register Notice 64666 (December 8, 2009).

The petition is **DISMISSED**.

If reconsideration of this decision is desired, a petition for reconsideration must be filed within ONE (1) MONTH OR THIRTY (30) DAYS from the mail date of this decision, whichever is longer. No extension of this time limit can be granted under 37 CFR 1.136(a) or (b). The petition for reconsideration should include an exhaustive attempt to provide the lacking item(s) noted below, since, after a decision on the petition for reconsideration, no further reconsideration or review of the matter will be undertaken by the Director.

A grantable petition to make an application special under 37 CFR 1.102 and the pilot program as set forth in 74 FR 64666 must be directed to a nonprovisional application filed under 35 USC 111(a) or be a national stage entry under 35 USC 371, exclusive of any reissue applications and be filed prior to the date of the notice, December 8, 2009.

In order to qualify for special status, the following requirements must be met. 1) The application must be classified in one of the eligible US classifications listed in section VI of the notice. 2) The application must have no more than 3 independent claims and no more than 20 total claims. 3) The application must not contain any multiple dependent claims. 4) The petition must state the basis for seeking special status, i.e., the claimed invention either: A) materially enhances the quality of the environment or B) materially contributes to: i) the discovery or development of renewable energy resources, ii) the more efficient utilization and conservation of energy resources, or iii) greenhouse gas emission reduction. 5) If the disclosure is not clear on its face that the claimed invention materially contributes under category (A) or (B), the petition must be accompanied by a statement by the applicant, assignee, or an attorney/agent registered to practice

before the Office explaining how the materiality standard is met. 6) A statement that applicant will agree to make an election without traverse in a telephonic interview if a restriction requirement is made by the examiner. 7) The petition to make special must be filed electronically. 8) The petition must be filed at least one day prior to the date that a first Office Action appears in the Patent Application Information Retrieval (PAIR) system. 9) The petition must be accompanied by a request for early publication in compliance with 37 CFR 1.219 and include the publication fee as set forth in 37 CFR 1.18(d).

The requirement for a fee for consideration of the petition to make special for applications pertaining to Green Technologies has been waived.

The petition lacks item 1 above.

In regard to item 1, petitioner should note that this application has been docketed in USPC 263/294 which is not one of the eligible US classifications listed in section VI of the notice. Therefore, this application is not eligible for the Pilot Program. The classification limitations are purposefully made to be narrow for the Pilot Program; however, these may be expanded based upon the success of the Pilot Program. Petitioner may file a preliminary amendment that would cause this application to be classified elsewhere. However, while petitioner may suggest a classification (see, e.g., MPEP 708.02(a)(VII)(C)), the application will be assigned to the most appropriate classification based upon current U.S. classification guidelines. Furthermore, a petition for the Pilot Program should not be filed until and unless all of the requirements set forth in the Notice are met; i.e., a petition should not be filed for an application that is currently classified outside the eligible classifications set forth in the Notice.

Any reconsideration of this decision should be submitted through the USPTO electronic filing system, EFS-Web, and selecting the document description of "Petition for Green Tech Pilot" on the EFS-Web screen.

Telephone inquires concerning this decision should be directed to Lee W. Young at 571-272-4549.

The application is being forwarded to the Technology Center Art Unit 2875 for action on the merits commensurate with this decision.

Lee W. Young
Quality Assurance Specialist
Technology Center 2800

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson, Jr.	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
March 23, 2010

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION FOR RECONSIDERATION OF DECISION ON PETITION TO MAKE SPECIAL UNDER THE GREEN TECHNOLOGY PILOT PROGRAM

Dear Sir:

On February 8, 2010, Applicant's representative filed a PETITION TO MAKE SPECIAL UNDER THE GREEN TECHNOLOGY PILOT PROGRAM for the above referenced patent application. On February 24, 2010, the United States Patent and Trademark Office (PTO) rendered a Decision to dismiss this petition. The Decision stated that the petition was dismissed because the patent application is not in one of the eligible US classifications listed in section VI of the notice (Federal Register Notice 64666, Vol. 74, No. 234, December 8, 2009).

The present petition for reconsideration reiterates the suggestion that the subject patent application be placed into USPC 257/88 (an eligible US classification listed in section VI of the notice) as provided in the previously filed STATEMENT AND SUGGESTED CLASSIFICATION filed with the PETITION TO MAKE SPECIAL UNDER THE GREEN TECHNOLOGY PILOT PROGRAM. This petition also provides the reasoning for this re-classification.

Haynes & Boone, LLP
Attorney & Counselors

18100 Van Karman
Suite 750
Irvine, CA 92612-0169

The subject patent application is believed to be presently classified or docketed in class 362 (a US classification not eligible under section VI of the notice). Class 362 is

entitled "Illumination." The definition of class 362 as found on the PTO website at http://www.uspto.gov/web/patents/classification/uspc362/defs362.htm is as follows (in part):

> **This class is the residual locus of means and processes for casting visible radiant energy in at least one direction to render objects in that direction visible.**
>
> **BASIC SUBJECT MATTER OF THE CLASS**
> **The basic subject matter of the class is comprised of:**
> **A. The combination of a source of visible radiant energy and means to modify the distribution or composition of the radiant energy emanating from the source.**
> **B. Methods utilizing the combination of A, above, to cast light in at least one direction to render objects in that direction visible.**

The definition of class 362 states that it is the "residual locus" of means and processes for casting visible radiant energy in at least one direction to render objection in that direction visible. By "residual locus" Applicant believes that class 362 is generally intended as a "catch-all" classification or the class of last resort. That is, class 362 appears to be the class which is to be used when a more appropriate class is not available. However, Applicant believes that the subject application does fit into a more appropriate class, namely USPC 257/88, at least for the reasons that will be discussed below.

Further, Applicant does not believe that the claimed invention properly meets items A and/or B under Basic Subject Matter of the Class of the definition of class 362. The claimed invention does not substantially "modify the distribution or composition of the radiant energy emanating from the source."

As stated above, Applicant believes that a more appropriate class is available for the subject application. The claimed invention generally relates to a light emitting diode (LED). LEDs are active solid state devices. Class 257 is specifically for active solid state devices and, indeed, this class is entitled "Active Solid State Devices". As such, class 257 is substantially more appropriate than class 362 for the claimed LED invention.

Haynes & Boone, LLP
Attorney & Counselors

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Irvine, CA 92612-0169

The definition and scope of class 257 as found on the PTO website at http://www.uspto.gov/web/patents/classification/uspc257/defs257.htm is as follows (in part):

> **SECTION I - CLASS DEFINITION**

This class provides for active solid-state electronic devices, that is, electronic devices or components that are made up primarily of solid materials, usually semiconductors, which operate by the movement of charge carriers - electrons or holes - which undergo energy level changes within the material and can modify an input voltage to achieve rectification, amplification, or switching action, and are not classified elsewhere.

SCOPE OF THE CLASS

Active solid-state electronic devices include diodes, transistors, thyristors, etc., but exclude pure resistors, capacitors, inductors, or combinations solely thereof. The latter class of devices is characterized as passive.

The claimed invention is consistent with Section I -- Class Definition of class 257 because an LED is an active solid state electronic device, as stated above. The claimed invention is also consistent with the Scope of the Class of class 257 because an LED is a diode.

Further, class 257 contains subclass 88, which is for Plural Light Emitting Devices. The subject application comprises "a plurality of LED chips" (Claim 1). Each LED chip is a separate light emitting device. Thus, the claimed invention comprises plural light emitting devices.

Therefore, it is respectfully suggested that the subject application be classified in class 257/88. Class 257/88 is one of the eligible US classifications listed in section VI of the notice.

Although not at issue, it is worthwhile to note that the Decision states on page 2 thereof that this application "has been docketed in USPC 263/294 [sic]." However, Applicant believes that the subject application was actually docketed in USPC 362/294, which is consistent with the Preliminary Class shown on the Official Filing Receipt and is also consistent with Classification Order 1883, which states that class 362 has been abolished. Applicant considers this to be a typographical error that does not affect the substance of the Decision or this petition.

Haynes & Boone, LLP
Attorney & Counselors

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Suite 750
Irvine, CA 92612-0169

In view of the foregoing, Applicant respectfully requests that the subject patent application be reclassified and that the previously dismissed PETITION TO MAKE SPECIAL UNDER THE GREEN TECHNOLOGY PILOT PROGRAM be granted.

CONCLUSION

Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 202-3000 is welcomed and encouraged.

Certification of Electronic Transmission
I hereby certify that this paper is being electronically transmitted to the U.S. Patent and Trademark Office on the date shown below.

Nuo Qu — **March 23, 2010** Date of Signature

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

Haynes & Boone, LLP
Attorney & Counselors

18100 Van Karman
Suite 750
Irvine, CA 92612-0169

Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Norman E. Carte/Nuo Qu
Attorney Docket Number:	M-17467 US

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Petition fee- 37 CFR 1.17(h) (Group III)	1464	1	130	130
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
		Total in USD ($)		**130**

Electronic Acknowledgement Receipt

EFS ID:	7265697
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Nuo Qu
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	23-MAR-2010
Filing Date:	29-SEP-2008
Time Stamp:	14:30:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$130
RAM confirmation Number	11419
Deposit Account	081394
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		109PetitionReconsideration.pdf	736089 2b149cadec050da79db052a1b97290742c0117d0	yes	6

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Miscellaneous Incoming Letter	1	1
	Fee Worksheet (PTO-875)	2	2
	Petition for Green Tech Pilot	3	6

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	30235 e589d054a6223b6de43cb14072c247af4a342476	no	2

Warnings:

Information:

Total Files Size (in bytes):	766324

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (01-08)
Approved for use through 04/30/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	12240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

ENCLOSURES *(Check all that apply)*

- [x] Fee Transmittal Form
  - [x] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [x] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [ ] Other Enclosure(s) (please identify below):

Remarks

Petition for Reconsideration of Decision on Petition to Make Special Under GTPP

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature			
Printed name	Norman E Carte		
Date	03/23/2010	Reg. No.	30,455

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Nuo Qu	Date	03/23/2010

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/17 (10-08)
Approved for use through 06/30/2010. OMB 0651-0032
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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2009

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 130.00

Complete if Known	
Application Number	12240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Examiner Name	James W. Cranson JR.
Art Unit	2875
Attorney Docket No.	70257.109 (M-17467US)

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☑ Deposit Account Deposit Account Number: 08-1394 Deposit Account Name: Haynes and Boone, LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☑ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☑ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☑ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	**Fee ($)**	**Fee ($)**	**Fee ($)**	**Fee ($)**	**Fee ($)**	**Fee ($)**	**Fees Paid ($)**
Utility	330	165	540	270	220	110	
Design	220	110	100	50	140	70	
Plant	220	110	330	165	170	85	
Reissue	330	165	540	270	650	325	
Provisional	220	110	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	**Fee ($)**	**Small Entity Fee ($)**
Each claim over 20 (including Reissues)	52	26
Each independent claim over 3 (including Reissues)	220	110
Multiple dependent claims	390	195

Total Claims	**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____ - 20 or HP =	_____ x	_____ =	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____ - 3 or HP =	_____ x	_____ =	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	**Fee Paid ($)**
_____	_____

3. APPLICATION SIZE FEE

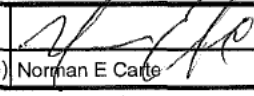
If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	**Extra Sheets**	**Number of each additional 50 or fraction thereof**	**Fee ($)**	**Fee Paid ($)**
_____ - 100 =	_____ / 50 =	_____ (round **up** to a whole number) x	_____ =	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): Petition	130.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 30,455	Telephone 949-202-3000
Name (Print/Type)	Norman E Carte		Date 03/23/2010

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

PUBLICATION NOTICE

32605
Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219



Title:EFFICIENT LED ARRAY

Publication No.US-2010-0079990-A1
Publication Date:04/01/2010

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 04/02/2010

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	**PAPER NUMBER**
2875	

MAIL DATE	DELIVERY MODE
04/02/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas TX 75219

In re Application of	:	
Rene Peter Helbing	:	DECISION ON PETITION
Application No. 12/240,011	:	TO MAKE SPECIAL UNDER
Filed: 29 September 2008	:	THE GREEN TECHNOLOGY
Attorney Docket No. M-17467 US	:	PILOT PROGRAM

This is a decision on the petition under 37 CFR 1.102, filed 08 February 2010 and renewed 23 March 2010, to make the above-identified application special under the pilot program for applications pertaining to Green Technologies as set forth 74 Federal Register Notice 64666 (December 8, 2009).

The petition is **DENIED**.

A grantable petition to make an application special under 37 CFR 1.102 and the pilot program as set forth in 74 FR 64666 must be directed to a nonprovisional application filed under 35 USC 111(a) or be a national stage entry under 35 USC 371, exclusive of any reissue applications and be filed prior to the date of the notice, December 8, 2009.

In order to qualify for special status, the following requirements must be met. 1) The application must be classified in one of the eligible US classifications listed in section VI of the notice. 2) The application must have no more than 3 independent claims and no more than 20 total claims. 3) The application must not contain any multiple dependent claims. 4) The petition must state the basis for seeking special status, i.e., the claimed invention either: A) materially enhances the quality of the environment or B) materially contributes to: i) the discovery or development of renewable energy resources, ii) the more efficient utilization and conservation of energy resources, or iii) greenhouse gas emission reduction. 5) If the disclosure is not clear on its face that the claimed invention materially contributes under category (A) or (B), the petition must be accompanied by a statement by the applicant, assignee, or an attorney/agent registered to practice before the Office explaining how the materiality standard is met. 6) A statement that applicant will agree to make an election without traverse in a telephonic interview if a restriction requirement is made by the examiner. 7) The petition to make special must be filed electronically. 8) The petition must be filed at least one day prior to the date that a first Office Action appears in the Patent Application Information Retrieval (PAIR) system. 9) The petition

must be accompanied by a request for early publication in compliance with 37 CFR 1.219 and include the publication fee as set forth in 37 CFR 1.18(d).

The requirement for a fee for consideration of the petition to make special for applications pertaining to Green Technologies has been waived.

The petition lacks item 1 above.

As set forth in the dismissal, this application has been classified in an area (USPC 362/294) that is not one of the eligible US classifications listed in section VI of the notice. Therefore, this application is not eligible for the Pilot Program.

Applicant argues that the instant application should be classified in 257/88. Applicants' arguments have been considered but are not found persuasive.

Applications are classified based on the comprehensiveness of the claims. The instant claims require a light emitting diode (LED) apparatus comprising a metal substrate having a reflective surface and a plurality of LED chips mounted directly to the reflective surface. The recitation of the metal substrate having a reflective surface is sufficient structure to properly place the application in class 362 (Illumination) instead of the broader class of 257 (Active Solid-State Devices). Additionally, the instant application has been docketed in class 362 which means that the application has been reviewed and accepted in class 362 by the corresponding art unit. Consequently, the classification of 362/294 is deemed proper and the petition is therefore denied.

Telephone inquires concerning this decision should be directed to Lee W. Young at 571-272-4549.

The application is being forwarded to the Technology Center Art Unit 2838 for action on the merits commensurate with this decision.

Lee W. Young
Quality Assurance Specialist
Technology Center 2800

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12240011
Filing Date	2008-09-29
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6871982	B2	2005-03-29	Holman et al.	
	2	6954270	B2	2005-10-11	ostler et al.	
	3	7075112	B2	2006-07-11	Roberts et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12240011
Filing Date	2008-09-29
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	PCT search report of Feb. 23, 2010 for PCT/US2009/058085	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12240011
	Filing Date	2008-09-29
	First Named Inventor	Rene Peter Helbing
	Art Unit	2875
	Examiner Name	James W. Cranson JR.
	Attorney Docket Number	70257.109 (M-17467US)

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2010-04-26
Name/Print	Norman E Carte	Registration Number	30,445

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: NORMAN CARTE
HAYNES AND BOONE, LLP
2323 VICTORY AVENUE, SUITE 700
DALLAS, TX 75219-7673

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing *(day/month/year)*	23 FEB 2010
Applicant's or agent's file reference: 70257-134	**FOR FURTHER ACTION** See paragraphs 1 and 4 below
International application No.: PCT/US2009/058085	International filing date *(day/month/year)*: 23 September 2009
Applicant: BRIDGELUX, INC.	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

   Filing of amendments and statement under Article 19:
   The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

   When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

   Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

   For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

   ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

   ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

   Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

   The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

   Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

   In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

   See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver Telephone No. 571-272-7774

Form PCT/ISA/220 (January 2004) *(See notes on accompanying sheet)*

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 70257-134	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2009/058085	International filing date *(day/month/year)* 23 September 2009	(Earliest) Priority Date *(day/month/year)* 29 September 2008
Applicant BRIDGELUX, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 2

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/058085

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H01L 33/00(2009.01)
USPC - 257/98
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - H01L 33/00 (2009.01)
USPC - 257/98

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 7,075,112 B2 (ROBERTS et al) 11 July 2006 (11.07.2006) entire document	1, 6, 8-9, 14, 16-17, 22, 24-25, 30, 32 --- 2-5, 7, 10-13, 15, 18-21, 23, 26-29, 31
Y	US 6,954,270 B2 (OSTLER et al) 11 October 2005 (11.10.2005) entire document	2-5, 7, 10-13, 15, 18-21, 23, 26-29, 31
A	US 6,871,982 B2 (HOLMAN et al) 29 March 2005 (29.03.2005) entire document	1-32

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
03 November 2009	23 FEB 2010
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

Electronic Acknowledgement Receipt

EFS ID:	7491172
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Nuo Qu
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	26-APR-2010
Filing Date:	29-SEP-2008
Time Stamp:	18:19:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		109IDS.pdf	422653 f52dbe7942a82066236fce16efd47f1b00e442de	yes	7

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Miscellaneous Incoming Letter	1	1
	Information Disclosure Statement (IDS) Filed (SB/08)	2	4
	NPL Documents	5	7
Warnings:			
Information:			
	Total Files Size (in bytes):	422653	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (01-08)
Approved for use through 04/30/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	

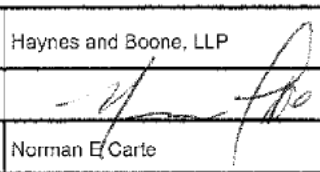
Application Number	12240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2675
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☑ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please Identify below):

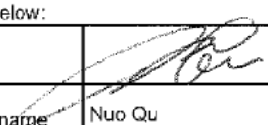
Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature			
Printed name	Norman E. Carte		
Date	04/26/2010	Reg. No.	30,455

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Nuo Qu	Date	04/26/2010

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PET.GREEN
Document Description: Petition for Green Tech Pilot

PTO/SB/420 (12-09)
Approved for use through 05/31/2010. OMB 0651-0062
U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION TO MAKE SPECIAL UNDER THE GREEN TECHNOLOGY PILOT PROGRAM

Attorney Docket Number: 70257.109 (M-17467US)	Application Number (if known): 12/240,011	Filing date: 09/29/2008

First Named Inventor: Rene Peter Helbing

Title: EFFICIENT LED ARRAY

APPLICANT HEREBY REQUESTS TO PARTICIPATE IN THE GREEN TECHNOLOGY PILOT PROGRAM FOR THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.

This petition must be timely filed electronically using the USPTO electronic filing system, EFS-Web.

1. By filing this petition:

   Applicant is requesting early publication: Applicant hereby requests early publication under 37 CFR 1.219 and the publication fee set forth in 37 CFR 1.18(d) accompanies this request. Applicant hereby rescinds under 37 CFR 1.213(b) any previous filed request that the above-identified application not be published under 35 U.S.C. 122(b).

   If the application has been published, the petition must still be accompanied by the publication fee set forth in 37 CFR 1.18(d) and a statement that the application has been published.

2. By filing this petition: applicant is agreeing to make an election without traverse in a telephonic interview and elect an invention that meets the eligibility requirement and classification requirement set forth in the notice entitled "Pilot Program for Green Technologies Including Greenhouse Gas Reduction" that was published in the Federal Register if the Office determines that the claims are not obviously directed to a single invention.

3. This request is accompanied by statements of special status for the eligibility requirement.

4. The application contains no more than three (3) independent claims and twenty (20) total claims.

5. The application does not contain any multiple dependent claims.

6. Other attachments: _____

Signature	Date 06/11/2010
Name (Print/Typed) Norman E Carte	Registration Number 30,455

Note: *Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*.*

☐ *Total of_____ forms are submitted.

The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbeing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson JR,	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
June 11, 2010

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT UNDER THE GREEN TECHNOLOGY PILOT PROGRAM

Dear Sir:

The basis for this Petition to Make Special Under the Green Technology Pilot Program is energy conservation. This invention contributes to energy conservation and thus qualifies for the Green Technology Pilot Program because the invention facilitates the manufacture and/or use of light emitting diodes (LEDs) which use substantially less energy than contemporary incandescent and fluorescent lights. Thus, it is respectfully submitted that the materiality standard is met.

A petition under the Green Technologies Pilot Program was originally filed for this patent application on February 8, 2010. The petition was denied because the invention was in an ineligible class. A Petition for Reconsideration was subsequently filed on March 23, 2010 in which Applicant attempted to have the invention re-classified in an eligible class. The Petition for Reconsideration was also denied. This new petition under the Green Technologies Pilot Program is being filed because the requirement that invention be in an eligible class has been removed.

The present patent application has been published on April 1, 2010 and assigned a publication no. US-2010-0079990-A1. The early publication fee was paid with the Green Technology Pilot Program petition that was filed on February 8, 2010.

Haynes & Boone, LLP
Attorney & Counselors

18100 Van Karman
Suite 750
Irvine, CA 92612-0169

Also, please note that a Preliminary Amendment was filed on February 8, 2010. After entry of the Preliminary Amendment, the patent application will contain no more than three independent claims and twenty total claims.

Haynes & Boone, LLP
Attorney & Counselors

18100 Van Karman
Suite 750
Irvine, CA 92612-0169

CONCLUSION

Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 202-3000 is welcomed and encouraged.

Certification of Electronic Transmission
I hereby certify that this paper is being electronically transmitted to the U.S. Patent and Trademark Office on the date shown below.

Nuo Qu — **June 11, 2010** Date of Signature

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

Haynes & Boone, LLP
Attorney & Counselors

18100 Van Karman
Suite 750
Irvine, CA 92612-0169

Electronic Acknowledgement Receipt

EFS ID:	7796915
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Nuo Qu
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	11-JUN-2010
Filing Date:	29-SEP-2008
Time Stamp:	14:37:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		GTPPpetition.pdf	270353 164496055a0a49edffb7a010849b198f523855a2	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Miscellaneous Incoming Letter	1	1
	Petition for Green Tech Pilot	2	5
Warnings:			
Information:			
	Total Files Size (in bytes):	270353	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (01-08)
Approved for use through 04/30/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	12240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please identify below):

Remarks

Petition To Make Special Under GTPP;
Statement Under GTPP.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature			
Printed name	Norman E Carte		
Date	06/11/2010	Reg. No.	30,455

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Nuo Qu	Date	06/11/2010

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 06/24/2010

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

MAIL DATE	DELIVERY MODE
06/24/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
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Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas TX 75219

In re Application of	:	
Rene Peter HELBING	:	DECISION ON PETITION
Application No. 12/240,011	:	TO MAKE SPECIAL UNDER
Filed: 29 September 2008	:	THE GREEN TECHNOLOGY
Attorney Docket No. M-17467 US	:	PILOT PROGRAM

This is a decision on the petition under 37 CFR 1.102, filed on 08 February 2010 and renewed on 23 March 2010 and 11 June 2010, to make the above-identified application special under the pilot program for applications pertaining to Green Technologies as set forth 74 Federal Register Notice 64666 (December 8, 2009) and amended by 75 Federal Register Notice 28554 (May 21, 2010).

The petition is **GRANTED**.

A grantable petition to make an application special under 37 CFR 1.102 and the pilot program as set forth in 74 FR 64666 must be directed to a nonprovisional application filed under 35 USC 111(a) or be a national stage entry under 35 USC 371, exclusive of any reissue applications and be filed prior to the date of the notice, December 8, 2009.

In order to qualify for special status, the following requirements must be met. 1) The application must have no more than 3 independent claims and no more than 20 total claims. 2) The application must not contain any multiple dependent claims. 3) The petition must state the basis for seeking special status, i.e., the claimed invention either: A) materially enhances the quality of the environment or B) materially contributes to: i) the discovery or development of renewable energy resources, ii) the more efficient utilization and conservation of energy resources, or iii) greenhouse gas emission reduction. 4) If the disclosure is not clear on its face that the claimed invention materially contributes under category (A) or (B), the petition must be accompanied by a statement by the applicant, assignee, or an attorney/agent registered to practice before the Office explaining how the materiality standard is met. 5) A statement that applicant will agree to make an election without traverse in a telephonic interview if a restriction requirement is made by the examiner. 6) The petition to make special must be filed electronically. 7) The petition must be filed at least one day prior to the date that a first Office Action appears in the Patent Application Information Retrieval (PAIR) system. 8) The petition must be accompanied by a

request for early publication in compliance with 37 CFR 1.219 and include the publication fee as set forth in 37 CFR 1.18(d).

The requirement for a fee for consideration of the petition to make special for applications pertaining to Green Technologies has been waived.

The instant petition complies with items 1 – 8 above. Accordingly, the above-identified application has been accorded "special" status.

Telephone inquires concerning this decision should be directed to Lee W. Young at 571-272-4549.

The application is being forwarded to the Technology Center Art Unit 2875 for action on the merits commensurate with this decision.

Lee W. Young
Quality Assurance Specialist
Technology Center 2800

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 07/21/2010

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

MAIL DATE	DELIVERY MODE
07/21/2010	PAPER

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Office Action Summary	Application No.	Applicant(s)	
	12/240,011	HELBING, RENE PETER	
	Examiner	Art Unit	
	James W. Cranson	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
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Status

1)☒ Responsive to communication(s) filed on *08 February 2010*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-16* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-8, drawn to An LED apparatus, classified in class 362, subclass 241.

II. Claims 9- 16, drawn to a method for forming an LED apparatus, classified in class 445, subclass 23.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case a method for forming comprising configuring a metal substrate to have a reflective surface can be used to make any device that requires that light be redirected. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either

instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O`Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W. C./
Examiner, Art Unit 2875

/Stephen F. Husar/
Primary Examiner, Art Unit 2875

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BIB DATA SHEET

CONFIRMATION NO. 4526

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
12/240,011	09/29/2008	362	2875	M-17467 US

APPLICANTS
Rene Peter Helbing, Sunnyvale, CA;

** **CONTINUING DATA** **********

** **FOREIGN APPLICATIONS** **********

** **IF REQUIRED, FOREIGN FILING LICENSE GRANTED** ** SMALL ENTITY **
10/07/2008

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /JAMES W CRANSON JR/ Examiner's Signature	☐ Met after Allowance JWC Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		CA	4	32	4

ADDRESS

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219
UNITED STATES

TITLE

EFFICIENT LED ARRAY

FILING FEE RECEIVED		
1140	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Assignee:	Bridgelux, Inc.		
Title:	EFFICIENT LED ARRAY		
Application No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
July 29, 2010

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Dear Sir:

In response to the Restriction Requirement dated July 21, 2010, **Applicants hereby elect to prosecute Invention I, Claims 1-8 without traverse**. Applicants reserve the right to prosecute non-elected Invention II, Claims 9-16 in one or more divisional applications.

Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394. Please telephone the undersigned at (949) 202-3000 if there are any questions.

Certification of Electronic Transmission
I hereby certify that this paper is being electronically transmitted to the U.S. Patent and Trademark Office on the date shown below.

Nuo Qu — **July 29, 2010** Date of Signature

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

Electronic Acknowledgement Receipt

EFS ID:	8116278
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Nuo Qu
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	29-JUL-2010
Filing Date:	29-SEP-2008
Time Stamp:	14:30:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		109RRresponse.pdf	120571 31c5f04101fb30b2e9235feba876e94f23afd daa	yes	2

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Miscellaneous Incoming Letter	1	1
	Response to Election / Restriction Filed	2	2
Warnings:			
Information:			
	Total Files Size (in bytes):	120571	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (01-08)
Approved for use through 04/30/2008. OMB 0651-0031
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	12240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson
Attorney Docket Number	70257.109 (M-17467US)

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☑ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please Identify below):

Remarks

Restriction Requirement

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature			
Printed name	Norman Carte		
Date	07/29/2010	Reg. No.	30,455

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Nuo Qu	Date	07/29/2010

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32605 7590 08/13/2010

Haynes and Boone, LLP
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2323 Victory Avenue
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Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

MAIL DATE	DELIVERY MODE
08/13/2010	PAPER

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	Examiner	Art Unit	
	James W. Cranson	2875	

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4a) Of the above claim(s) *9-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

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7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

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a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

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4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1 - 8 in the reply filed on 7/29/2010 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 - 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2008/0290354 A1 to Hoelen et al. in view of US 2008/0029772 A1 to Chiang and in further view of US 2007/0200128 A1 to Yano.

Hoelen in a light emitting diode assembly discloses light emitting diode apparatus comprising a metal substrate of aluminum, a plurality of LED chips mounted to the metal substrate to allow for thermal dissipation, and that at least a portion of the LED chips are spaced apart from each other. Hoelen does not specifically disclose that the metal substrate of aluminum

is a reflective surface, that metal substrate of aluminum comprises polished aluminum or that the plurality of chips are mounted directly to surface of metal substrate. Chiang in a lighting structure with light emitting diodes teaches having plurality of chips are mounted directly to surface of metal substrate .Yano in a light emitting device teaches the use of polished aluminum substrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Chiang in Hoelen to provide that plurality of chips are mounted directly to surface of metal substrate. The reason for plurality of chips are mounted directly to surface of metal substrate, as stated by Chiang, is to achieve a light module with high heat sink performance [0005]. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching Yano in Hoelen as modified by Chiang to provide a polished aluminum substrate reflective surface. The reason for using a polished aluminum substrate reflective surface, as stated by Yano, [0016] is to increase the reflectivity.

Re claim 1:

A light emitting diode (LED) apparatus (**figure 1**) comprising: a metal substrate (**1**) having a reflective surface (**Yano, ABSTRACT, 103 statement above**); and a plurality of LED chips (**14, 15, 16 ABSTRACT, [0013])** mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation (**Chiang [0005])** , and wherein at least a portion of the LED chips are spaced apart from each other (**ABSTRACT**, **figure 1**, **103 statement above**) to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

Re claim 2, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang has that wherein the reflective surface comprises polished aluminum.

Re claim 3, according to claim 1, wherein reflective surface comprises silver plating.

Hoelen as modified for claim 1 by Yano and Chiang discloses the claimed invention except for the reflective surface comprising silver plating. It would have been obvious to one of ordinary skill in the art at the time of the invention for Hoelen as modified for claim 1 by Yano and Chiang to have a reflective surface that comprised silver plating because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (***In re Leshin,*** **125 USPQ 416).**

Re claim 4, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang has that reflective surface has a reflectivity of 70% or greater [0017}.

Re claim 5, according to claim 1; wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

Hoelen as modified for claim 1 by Yano and Chiang discloses the claimed invention except for the LED chips forming an array having a chip spacing that is in the range of approximately .5 millimeters or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention for Hoelen as modified for claim 1 by Yano and Chiang to have the LED chips form an array having a chip spacing that is approximately in the range of .5 millimeters or greater in the gap 4 because it has been held that lacking any criticality, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable

range based on its suitability for the intended use involves only routine skill in the art. (***In re Aller*, 105 USPQ 233).**

Re claim 6, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang discloses that the plurality of LED chips provide separate thermal (**8**) and electrical paths (**19**) .

Re claim 7, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang discloses that the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not on the first surface.

Re claim 8, according to claim 1, wherein the metal substrate is mounted directly to a heat sink.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2008/0290354 A1 to Hoelen et al. in view of US 2008/0029772 A1 to Chiang, view of US 2007/0200128 A1 to Yano and in further view of US 2007/0108599 A1 to Im et al.

Hoelen as modified for claim 1 by Yano and Chiang does not have a heat sink directly mounted to the metal substrate. Im in a semiconductor chip package with a metal substrate and semiconductor module having the same teaches having a heat sink directly mounted to a metal substrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Im in Hoelen as modified for claim 1 by Yano and Chiang to provide a heat sink that is mounted directly to the metal substrate. The reason is to increase heat dissipation.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is US 6,936,855 to Harrah.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O`Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W. C./
Examiner, Art Unit 2875
/Stephen F. Husar/
Primary Examiner, Art Unit 2875

Notice of References Cited	Application/Control No. 12/240,011	Applicant(s)/Patent Under Reexamination HELBING, RENE PETER	
	Examiner James W. Cranson	Art Unit 2875	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0200128	08-2007	Yano, Keiichi	257/099
*	B	US-2008/0290354	11-2008	Hoelen et al.	257/90
*	C	US-2008/0029772	02-2008	Chiang, Cheng-Ting	257/88
*	D	US-2007/0108599	05-2007	Im et al.	257/712
*	E	US-6,936,855	08-2005	Harrah, Shane	257/88
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2010								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	N								
	10	N								
	11	N								
	12	N								
	13	N								
	14	N								
	15	N								
	16	N								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	Art Unit
	James W Cranson	2875

SEARCHED			
Class	Subclass	Date	Examiner
362	218,294,,247,249.02,296.04	8/9/2010	JWC
257	98,88	8/9/2010	JWC

SEARCH NOTES		
Search Notes	Date	Examiner
362/$.CCLS.	8/9/2010	JWC
INVENTOR SEARCH	8/9/201	JWC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
L2	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
L3	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
L4	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
L5	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
L6	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
L7	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
L8	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
L9	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
L10	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
L11	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40

S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30
S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39

EAST Search History (Interference)

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8/10/2010 7:42:54 PM
C:\Documents and Settings\jcranson\My Documents\EAST\Workspaces\12240011.wsp

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12240011
Filing Date	2008-09-29
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6871982	B2	2005-03-29	Holman et al.	
	2	6954270	B2	2005-10-11	ostler et al.	
	3	7075112	B2	2006-07-11	Roberts et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.C./

Receipt date: 04/26/2010

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12240011
	Filing Date	2008-09-29
	First Named Inventor	Rene Peter Helbing
	Art Unit	2875
	Examiner Name	James W. Cranson JR.
	Attorney Docket Number	70257.109 (M-17467US)

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	PCT search report of Feb. 23, 2010 for PCT/US2009/058085	☐

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EXAMINER SIGNATURE

Examiner Signature	/James Cranson Jr/ (08/10/2010)	Date Considered	08/10/2010

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[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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In place of PTO-1449 Form	U. S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			*Complete if Known*	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(use as many sheets as necessary)*				Application Number	12/240,011
				Filing Date	09/29/2008
				Applicant(s)	Rene Peter Helbeing
				Art Unit	2875
				Examiner Name	James W. Cranson JR.
SHEET	1	OF	1	Attorney Docket Number	70257.109 (M-17467US)

U. S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		12/705240	02/12/2010	Rene Peter Helbing
		12/848484	08/02/2010	Rene Peter Helbing

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document (Country Code – Number – Kind)	Publication Date MM-DD-YYYY	Patentee or Applicant of Cited Document	Translation Y/N

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Examiner's Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item, date, page(s), volume-issue number(s), publisher, city/country where published

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Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Alma Levy./Nuo Qu
Attorney Docket Number:	M-17467 US

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt

EFS ID:	8482644
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Alma Levy./Nuo Qu
Filer Authorized By:	Alma Levy.
Attorney Docket Number:	M-17467 US
Receipt Date:	23-SEP-2010
Filing Date:	29-SEP-2008
Time Stamp:	14:20:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$180
RAM confirmation Number	392
Deposit Account	081394
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		109IDS.pdf	309480 baf4ee171fb922892e029a99153c2800f08a81b0	yes	5

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Miscellaneous Incoming Letter	1	1
Transmittal Letter	2	4
Information Disclosure Statement (IDS) Filed (SB/08)	5	5

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Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	30146 adb86fb2415087aa9e740ed9bf3b549a110fa8c9	no	2

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Information:

Total Files Size (in bytes):	339626

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National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

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PTO/SB/21 (01-08)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	12/240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson
Attorney Docket Number	70257.109 (M-17467US)

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☑ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
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- ☐ Licensing-related Papers
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- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature	(30,455)		
Printed name	Alma Levy		
Date	09/23/2010	Reg. No.	43,751

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Signature			
Typed or printed name	Nuo Qu	Date	09/23/2010

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Assignee:	Bridgelux, Inc.		
Title:	EFFICIENT LED ARRAY		
Application No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
September 23, 2010

Mail Stop IDS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§1.56, 1.97, and 1.98

Sir:

Pursuant to 37 C.F.R. §§1.56, 1.97, and 1.98, the documents listed on the accompanying form PTO/SB/08A and/or PTO/SB/08B are called to the attention of the Examiner for the above patent application.

Citation of these documents shall not be construed as:

(1) an admission that the documents are necessarily prior art with respect to the instant invention;

(2) a representation that a search has been made, other than as described above; or

(3) an admission that the information cited herein is, or is considered to be material to patentability.

Enclosed with this statement are the following:

☒ Form PTO/SB/08A and/or PTO/SB/08B. The Examiner is requested to initial the form and return it to the undersigned in accordance with M.P.E.P. §609.

☒ A copy of each cited document as required by 37 C.F.R. §1.98 (*except where otherwise indicated*).

Complete copies are not submitted of U.S. patents and U.S. patent application publications per 37 C.F.R. §1.98(a)(2)(ii), and copies are not submitted of documents

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already cited or submitted in a parent application from which benefit under 35 U.S.C. §120 is claimed per 37 C.F.R. §1.98(d).

This statement should be considered because:

☐ This statement qualifies under 37 C.F.R. §1.97, subsection (b) because:

- ☐ It is being filed within 3 months of the application filing date of a national application other than a continued prosecution application under §1.53(d);
  -- OR --
- ☐ It is being filed within 3 months of entry of the national stage as set forth in §1.491 in an international application;
  -- OR --
- ☐ It is being filed before the mailing date of a first Office action *on the merits*;
  -- OR --
- ☐ It is being filed before the mailing date of a first Office action *after the filing of an RCE under §1.114.*

whichever occurs last.

☒ Although it may not qualify under subsection (b), this statement qualifies under 37 C.F.R. §1.97, subsection (c) because:

(1) It is being filed before the mailing date of a FINAL Office Action and before a Notice of Allowance or another action closing prosecution (whichever occurs first);
-- AND *(check at least one of the following)* --

- ☒ (1) It is accompanied by the $180 fee set forth in 37 C.F.R. §1.17(p);
  -- OR --
- ☐ (2) Pursuant to 37 C.F.R. §1.97(e), each item of information contained in the information disclosure statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

☐ Although it may not qualify under subsections (b) or (c), this statement qualifies under 37 C.F.R. §1.97, subsection (d) because:

(1) Pursuant to 37 C.F.R. §1.97(e), each item of information contained in the information disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement;
-- AND --

(2) It is accompanied by the fee set forth in 37 C.F.R. §1.17(p);

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-- AND --

(3) It is filed on or before payment of the Issue Fee.

☒ ***Fee Authorization.*** The Commissioner is hereby authorized to charge any additional fee(s), charge any underpayment of fee(s), or credit any overpayment associated with this communication to Deposit Account No. 08-1394. A duplicate copy of this authorization is enclosed.

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Nuo Qu — September 23, 2010

Respectfully submitted,

for (30,455)

Alma Levy
Attorney for Applicants
Reg. No. 43,751

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Telephone: (408) 392-9520
Facsimile: (408) 392-9262

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson, Jr.	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
November 12, 2010

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Dear Sir:

In response to the non-final Office Action dated August 13, 2010, please consider the following.

LAW OFFICES OF
HAYNES AND BOONE, LLP
18100 Von Karman
SUITE 750
IRVINE CA 92612
(949) 202-3000
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IN THE CLAIMS

1. (Currently amended) A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion.

2. (Original) The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. (Original) The apparatus of claim 1, wherein the reflective surface comprises silver plating.

4. (Original) The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. (Original) The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. (Original) The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. (Original) The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

8. (Original) The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

9-32. (Cancelled).

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REMARKS

Claims 1-16 are pending in the application of which claims 9-16 have been withdrawn from consideration. Claims 1-8 stand rejected. Reconsideration and allowance are respectfully requested in view of the following remarks.

Claim Amendments

Independent claim 1 has been amended to recite: "A light emitting diode (LED) apparatus comprising: a metal substrate having a reflective surface; and a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion."

No new matter has been added. Support for the amendments may be found in the specification of the present application at least at Figure 5 and ¶[0034], which states: "To enable electrical connections, a layer of dielectric insulator 302, which may be aluminum oxide, is mounted to the aluminum metal substrate of the LED array 200. On top of the dielectric 302 copper traces 304 are run to a bonding pad 306. Bonding wires are then routed from the bonding pad 306 in a chip to chip fashion so that power may be applies [sic] to all chips in the LED array 200. As a result, an electrical path is formed as illustrated at 312."

Claim Rejections--35 U.S.C. 103(a)

Claims 1-7 were rejected under 35 U.S.C. 103(a) as being unpatentable over US 2008/0290354A1 to Hoelen et al. (hereinafter, "Hoelen") in view of US 2008/0029772A1 to Chiang (hereinafter, "Chiang") and in further view of US 2007/0200128A1 to Yano (hereinafter, "Yano").

The Examiner stated that "Hoelen does not specifically disclose that the metal substrate of aluminum is a reflective surface, that metal substrate of aluminum comprises polished aluminum or that the plurality of chips are mounted directly to surface of metal substrate." Office Action, bottom of page 2 to top of page 3. The Examiner then cited Chiang and Yano to make up for the deficiencies of Hoelen.

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Chiang discloses that an LED chip 402a, 402b, or 402c each have a positive terminal and a negative terminal, which are respectively connected to its corresponding conductive layer, such as 418 and 419b, via bonding wires (see, e.g., Chiang ¶[0029] and Figs. 4-6). That is, Chiang fails to disclose that the LED chips are connected in a chip to chip fashion to form an electrical path. In contrast, according to embodiments of the present application, bonding wires may be routed from a bonding pad in a chip to chip fashion to that power may be applied to all chips and as a result, an electrical path may be formed as illustrated, for example, in Fig. 3 of the present application (see also, e.g., ¶[0034] of the present application as published). Yano also completely fails to disclose such LED array wherein LED chips are connected in a chip to chip fashion to form an electrical path that is separate from a thermal path.

Therefore, Hoelen, Chiang and Yano, alone or in combination, fail to disclose, teach or suggest at least: "wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion," as recited, in part in independent claim 1 of the present application.

Accordingly, it is respectfully requested that the rejection of claim 1 be withdrawn. Also, because claims 2-6 depend from claim 1, it is respectfully requested that the rejection of these dependent claims also be withdrawn.

Claim 8 was rejected under 35 U.S.C 103(a) as being unpatentable over Hoelen in view of Chiang Yano and further in view of US 2007/018599 (hereinafter, "Im"). Im fails to make up for the deficiencies of Hoelen, Chiang and Yano discussed above with respect to independent claim 1. Because claim 8 depends from claim 1, it is respectfully requested that the rejection of claim 8 also be withdrawn.

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CONCLUSION

Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 202-3000 is welcomed and encouraged.

Certification of Electronic Transmission
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Nuo Qu

November 12, 2010
Date of Signature

Respectfully submitted,

Alma P. Levy (30,455)
Attorney for Applicant
Reg. No. 43,751

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FAX (949) 202-3001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson, Jr.	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
November 12, 2010

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CHANGE IN ENTITY STATUS

Dear Sir:

Pursuant to 37 CFR 1.28, the Applicants are no longer claim the benefit of small entity status for the above-identified patent application. The status as a small entity was established in good faith and the fees as a small entity were paid in good faith. Please update the entity status to large entity.

Type of Fee	Current Fee	Small Entity Fee Paid	Date Charged	Deficiency Owed to PTO
Basic Utility Filing Fee	$330.00	$75.00	9/29/2008	$255.00
Utility Search Fee	$540.00	$255.00	9/29/2008	$285.00
Utility Examination Fee	$220.00	$105.00	9/29/2008	$115.00
Independent Claims in Excess of 3	$220.00	$105.00	09/29/2008	$115.00
Claims in Excess of 20	$624.00	$300.00	9/26/2008	$324.00
Total Deficiency Owed				**$1,094.00**

HAYNES AND BOONE, LLP

18100 Von Karman, Suite 750
Irvine, CA 92612
(949) 202-3000
FAX (949) 202-3001

The Examiner is authorized to charge the $1,094.00 deficiency owed to Deposit Account 08-1394 of Haynes and Boone, LLP, Dallas, Texas. If the Examiner has any questions, please call the undersigned at (949) 202-3000.

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Nuo Qu

November 12, 2010
Date of Signature

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

HAYNES AND BOONE, LLP

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Irvine, CA 92612
(949) 202-3000
FAX (949) 202-3001

Electronic Acknowledgement Receipt

EFS ID:	8827215
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Nuo Qu
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	12-NOV-2010
Filing Date:	29-SEP-2008
Time Stamp:	15:13:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		109ROA.pdf	447359 4971ab323e5c46fa26445bb9da632fa9534e04da	yes	6

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Miscellaneous Incoming Letter	1	1
	Amendment/Req. Reconsideration-After Non-Final Reject	2	6

Warnings:					
Information:					
2	Miscellaneous Incoming Letter	109ChangeInEntityStatus.pdf	94098 b2849e6e28840fc3fe7c45e18226110a8f33ac6e	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	541457		

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (01-08)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	12/240011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson JR.
Attorney Docket Number	70257.109 (M-17467US)

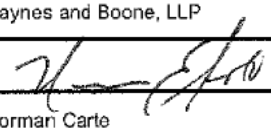
ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☑ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please identify below):
  Change in Entity Status

Remarks

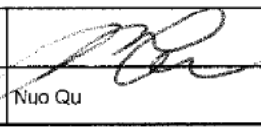
Change in Entity Status

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature			
Printed name	Norman Carte		
Date	11/12/2010	Reg. No.	30,455

CERTIFICATE OF TRANSMISSION/MAILING

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Signature			
Typed or printed name	Nuo Qu	Date	11/12/2010

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
12/240,011	09/29/2008	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 11/12/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 8	Minus	** 32	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/C. DESSAU/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 12/29/2010

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

MAIL DATE	DELIVERY MODE
12/29/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/240,011	HELBING, RENE PETER	
	Examiner	Art Unit	
	James W. Cranson	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/23/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 - 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2008/0290354 A1 to Hoelen et al. in view of US 2008/0029772 A1 to Chiang and in further view of US 2007/0200128 A1 to Yano.

Hoelen in a light emitting diode assembly discloses light emitting diode apparatus comprising a metal substrate of aluminum, a plurality of LED chips mounted to the metal substrate to allow for thermal dissipation, and that at least a portion of the LED chips are spaced apart from each other. Hoelen does not specifically disclose that the metal substrate of aluminum is a reflective surface, that metal substrate of aluminum comprises polished aluminum or that the plurality of chips are mounted directly to surface of metal substrate. Chiang in a lighting structure with light emitting diodes teaches having plurality of chips are mounted directly to

surface of metal substrate .Yano in a light emitting device teaches the use of polished aluminum substrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Chiang in Hoelen to provide that plurality of chips are mounted directly to surface of metal substrate. The reason for plurality of chips are mounted directly to surface of metal substrate, as stated by Chiang, is to achieve a light module with high heat sink performance [0005]. Further, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching Yano in Hoelen as modified by Chiang to provide a polished aluminum substrate reflective surface. The reason for using a polished aluminum substrate reflective surface, as stated by Yano, [0016] is to increase the reflectivity.

Re claim 1:

A light emitting diode (LED) apparatus (**figure 1**) comprising: a metal substrate (**1**) having a reflective surface (**Yano, ABSTRACT, 103 statement above**); and a plurality of LED chips (**14, 15, 16 ABSTRACT, [0013])** mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation (**Chiang [0005])** , and wherein at least a portion of the LED chips are spaced apart from each other (**ABSTRACT**, **figure 1**, **103 statement above**) to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

Re claim 2, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang has that wherein the reflective surface comprises polished aluminum.

Re claim 3, according to claim 1, wherein reflective surface comprises silver plating.

Hoelen as modified for claim 1 by Yano and Chiang discloses the claimed invention except for the reflective surface comprising silver plating. It would have been obvious to one of ordinary skill in the art at the time of the invention for Hoelen as modified for claim 1 by Yano and Chiang to have a reflective surface that comprised silver plating because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (**In re Leshin, 125 USPQ 416).**

Re claim 4, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang has that reflective surface has a reflectivity of 70% or greater [0017}.

Re claim 5, according to claim 1; wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

Hoelen as modified for claim 1 by Yano and Chiang discloses the claimed invention except for the LED chips forming an array having a chip spacing that is in the range of approximately .5 millimeters or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention for Hoelen as modified for claim 1 by Yano and Chiang to have the LED chips form an array having a chip spacing that is approximately in the range of .5 millimeters or greater in the gap 4 because it has been held that lacking any criticality, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range based on its suitability for the intended use involves only routine skill in the art. (**In re Aller, 105 USPQ 233).**

Re claim 6, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang discloses that the plurality of LED chips provide separate thermal (**8**) and electrical paths (**19**) .

Re claim 7, according to claim 1:

Hoelen as modified for claim 1 by Yano and Chiang discloses that the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not on the first surface.

Re claim 8, according to claim 1, wherein the metal substrate is mounted directly to a heat sink.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2008/0290354 A1 to Hoelen et al. in view of US 2008/0029772 A1 to Chiang, view of US 2007/0200128 A1 to Yano and in further view of US 2007/0108599 A1 to Im et al.

Hoelen as modified for claim 1 by Yano and Chiang does not have a heat sink directly mounted to the metal substrate. Im in a semiconductor chip package with a metal substrate and semiconductor module having the same teaches having a heat sink directly mounted to a metal substrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Im in Hoelen as modified for claim 1 by Yano and Chiang to provide a heat sink that is mounted directly to the metal substrate. The reason is to increase heat dissipation.

Response to Arguments

Applicant's arguments filed 11/12/2010 have been fully considered but they are not wholly persuasive. The claims still remain broad in scope. Applicant states that" Chiang fails to disclose that the LED chips are connected in a chip to chip fashion to form an electrical path."

Examiner agrees, however, since an electrical path between the LED chips is required for the LED chips to function and having the LED chips connected in chip to chip fashion as opposed to bonding wires connecting the LED chips would be obvious to one of ordinary skill in the art because both ways of connecting perform the same function.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is US 7,674,030 B2 to Poh et al.

THIS ACTION IS MADE FINAL.

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O`Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W. C./
Examiner, Art Unit 2875

/Stephen F. Husar/
Primary Examiner, Art Unit 2875

Notice of References Cited	Application/Control No. 12/240,011	Applicant(s)/Patent Under Reexamination HELBING, RENE PETER	
	Examiner James W. Cranson	Art Unit 2875	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,674,030	03-2010	Poh et al.	362/613
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
12240011	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

SEARCHED			
Class	**Subclass**	**Date**	**Examiner**
362	218,294,,247,249.02,296.04	8/9/2010	JWC
257	98,88	8/9/2010	JWC
362	249.02	12/23/2010	JWC

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
362/$.CCLS.	8/9/2010	JWC
INVENTOR SEARCH	8/9/2010	JWC
362/$.cor.	12/23/2010	JWC

INTERFERENCE SEARCH			
Class	**Subclass**	**Date**	**Examiner**

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
12240011	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2010	12/23/2010							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	N	-							
	10	N	-							
	11	N	-							
	12	N	-							
	13	N	-							
	14	N	-							
	15	N	-							
	16	N	-							

Receipt date: 09/23/2010

In place of PTO-1449 Form	U. S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE			Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(use as many sheets as necessary)*				Application Number	12/240,011
				Filing Date	09/29/2008
				Applicant(s)	Rene Peter Helbeing
				Art Unit	2875
				Examiner Name	James W. Cranson JR.
SHEET	1	OF	1	Attorney Docket Number	70257.109 (M-17467US)

U. S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
/J.C./		12/705240	02/12/2010	Rene Peter Helbing
/J.C./		12/848484	08/02/2010	Rene Peter Helbing

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document (Country Code – Number – Kind)	Publication Date MM-DD-YYYY	Patentee or Applicant of Cited Document	Translation Y/N

NON-PATENT LITERATURE DOCUMENTS

Examiner's Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article, title of the item, date, page(s), volume-issue number(s), publisher, city/country where published

Examiner Signature	/James Cranson Jr/ (12/23/2010)	Date Considered	12/23/2010

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
L2	202	1 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
L3	20	2 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
L4	115	1 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14
L5	8	4 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12

S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30
S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39
S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30

12/23/2010 3:24:44 PM
C:\Documents and Settings\jcranson\My Documents\EAST\Workspaces\12240011.wsp

PTO/SB/30 (01-08)
Approved for use through 05/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Request for Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	12/240,011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson, Jr.
Attorney Docket Number	70257.109 (M-17467US)

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

   a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

      i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. ☐ Other _____

   b. ☑ Enclosed

      i. ☑ Amendment/Reply

      ii. ☐ Affidavit(s)/ Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

   b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

   a. ☑ The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 08-1394. I have enclosed a duplicate copy of this sheet.

      i. ☑ RCE fee required under 37 CFR 1.17(e)

      ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)

      iii. ☐ Other _____

   b. ☐ Check in the amount of $ _____ enclosed

   c. ☐ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature		Date	February 2, 2011
Name (Print/Type)	Norman E. Carte	Registration No.	30,455

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature			
Name (Print/Type)		Date	

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson, Jr.	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
February 2, 2011

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Dear Sir:

This communication is in response to the Final Office Action dated December 29, 2010.

Claims begin on page 2.

Remarks begin on page 4.

A Request for Continued Examination (RCE) is submitted with this reponse.

Claims:

1. (Previously presented) A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion.

2. (Original) The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. (Original) The apparatus of claim 1, wherein the reflective surface comprises silver plating.

4. (Original) The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. (Original) The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. (Original) The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. (Original) The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

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8. (Original) The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

9-32. (Cancelled).

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Remarks

Claims 1-8 were previously pending in the application. In the present response, no claims have been canceled and no new claims have been added. Accordingly, after entry of the response Claims 1-8 will be pending. Reconsideration is respectfully requested based on the following remarks.

Claim Rejections 35 U.S.C. §103

Claims 1-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hoelen et al. (U.S. 2008/0290354), herein referred to as "Hoelen", in view of Chiang (U.S. 2008/0029772), herein referred to as "Chiang", in further view of Yano (U.S. 2007/0200128), herein referred to as "Yano".

In making this rejection, the Examiner stated that "It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Chiang in Hoelen to provide that plurality of chips are mounted directly to surface of metal substrate." However, Applicant respectfully disagrees.

Hoelen states that "The LED chip is preferably mounted on a silicon sub-mount . . ." As clearly shown in Figure 1 of Hoelen, the silicon sub-mount 9 is a substantial structure that is disposed intermediate each LED chip 5, 6, and 7 and aluminum substrate 1. As such, it is clear that Hoelen prefers not to mount the chips 5, 6, and 7 directly to the aluminum substrate 1 thereof.

Thus, Hoelen teaches away from such incorporation of Chiang into Hoelen, i.e., Hoelen teaches away from claimed direct mounting of LED chips to the reflective surface of the metal substrate. As such, it is respectfully submitted that the Examiner's above combination of Chiang and Hoelen improper.

Further, it is worth noting that even if the LED chips 5, 6, and 7 of Hoelen were mounted directly on the surface of the aluminum substrate 1 and the surface of the aluminum substrate 1 were polished to increased reflectivity, as suggested by the Examiner, that the apparatus still would not substantially "allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips," as recited in

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independent Claim 1. Rather, the close spacing and particular configuration of the LED chips 5, 6, and 7 of the Hoelen apparatus would inhibit such reflection.

More particularly, the close spacing of the LED chips 5, 6, and 7 of the Hoelen apparatus and the outwardly slanting (overhanging) configuration of the LED chips 5 and 7 would tend to block any light reflected from the substrate surface of such a hypothetical device, thereby rendering such reflection ineffective. Since the desired benefit (substantially increase light extraction from the apparatus) would not be achieved, there is no motivation to construct the hypothetical combination of Yano, Chiang, and Hoelen. Also, since Hoelen states a preference to use sub-mounts, there is a motivation not to construct the hypothetical combination of Yano, Chiang, and Hoelen.

In view of the foregoing, it is respectfully submitted that none of the cited references, taken either alone or in combination with one another, either disclose or make obvious "a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips," as recited in independent Claim 1. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

It is further respectfully submitted that the dependent claims are independently patentable with respect to the independent claim. For example, dependent Claim 3 recites "wherein the reflective surface comprises silver plating." Such use of silver plating is not merely the use of a known material based on its suitability, i.e., reflective properties. Rather, such silver plating is used in a new application that involves factors of criticality such as small size and environment.

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Conclusion

In view of the remarks set forth above, it is submitted that the application is now in condition for allowance. Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 202-3000 is welcomed and encouraged.

Certificate of Transmission

Certificate of Transmission: I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office (USPTO) via the USPTO's electronic filing system on the date below.

Electronically Filed by:

Annie McNally

Dated: February 2, 2011

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

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Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Norman E. Carte/Annie McNally
Attorney Docket Number:	M-17467 US

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for continued examination	2801	1	405	405
		Total in USD ($)		**405**

Electronic Acknowledgement Receipt

EFS ID:	9363860
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Annie McNally
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	02-FEB-2011
Filing Date:	29-SEP-2008
Time Stamp:	17:42:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$405
RAM confirmation Number	3435
Deposit Account	081394
Authorized User	CARTE,NORMAN E.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	**Document Description**	**File Name**	**File Size(Bytes)/ Message Digest**	**Multi Part /.zip**	**Pages (if appl.)**
1	Request for Continued Examination (RCE)	RCE.pdf	87904 d4d2fe4167627cef29867224f2913254ce3b78a8	no	1
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2		Amendments_with_RCE.pdf	277993 74dc7f953fe8592fc0894bdfe24bc1c4276bb562	yes	6
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	3	
	Applicant Arguments/Remarks Made in an Amendment		4	6	
Warnings:					
Information:					
3	Fee Worksheet (PTO-875)	fee-info.pdf	30183 1e9b4a3c6cfc21e6968990737981c21fbae12d18	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	396080		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
12/240,011	09/29/2008	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 02/02/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 8	Minus	** 20	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/MELINDA OLIVER/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 02/22/2011

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

MAIL DATE	DELIVERY MODE
02/22/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/240,011	HELBING, RENE PETER	
	Examiner	Art Unit	
	James W. Cranson	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE 02/02/2011*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/02/2011 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6 - 8 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2006/0022211 A1 to Yatsuda et al.

Yatsuda in a LED lamp for light source of lighting device discloses a light emitting diode (LED) apparatus comprising a metal substrate having a reflective surface, a plurality of LED chips mounted directly to reflective surface of metal substrate to allow for thermal dissipation, at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of reflective surface that is located between portion of LED chips and an electrical path is formed by connecting LED chips in a chip to chip fashion.

Re claim 1:

A light emitting diode (LED) apparatus (**ABSTRACT**) comprising:

a metal substrate (**[0033]**) having a reflective surface (**metal is inherently reflective**); and

a plurality of LED chips (**2**) mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation (**[0033" Accordingly, in this case, the base 3 on which the LED chip 2 is mounted should be made of a material being superior in heat conductivity, such as a metal like copper (refer to FIG. 2), a ceramic like AIN (aluminum nitride) (refer to FIG. 3), and the like. The thickness of the base 3 should be sufficient, if desired, for thermal diffusion after connecting with a heat sink 22 in its rear surface."]**), and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips (**figures 1, 3-6 show that LED chips are spaced apart),** wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion (**figures 3-6 show that electrical path is formed by connecting LED chips in a chip to chip fashion, [0038" four LED chips are connected in series"]**).

Re claim 6, according to claim 1, whereon the plurality of LED chips provide separate thermal and electrical paths.

Yatsuda discloses that the plurality of LED chips provide separate thermal and electrical paths.

Re claim 7, according to claim 1, wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Yatsuda discloses that the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Re claim 8, according to claim 1, whereon the metal substrate is mounted directly to a heat sink.

Yatsuda discloses that the metal substrate is mounted directly to a heat sink (**22**).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2006/0022211 A1 to Yatsuda et al.

Re claim 2, according to claim 1, wherein the reflective surface comprises polished aluminum.

Yatsuda discloses the claimed invention including that reflective surface comprises aluminum but does not disclose polished aluminum. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yatsuda to have a reflective surface comprised of polished aluminum because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (**In re Leshin, 125 USPQ 416**).

Claim 2 is unpatentable over Yatsuda for the reasons set forth above in the obviousness statement.

Re claim 3, according to claim 1, wherein the reflective surface comprises silver plating.

Yatsuda discloses the claimed invention except that reflective surface comprises silver plating. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yatsuda to have a reflective surface comprised of silver plating because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (**In re Leshin, 125 USPQ 416**).

Claim 3 is unpatentable over Yatsuda for the reasons set forth above in the obviousness statement.

Re claim 5, according to claim 1; wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

Yatsuda discloses the claimed invention except for the LED chips forming an array having a chip spacing that is in the range of approximately .5 millimeters or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yatsuda have

the LED chips form an array having a chip spacing that is approximately in the range of .5 millimeters or greater in the gap 4 because it has been held that lacking any criticality, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range based on its suitability for the intended use involves only routine skill in the art. (**In re Aller, 105 USPQ 233).**

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2006/0022211 A1 to Yatsuda et al. in view of US 2007/0200128 A1 to Yano.

Yatsuda does not specifically disclose that reflectivity is 70% or greater. Yano in a light emitting device teaches the use of a polished substrate to get a reflectively of 70% or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Yano to provide Yatsuda with a polished substrate to get a reflectively of 70% or greater. The reason for using a polished surface, as stated by Yano, is to increase reflectivity so that more light can be effectively reflected [0044].

Re claim 4, according to claim 1, wherein the reflective surface has a reflectively of 70% or greater.

Claim 4 is unpatentable over Yatsuda for the reasons set forth above in the obviousness statement.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are US 2003/0160317 A1 to Sakamoto et al., US 2008/0099772 A1 to Shuy et al. and US 6,949,772 B2 to Shimizu.

Response to Arguments

Applicant's arguments with respect to claims 1 - 8 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dianne Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W. C./
Examiner, Art Unit 2875

/Stephen F. Husar/
Primary Examiner, Art Unit 2875

Notice of References Cited	Application/Control No. 12/240,011	Applicant(s)/Patent Under Reexamination HELBING, RENE PETER	
	Examiner James W. Cranson	Art Unit 2875	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,949,772	09-2005	Shimizu et al.	257/99
*	B	US-2008/0099772	05-2008	Shuy et al.	257/88
*	C	US-2006/0022211	02-2006	Yatsuda et al.	257/098
*	D	US-2003/0160317	08-2003	Sakamoto et al.	257/690
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 15:25
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30

S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39
S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30
S30	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S31	202	S30 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S32	20	S31 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
S33	115	S30 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14

S34	8	S33 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14
S35	1	"20100079990".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 09:05
S36	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:16
S37	1	"6949772".pn. and metal	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:26
S38	1	"6949772".pn. and aluminum	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:29
S39	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:16
S40	1	"6949772".pn. and metal.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:18
S41	1	"6949772".pn. and electrical$4	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:35
S42	1	"20100079990".pn. and (chip near2 chip)	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:39
S43	0	"6949772".pn. and silver	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 14:05
S44	1	"6949772".pn. and connector	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:01
S45	1	"6949772".pn. and 12a	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:12
S46	1180	"257"/$.cor. and chip adj chip.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S47	1180	"257"/$.cor. and (chip adj chip).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S48	38	"257"/$.cor. and (chip adj chip and metal near2 substrate).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:18
S49	65	257/706,707.cor. and (light adj emitting adj diode or LED)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:18
S50	304	257/99.cor. and (light adj emitting adj diode or LED) and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:24
S51	31	("6412971").PN. OR ("6949772").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:37
S52	284	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S53	204	S52 not S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40

S54	88	("20020061174" | "20020123163" | "20020163001" | "20020171911" | "20020195935" | "20030183852" | "20040041222" | "20040047151" | "20040079557" | "20040080939" | "20040126913" | "20040227149" | "20040232435" | "20040238930" | "20050023548" | "20050072981" | "20050093005" | "20050127377" | "20050179376" | "20060022212" | "20060049477" | "20060108594" | "20060157828" | "20070030676" | "20070046176" | "20070109779" | "20070223219" | "20070269586" | "20080074029" | "20080186702" | "20090050907" | "20090050908" | "3760237" | "4307297" | "4511425" | "4946547" | "5040868" | "5130761" | "5167556" | "5200022" | "5703401" | "5706177" | "5790298" | "5813753" | "5907151" | "5959316" | "6061160" | "6066861" | "6183100" | "6224216" | "6259608" | "6296367" | "6359236" | "6376902" | "6454437" | "6469321" | "6573580" | "6610563" | "6614058" | "6624491" | "6680490" | "6686609" | "6707069" | "6710373" | "6759733" | "6770498" | "6774401" | "6858879" | "6872585" | "6876149" | "6900511" | "6911678" | "6919586" | "6940704" | "6946714" | "6975011" | "6995510" | "7021797" | "7064907" | "7066626" | "7102213" | "7119422" | "7224000" | "7285802" | "D572210" | "D572670" | "D576574" | "RE34861").PN. OR ("7821023").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:45
S55	36	("20030049007" | "20030219207" | "20040043693" | "20040066645" | "20040071437" | "20040109306" | "20040246696" | "20040246744" | "20050007756" | "20050063187" | "20050093146" | "20050121686" | "20050135116" | "20050141244" | "20060158901" | "20070007558" | "20070158674" | "20070189007" | "20080079018" | "5050946" | "5217811" | "5581876" | "5725808" | "5883684" | "5953203" | "6270831" | "6274890" | "6455930" | "6518502" | "6536909" | "6805456" | "6854854" | "7098483" | "7163331" | "7217025" | "7293906").PN. OR ("7719021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:48
S56	472	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S57	188	S56 not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52

S58	3167	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:30
S59	1876	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S60	516	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S61	473	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S62	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S63	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2011/02/15 07:35
S64	0	"11908112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:44
S65	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:45
S66	38	("20020187571" | "20020197764" | "20030015721" | "20030168720" | "20030205712" | "20040026708" | "20040075399" | "20040206970" | "20040211972" | "20040217362" | "20040012958" | "20050077532" | "20050205890" | "20050211989" | "20050225973" | "20060202223" | "20060202225" | "20070063209" | "20090272971" | "3777239" | "5487999" | "5751013" | "6274924" | "6504301" | "6871982" | "6917057" | "6957899" | "6472688" | "6547249" | "7105860" | "7211832" | "7213942" | "7221044" | "7372082" | "7405433" | "7470938" | "7473934" | "7531843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:48
S67	590	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:51
S68	479	S67 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:52

S69	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S70	1	"20060022211".pn. and metal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S71	1	"20060022211".pn. and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:51
S72	1	"20060022211".pn. and "22"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:53
S73	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 12:58

2/15/2011 3:38:10 PM
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30
S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39
S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56

S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30
S30	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S31	202	S30 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S32	20	S31 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
S33	115	S30 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14
S34	8	S33 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14
S35	1	"20100079990".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 09:05
S36	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:16

S37	1	"6949772".pn. and metal	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:26
S38	1	"6949772".pn. and aluminum	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:29
S39	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:16
S40	1	"6949772".pn. and metal.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:18
S41	1	"6949772".pn. and electrical$4	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:35
S42	1	"20100079990".pn. and (chip near2 chip)	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:39
S43	0	"6949772".pn. and silver	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 14:05
S44	1	"6949772".pn. and connector	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:01
S45	1	"6949772".pn. and 12a	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:12
S46	1180	"257"/$.cor. and chip adj chip.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S47	1180	"257"/$.cor. and (chip adj chip).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S48	38	"257"/$.cor. and (chip adj chip and metal near2 substrate).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:18
S49	65	257/706,707.cor. and (light adj emitting adj diode or LED)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:18
S50	304	257/99.cor. and (light adj emitting adj diode or LED) and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:24
S51	31	("6412971").PN. OR ("6949772").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:37
S52	284	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S53	204	S52 not S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40

S54	88	("20020061174" | "20020123163" | "20020163001" | "20020171911" | "20020195935" | "20030183852" | "20040041222" | "20040047151" | "20040079557" | "20040080939" | "20040126913" | "20040227149" | "20040232435" | "20040238930" | "20050023548" | "20050072981" | "20050093005" | "20050127377" | "20050179376" | "20060022212" | "20060049477" | "20060108594" | "20060157828" | "20070030676" | "20070046176" | "20070109779" | "20070223219" | "20070269586" | "20080074029" | "20080186702" | "20090050907" | "20090050908" | "3760237" | "4307297" | "4511425" | "4946547" | "5040868" | "5130761" | "5167556" | "5200022" | "5703401" | "5706177" | "5790298" | "5813753" | "5907151" | "5959316" | "6061160" | "6066861" | "6183100" | "6224216" | "6259608" | "6296367" | "6359236" | "6376902" | "6454437" | "6469321" | "6573580" | "6610563" | "6614058" | "6624491" | "6680490" | "6686609" | "6707069" | "6710373" | "6759733" | "6770498" | "6774401" | "6858879" | "6872585" | "6876149" | "6900511" | "6911678" | "6919586" | "6940704" | "6946714" | "6975011" | "6995510" | "7021797" | "7064907" | "7066626" | "7102213" | "7119422" | "7224000" | "7285802" | "D572210" | "D572670" | "D576574" | "RE34861").PN. OR ("7821023").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:45
S55	36	("20030049007" | "20030219207" | "20040043693" | "20040066645" | "20040071437" | "20040109306" | "20040246696" | "20040246744" | "20050007756" | "20050063187" | "20050093146" | "20050121686" | "20050135116" | "20050141244" | "20060158901" | "20070007558" | "20070158674" | "20070189007" | "20080079018" | "5050946" | "5217811" | "5581876" | "5725808" | "5883684" | "5953203" | "6270831" | "6274890" | "6455930" | "6518502" | "6536909" | "6805456" | "6854854" | "7098483" | "7163331" | "7217025" | "7293906").PN. OR ("7719021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:48
S56	472	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S57	188	S56 not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52

S58	3167	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:30
S59	1876	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S60	516	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips. clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S61	473	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S62	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S63	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2011/02/15 07:35
S64	0	"11908112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:44
S65	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:45
S66	38	("20020187571" | "20020197764" | "20030015721" | "20030168720" | "20030205712" | "20040026708" | "20040075399" | "20040206970" | "20040211972" | "20040217362" | "20040012958" | "20050077532" | "20050205890" | "20050211989" | "20050225973" | "20060202223" | "20060202225" | "20070063209" | "20090272971" | "3777239" | "5487999" | "5751013" | "6274924" | "6504301" | "6871982" | "6917057" | "6957899" | "6472688" | "6547249" | "7105860" | "7211832" | "7213942" | "7221044" | "7372082" | "7405433" | "7470938" | "7473934" | "7531843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:48
S67	590	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:51
S68	479	S67 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:52

S69	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S70	1	"20060022211".pn. and metal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S71	1	"20060022211".pn. and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:51
S72	1	"20060022211".pn. and "22"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:53
S73	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 12:58
S74	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 15:25
S75	45476	"70"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 15:48
S76	5580	"70"/$.cor. and key.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 15:48
S77	0	"70"/$.cor. and key.clm.	USOCR	OR	ON	2011/02/15 15:49
S78	4228	"70"/$.cor. and key.clm.	USPAT; USOCR	OR	ON	2011/02/15 15:49
S79	0	"70"/$.cor. and keycap.clm.	USPAT; USOCR	OR	ON	2011/02/15 15:49
S80	1	"70"/$.cor. and keycap.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 15:49
S81	110	"70"/$.cor. and (key and light$4).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 15:52
S82	1	"20060022211".pn. and (power or circuit)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 16:53
S83	134	(power adj source with LED) and 362/249.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 17:02

S84	0	(power adj source with LED) and 362/249.02.ccls. with chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 17:02
S85	134	(power adj source with LED) and 362/249.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 17:02
S86	61	(power adj source with LED) and 362/249.02.ccls.	USPAT	OR	ON	2011/02/15 17:03
S87	19	(power adj source with LED).clm. and 362/249.02.ccls.	USPAT	OR	ON	2011/02/15 17:03
S88	18	(power adj source with LED).clm. and 362/249.02.ccls.	US-PGPUB	OR	ON	2011/02/15 17:09
S89	19	(power adj source with LED).clm. and 362/249.02.ccls.	USPAT	OR	ON	2011/02/15 17:10

2/15/2011 7:47:13 PM
C:\Documents and Settings\jcranson\My Documents\EAST\Workspaces\12240011.wsp

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BIB DATA SHEET

CONFIRMATION NO. 4526

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
12/240,011	09/29/2008	362	2875	M-17467 US

APPLICANTS
Rene Peter Helbing, Sunnyvale, CA;

** **CONTINUING DATA** **********

** **FOREIGN APPLICATIONS** **********

** **IF REQUIRED, FOREIGN FILING LICENSE GRANTED** ** SMALL ENTITY **
10/07/2008

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /JAMES W CRANSON JR/ Examiner's Signature	☐ Met after Allowance JWC Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		CA	4	32	4

ADDRESS

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219
UNITED STATES

TITLE

EFFICIENT LED ARRAY

FILING FEE RECEIVED		
1140	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

SEARCHED			
Class	**Subclass**	**Date**	**Examiner**
362	218,294,,247,249.02,296.04	8/9/2010	JWC
257	98,88	8/9/2010	JWC
362	249.02	12/23/2010	JWC
362	218,294,249.02	02/14/2011	JWC
257	88,98	2/14/2011	JWC

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
362/$.CCLS.	8/9/2010	JWC
INVENTOR SEARCH	8/9/2010	JWC
362/$.cor.	12/23/2010	JWC
362/$.cor.	02/14/2011	JWC
257/$.cor.	2/14/2011	JWC

INTERFERENCE SEARCH			
Class	**Subclass**	**Date**	**Examiner**

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2010	12/23/2010	02/15/2011						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	✓	✓						
	9	N	-							
	10	N	-							
	11	N	-							
	12	N	-							
	13	N	-							
	14	N	-							
	15	N	-							
	16	N	-							

PTO/SB/22 (10-08)
Approved for use through 10/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARMENT OF COMMERCE
Under the paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless if displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** *(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)*	Docket Number (Optional) 70257.109
Application Number 12/240,011	Filed 09/29/2008
For Efficient LED Array	
Art Unit 2875	Examiner James W. Cranson, Jr.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$130	$65	$
☐	Two months (37 CFR 1.17(a)(2))	$490	$245	$
☑	Three months (37 CFR 1.17(a)(3))	$1110	$555	$ 1110.00
☐	Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐	Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 08-1394.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

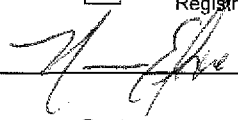
I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration Number 30,455

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____



Signature — Date: 08/22/2011

Norman Carte — Telephone Number: 949-202-3000

Typed or printed name

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson, Jr.	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
August 22, 2011

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Dear Examiner:

Although the Examiner checked both the Final box and the Non-Final box in the Office Action Summary, Applicant believes the Office Action dated February 22, 2011 is a Non-Final Office Action.

In response to the Non-Final Office Action dated February 22, 2011, please amend the above-identified application as follows.

CLAIMS:

1. (Previously presented) A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion.

2. (Original) The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. (Original) The apparatus of claim 1, wherein the reflective surface comprises silver plating.

4. (Original) The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. (Original) The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. (Original) The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. (Original) The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

8. (Original) The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

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9-32. (Cancelled).

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Remarks

Claims 1-8 were pending and rejected in the present application. No claims have been added or cancelled by this response. The rejections are respectfully traversed in light of the following remarks, and reconsideration is requested.

Rejections under 35 U.S.C. §102 and 35 U.S.C. §103

Claims 1 and 6-8 were rejected under 35 U.S.C. §102 as being anticipated by Yatsuda et al. (U.S. 2006/0022211) (hereafter Yatsuda); Claims 2, 3 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Yatsuda; and Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Yatsuda et al. in view of Yano (U.S. 2007/0200128) (hereafter Yano).

In rejecting independent Claim 1, the Examiner appeared to state that the claimed reflective surface is taught by Yatsuda because "metal is inherently reflective." However, Applicant respectfully disagrees.

There are many different metals. Each metal has its own unique reflective properties. Some metals, such as magnesium and titanium, tend to be comparatively less reflective. Some metals oxidize readily and tend to be non-reflective. For example, iron can readily rust to the point where it would readily be considered non-reflective.

There is simply no teaching in Yatsudo that the substrate is reflective. Indeed Yatsuda appears to teach away from such construction by including ceramics in the list of suitable substrate materials. Ceramics can be inherently non-reflective.

As such, if is respectfully submitted that Yatsuda neither teaches nor makes obvious "a metal substrate having a reflective surface", as recited in independent Claim 1.

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Further, the Examiner appeared to state that Yatsuda teaches that "LED chips are spaced apart form each other to allow light to reflect from a portion of the reflection surface that is located between the portion of the LED chips (figures 1, 3-6 show that LED chips are spared apart)". However, Applicant respectfully disagrees.

It is not clear from Figures 1 and 3-6 of Yatsuda that the chips are spaced sufficiently apart to allow light to reflect from the substrate. The active area of the chips is not indicated in figures 1 and 3-6, so it is not possible to determine if light form the active area is even incident upon the substrate.

As such, it is respectfully submitted that Yatsuda neither teaches nor makes obvious "the LED chips are spared apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips," as recited in independent Claim 1.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S. C § 102 and 35 U.S.C. §103.

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Conclusion

For the foregoing reasons, Applicant believes pending claims 1-8 are allowable, and a notice of allowance is respectfully requested. If the Examiner has any questions regarding the application, the Examiner is invited to call the undersigned Attorney at (949) 202-3000.

Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394

Certification of Electronic Transmission
I hereby certify that this paper is being electronically transmitted to the U.S. Patent and Trademark Office on the date shown below.

Nuo Qu — **August 22, 2011** Date of Signature

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

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Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Norman E. Carte/Nuo Qu
Attorney Docket Number:	M-17467 US

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with $0 paid	1253	1	1110	1110

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
		Total in USD ($)		**1110**

Electronic Acknowledgement Receipt

EFS ID:	10783226
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Nuo Qu
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	22-AUG-2011
Filing Date:	29-SEP-2008
Time Stamp:	13:49:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1110
RAM confirmation Number	81
Deposit Account	081394
Authorized User	CARTE,NORMAN E.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		109Response.pdf	416876 1329ddbee3185c73bde70deea499e0aae3dec77e	yes	8

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Miscellaneous Incoming Letter	1	1
Amendment/Req. Reconsideration-After Non-Final Reject	2	8

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30359 6ae950c0597206eba3ea2614aa4817cd9b5d808b	no	2

Warnings:

Information:

Total Files Size (in bytes):	447235

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (01-08)
Approved for use through 04/30/2008, OMB 0651-0031
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	12/240,011
Filing Date	09/29/2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson Jr.
Attorney Docket Number	70257.109 (M-17467US)

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☑ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☑ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation
- ☐ Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please Identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Haynes and Boone, LLP		
Signature			
Printed name	Norman Carte		
Date	08/22/2011	Reg. No.	30,455

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Nuo Qu	Date	08/22/2011

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/06 (07-06)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
12/240,011	09/29/2008	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
			TOTAL			TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

AMENDMENT 08/22/2011

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 8	Minus	** 32	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/KATISCHA WANZER/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 10/19/2011

Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

MAIL DATE	DELIVERY MODE
10/19/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/240,011	HELBING, RENE PETER	
	Examiner	Art Unit	
	JAMES CRANSON JR	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-8* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-8* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *29 September 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 of instant application are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 12/705,240. Although the conflicting claims are not identical, they are not patentably distinct from each other because minor semantic differences aside, the subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

Re claim 1 of instant application:

A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion.

Re claim 1 of 12/705,240

A light emitting diode (LED) lamp comprising:

a package; and

a light emitting diode apparatus coupled to the package and comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal

substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

The underlined limitations are the same in claim 1 of the instant application and claim 1 of 12/705,240.

Further, it would have been obvious to one of ordinary skill in the art at the time of the invention that an electrical path has to be provided between the LED chips for the apparatus to function or operate or perform or work properly and connecting in a chip to chip fashion is a matter of design choice.

Therefore claim 1 of instant application is not patentable distinct from claim 1 of 12/705,240.

Re claim 2 of instant application, wherein the reflective surface comprises polished aluminum

Claim 2 of instant application is identical to claim 2 of 12/705,240.

Therefore claim 2 of instant application is not patentable distinct from claim 2 of 12/705,240.

Re claim 3 of instant application, wherein the reflective surface comprises silver plating

Claim 3 of instant application is identical to claim 3 of 12/705,240.

Therefore claim 3 of instant application is not patentable distinct from claim 3 of 12/705,240.

Re claim 4 of instant application, wherein the reflective surface has a reflectivity of 70% or greater.

Claim 4 of instant application is identical to claim 4 of 12/705,240.

Therefore claim 4 of instant application is not patentable distinct from claim 4 of 12/705,240.

Re claim 5 of instant application, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

Claim 5 of instant application is identical to claim 5 of 12/705,240.

Therefore claim 5 of instant application is not patentable distinct from claim 5 of 12/705,240.

Re claim 6 of instant application, wherein the plurality of LED chips provide separate thermal and electrical paths.

Claim 6 of instant application is identical to claim 6 of 12/705,240.

Therefore claim 6 of instant application is not patentable distinct from claim 6 of 12/705,240.

Re claim 7 of instant application, wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Claim 7 of instant application is identical to claim 7 of 12/705,240.

Therefore claim 7 of instant application is not patentable distinct from claim 7 of 12/705,240.

Re claim 8 of instant application, wherein the metal substrate is mounted directly to a heat sink.

Claim 8 of instant application is identical to claim 8 of 12/705,240.

Therefore claim 8 of instant application is not patentable distinct from claim 8 of 12/705,240.

Claims 1 -8 of the instant application recite essentially the same combinations of features/limitations recited in claims 1-16 of Application No. 12/705,240 and therefore are not patentable distinct from each other

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002299694 A to Yamada et al.

Yamada in a LED light- source for illumination and illuminator discloses a light emitting diode (LED) apparatus comprising a metal substrate having a reflective surface; and a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the

portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion.

Re claim 1:

A light emitting diode (LED) apparatus (**ABSTRACT**) comprising:, a metal substrate (**1**,**[0018]**) having a reflective surface (**"metallic base which has a reflex function"**,**[0018]**); and a plurality of LED chips (**2**) mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation (**"die bonding of two or more LEDs is carried out to the metallic base 1"**,**[0018]**) and wherein at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips (**Drawing 1 shows that LED chips are spaced apart),** wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion. (Electrical path between LEDs is functionally required for LED apparatus to operate or perform or work properly).

Re claim 6, according to claim 1, whereon the plurality of LED chips provide separate thermal and electrical paths.

Yamada discloses that the plurality of LED chips provide separate thermal and electrical paths.

Re claim 7, according to claim 1, wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Yamada discloses that the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002299694 A to Yamada et al.

Re claim 2, according to claim 1, wherein the reflective surface comprises polished aluminum.

Yamada discloses the claimed invention including that reflective surface comprises aluminum but does not disclose polished aluminum. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada to have a reflective surface comprised of polished aluminum because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (***In re Leshin*, 125 USPQ 416**).

Claim 2 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Re claim 3, according to claim 1, wherein the reflective surface comprises silver plating.

Yamada discloses the claimed invention except that reflective surface comprises silver plating. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada to have a reflective surface comprised of silver plating because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (***In re Leshin*, 125 USPQ 416**).

Claim 3 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Re claim 5, according to claim 1; wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

Yamada discloses the claimed invention except for the LED chips forming an array having a chip spacing that is in the range of approximately .5 millimeters or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada have

the LED chips form an array having a chip spacing that is approximately in the range of .5 millimeters or greater in the gap 4 because it has been held that lacking any criticality, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range based on its suitability for the intended use involves only routine skill in the art. (***In re Aller*, 105 USPQ 233).**

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002299694 A to Yamada et al. in view of US 2007/0200128 A1 to Yano.

Yamada does not specifically disclose that reflectivity is 70% or greater. Yano in a light emitting device teaches the use of a polished substrate to get a reflectively of 70% or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Yano to provide Yamada with a polished substrate to get a reflectively of 70% or greater. The reason for using a polished surface, as stated by Yano, is to increase reflectivity so that more light can be effectively reflected [0044].

Re claim 4, according to claim 1, wherein the reflective surface has a reflectively of 70% or greater.

Claim 4 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Response to Arguments

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES CRANSON JR whose telephone number is (571)272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dianne Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./
Examiner, Art Unit 2875
/STEPHEN F HUSAR/
Primary Examiner, Art Unit 2875

Notice of References Cited	Application/Control No. 12/240,011	Applicant(s)/Patent Under Reexamination HELBING, RENE PETER	
	Examiner JAMES CRANSON JR	Art Unit 2875	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0200128	08-2007	Yano, Keiichi	257/099
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	2002-299694	10-2002	JAPAN	YAMADA et al.	HO1L 33/00
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1132	362/249.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 16:59
L2	4385	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:10
L3	715	257/88,98.cor. and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:11
L4	284	3 and LED NEAR2 CHIP	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:12
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49

S8	5	(metal adj substrate with chips with heat). clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30
S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39
S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29

S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30
S30	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S31	202	S30 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S32	20	S31 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
S33	115	S30 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14
S34	8	S33 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14
S35	1	"20100079990".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 09:05
S36	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:16
S37	1	"6949772".pn. and metal	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:26
S38	1	"6949772".pn. and aluminum	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:29
S39	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:16
S40	1	"6949772".pn. and metal.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:18
S41	1	"6949772".pn. and electrical$4	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:35
S42	1	"20100079990".pn. and (chip near2 chip)	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:39
S43	0	"6949772".pn. and silver	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 14:05
S44	1	"6949772".pn. and connector	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:01
S45	1	"6949772".pn. and 12a	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:12
S46	1180	"257"/$.cor. and chip adj chip.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S47	1180	"257"/$.cor. and (chip adj chip).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S48	38	"257"/$.cor. and (chip adj chip and metal near2 substrate).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:18
S49	65	257/706,707.cor. and (light adj emitting adj diode or LED)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:18

S50	304	257/99.cor. and (light adj emitting adj diode or LED) and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:24
S51	31	("6412971").PN. OR ("6949772").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:37
S52	284	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S53	204	S52 not S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S54	88	("20020061174" | "20020123163" | "20020163001" | "20020171911" | "20020195935" | "20030183852" | "20040041222" | "20040047151" | "20040079557" | "20040080939" | "20040126913" | "20040227149" | "20040232435" | "20040238930" | "20050023548" | "20050072981" | "20050093005" | "20050127377" | "20050179376" | "20060022212" | "20060049477" | "20060108594" | "20060157828" | "20070030676" | "20070046176" | "20070109779" | "20070223219" | "20070269586" | "20080074029" | "20080186702" | "20090050907" | "20090050908" | "3760237" | "4307297" | "4511425" | "4946547" | "5040868" | "5130761" | "5167556" | "5200022" | "5703401" | "5706177" | "5790298" | "5813753" | "5907151" | "5959316" | "6061160" | "6066861" | "6183100" | "6224216" | "6259608" | "6296367" | "6359236" | "6376902" | "6454437" | "6469321" | "6573580" | "6610563" | "6614058" | "6624491" | "6680490" | "6686609" | "6707069" | "6710373" | "6759733" | "6770498" | "6774401" | "6858879" | "6872585" | "6876149" | "6900511" | "6911678" | "6919586" | "6940704" | "6946714" | "6975011" | "6995510" | "7021797" | "7064907" | "7066626" | "7102213" | "7119422" | "7224000" | "7285802" | "D572210" | "D572670" | "D576574" | "RE34861").PN. OR ("7821023").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:45

S55	36	("20030049007" | "20030219207" | "20040043693" | "20040066645" | "20040071437" | "20040109306" | "20040246696" | "20040246744" | "20050007756" | "20050063187" | "20050093146" | "20050121686" | "20050135116" | "20050141244" | "20060158901" | "20070007558" | "20070158674" | "20070189007" | "20080079018" | "5050946" | "5217811" | "5581876" | "5725808" | "5883684" | "5953203" | "6270831" | "6274890" | "6455930" | "6518502" | "6536909" | "6805456" | "6854854" | "7098483" | "7163331" | "7217025" | "7293906").PN. OR ("7719021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:48
S56	472	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S57	188	S56 not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S58	3167	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:30
S59	1876	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S60	516	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S61	473	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S62	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S63	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2011/02/15 07:35
S64	0	"11908112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:44
S65	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:45

S66	38	("20020187571" | "20020197764" | "20030015721" | "20030168720" | "20030205712" | "20040026708" | "20040075399" | "20040206970" | "20040211972" | "20040217362" | "20040012958" | "20050077532" | "20050205890" | "20050211989" | "20050225973" | "20060202223" | "20060202225" | "20070063209" | "20090272971" | "3777239" | "5487999" | "5751013" | "6274924" | "6504301" | "6871982" | "6917057" | "6957899" | "6472688" | "6547249" | "7105860" | "7211832" | "7213942" | "7221044" | "7372082" | "7405433" | "7470938" | "7473934" | "7531843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:48
S67	590	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:51
S68	479	S67 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:52
S69	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S70	1	"20060022211".pn. and metal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S71	1	"20060022211".pn. and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:51
S72	1	"20060022211".pn. and "22"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:53
S73	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 12:58
S74	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 15:25

9/ 20/ 2011 5:15:05 PM
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	1	"2002299694"	JPO	OR	ON	2011/10/11 09:37
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30
S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39

S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30
S30	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S31	202	S30 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S32	20	S31 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
S33	115	S30 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14
S34	8	S33 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14

S35	1	"20100079990".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 09:05
S36	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:16
S37	1	"6949772".pn. and metal	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:26
S38	1	"6949772".pn. and aluminum	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:29
S39	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:16
S40	1	"6949772".pn. and metal.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:18
S41	1	"6949772".pn. and electrical$4	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:35
S42	1	"20100079990".pn. and (chip near2 chip)	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:39
S43	0	"6949772".pn. and silver	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 14:05
S44	1	"6949772".pn. and connector	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:01
S45	1	"6949772".pn. and 12a	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:12
S46	1180	"257"/$.cor. and chip adj chip.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S47	1180	"257"/$.cor. and (chip adj chip).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S48	38	"257"/$.cor. and (chip adj chip and metal near2 substrate).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:18
S49	65	257/706,707.cor. and (light adj emitting adj diode or LED)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:18
S50	304	257/99.cor. and (light adj emitting adj diode or LED) and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:24
S51	31	("6412971").PN. OR ("6949772").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:37
S52	284	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S53	204	S52 not S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40

S54	88	("20020061174" | "20020123163" | "20020163001" | "20020171911" | "20020195935" | "20030183852" | "20040041222" | "20040047151" | "20040079557" | "20040080939" | "20040126913" | "20040227149" | "20040232435" | "20040238930" | "20050023548" | "20050072981" | "20050093005" | "20050127377" | "20050179376" | "20060022212" | "20060049477" | "20060108594" | "20060157828" | "20070030676" | "20070046176" | "20070109779" | "20070223219" | "20070269586" | "20080074029" | "20080186702" | "20090050907" | "20090050908" | "3760237" | "4307297" | "4511425" | "4946547" | "5040868" | "5130761" | "5167556" | "5200022" | "5703401" | "5706177" | "5790298" | "5813753" | "5907151" | "5959316" | "6061160" | "6066861" | "6183100" | "6224216" | "6259608" | "6296367" | "6359236" | "6376902" | "6454437" | "6469321" | "6573580" | "6610563" | "6614058" | "6624491" | "6680490" | "6686609" | "6707069" | "6710373" | "6759733" | "6770498" | "6774401" | "6858879" | "6872585" | "6876149" | "6900511" | "6911678" | "6919586" | "6940704" | "6946714" | "6975011" | "6995510" | "7021797" | "7064907" | "7066626" | "7102213" | "7119422" | "7224000" | "7285802" | "D572210" | "D572670" | "D576574" | "RE34861").PN. OR ("7821023").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:45
S55	36	("20030049007" | "20030219207" | "20040043693" | "20040066645" | "20040071437" | "20040109306" | "20040246696" | "20040246744" | "20050007756" | "20050063187" | "20050093146" | "20050121686" | "20050135116" | "20050141244" | "20060158901" | "20070007558" | "20070158674" | "20070189007" | "20080079018" | "5050946" | "5217811" | "5581876" | "5725808" | "5883684" | "5953203" | "6270831" | "6274890" | "6455930" | "6518502" | "6536909" | "6805456" | "6854854" | "7098483" | "7163331" | "7217025" | "7293906").PN. OR ("7719021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:48
S56	472	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S57	188	S56 not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52

S58	3167	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:30
S59	1876	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S60	516	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S61	473	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S62	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S63	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2011/02/15 07:35
S64	0	"11908112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:44
S65	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:45
S66	38	("20020187571" | "20020197764" | "20030015721" | "20030168720" | "20030205712" | "20040026708" | "20040075399" | "20040206970" | "20040211972" | "20040217362" | "20040012958" | "20050077532" | "20050205890" | "20050211989" | "20050225973" | "20060202223" | "20060202225" | "20070063209" | "20090272971" | "3777239" | "5487999" | "5751013" | "6274924" | "6504301" | "6871982" | "6917057" | "6957899" | "6472688" | "6547249" | "7105860" | "7211832" | "7213942" | "7221044" | "7372082" | "7405433" | "7470938" | "7473934" | "7531843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:48
S67	590	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:51
S68	479	S67 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:52

S69	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S70	1	"20060022211".pn. and metal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S71	1	"20060022211".pn. and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:51
S72	1	"20060022211".pn. and "22"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:53
S73	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 12:58
S74	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 15:25
S75	1132	362/249.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 16:59
S76	4385	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:10
S77	715	257/88,98.cor. and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:11
S78	284	S77 and LED NEAR2 CHIP	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:12

10/11/2011 9:47:22 AM
C:\Documents and Settings\jcranson\My Documents\EAST\Workspaces\12240011.wsp

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2010	12/23/2010	02/15/2011	09/20/2011					
	1	✓	✓	✓	✓					
	2	✓	✓	✓	✓					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	✓	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	✓	✓					
	8	✓	✓	✓	✓					
	9	N	-							
	10	N	-							
	11	N	-							
	12	N	-							
	13	N	-							
	14	N	-							
	15	N	-							
	16	N	-							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	Art Unit
	James W Cranson	2875

SEARCHED

Class	Subclass	Date	Examiner
362	218,294,,247,249.02,296.04	8/9/2010	JWC
257	98,88	8/9/2010	JWC
362	249.02	12/23/2010	JWC
362	218,294,249.02	02/14/2011	JWC
257	88,98	2/14/2011	JWC
362	249.02	09/20/2011	JWC
257	88,98	09/20/2011	JWC

SEARCH NOTES

Search Notes	Date	Examiner
362/$.CCLS.	8/9/2010	JWC
INVENTOR SEARCH	8/9/2010	JWC
362/$.cor.	12/23/2010	JWC
362/$.cor.	02/14/2011	JWC
257/$.cor.	2/14/2011	JWC
362/$.cor.	09/20/2011	JWC
257/$.cor.	09/20/2011	JWC

INTERFERENCE SEARCH

Class	Subclass	Date	Examiner

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Rene Peter Helbing		
Title:	EFFICIENT LED ARRAY		
Serial No.:	12/240,011	Filing Date:	09/29/2008
Examiner:	James W. Cranson, Jr.	Group Art Unit:	2875
Docket No.:	70257.109 (M-17467US)	Confirmation No.:	4526

Irvine, California
January 19, 2012

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Dear Examiner:

In response to the Non-Final Office Action dated October 19, 2011, please amend the above-identified application as follows.

CLAIMS:

1. (Currently amended) A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation, and wherein at least a portion of the LED chips are spaced apart from each other to allow light from the portion of LED chips to reflect from a portion of the reflective surface that is located between the portion of the LED chips, wherein an electrical path is formed by connecting the LED chips in a chip to chip fashion.

2. (Original) The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. (Original) The apparatus of claim 1, wherein the reflective surface comprises silver plating.

4. (Original) The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. (Original) The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. (Original) The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. (Original) The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

8. (Original) The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

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9-32. (Cancelled).

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Remarks

Claims 1-8 were pending and rejected in the present application. No claims have been added or cancelled by this response. The rejections are respectfully traversed in light of the following remarks, and reconsideration is requested.

Double Patenting Rejections

Claims 1-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of co-pending Application Number 12/705,240. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not been patented.

Applicant hereby acknowledges the provisional obviousness-type double patenting rejection. Applicant requests that this rejection be held in abeyance until it is the only remaining rejection, at which time it can be reconsidered.

Rejections under 35 U.S.C. §102 and 35 U.S.C. §103

Claims 1, 6 and 7 are rejected under 35 U.S.C. §102(b) as being anticipated by Yamada (JP 2002-299694) herein referred to as "Yamada"; Claims 2, 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada; and Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of Yano (US 2007/0200128) herein referred to as Yano.

In the rejection of independent Claim 1, the Examiner appears to indicate that Yamada teaches LED chips that are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips.

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However, Applicant respectfully disagrees.

To support the contention that Yamada teaches LED chips that are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips, the Examiner states that "Drawing 1 shows that LED chips are spaced apart." However showing that the LED chips are space apart is not the same as teaching that the LED chips are spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips. There is simply no teaching in Yamada that the LED chips are "spaced apart from each other to allow light to reflect from a portion of the reflective surface that is located between the portion of the LED chips." For example, there could be insufficient distance between adjacent LED chips in the Yamada to facilitate such reflection, as discussed further below.

The Examiner referred to Figure 1 of Yamada regarding the teaching of spaced apart LED chips. However, Figure 1 of Yamada merely shows a plurality of LED chips without any indication regarding the spacing thereof. Patent drawings are not necessarily to scale unless there is an indication in the patent or publication that they are to scale. No such indication has been cited by the Examiner. As such, there is simply no teaching that the LED chips are spaced sufficiently apart from one another to allow the substrate to reflect light from the LED chips. As those skilled in the art will appreciate, if the LED chips are sufficiently close to one another, light from one LED chip will be incident upon an adjacent LED chip rather be incident up the substrate.

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Indeed, it is not even known whether or not light from the LED chips of Yamada is incident upon the substrate thereof. Light from the LED chips of Yamada may be emitted

upwardly, such that the light is not incident upon the substrate. The direction and pattern of light emission from the LED chips of Yamada depends upon the position and configuration of the active area or light emitting region of the LED chips. The Examiner has not provided any indication that light from the LED chips is even incident upon the substrate of Yamada.

Further, independent Claim 1 has been amended to recite LED chips that "are spaced apart from each other to allow light from the portion of LED chips to reflect from a portion of the reflective surface that is located between the portion of the LED chips." This amendment makes it clear that the light reflected from reflective surface came from the LED chips and not from somewhere else. It is respectfully submitted that no new matter has been added by this amendment. Support for this amendment can be found in paragraph [0030] of the application as filed, for example.

The mere fact that the substrate of Yamada has a reflector function does not mean that Yamada teaches LED chips that are "spaced apart from each other to allow light from the portion of LED chips to reflect from a portion of the reflective surface that is located between the portion of the LED chips." The reflective surface of Yamada could be configured to reflect light that has been internally reflected downwardly from the encapsulation (such as due to internal reflection according to Snell's law), for example. It is simply not clear from Yamada what light is being reflected by the substrate. Independent Claim 1 has been amended to make it clear that the LED chips are space apart from each other to allow light "from the portion of LED chips" to reflect from the substrate.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal*

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Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). It simply is not clear from the teachings of Yamada that the LED chips are "spaced apart from each other to allow light from the portion of LED chips to reflect from a portion of the reflective surface that is located between the portion of the LED chips."

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). That the LED chips are "spaced apart from each other to allow light from the portion of LED chips to reflect from a portion of the reflective surface that is located between the portion of the LED chips" does not necessarily flow from the teachings of Yamada.

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Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S. C § 102 and 35 U.S.C. §103.

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Conclusion

For the foregoing reasons, Applicant believes pending claims 1-8 are allowable, and a notice of allowance is respectfully requested. If the Examiner has any questions regarding the application, the Examiner is invited to call the undersigned Attorney at (949) 202-3000.

Authorization is given to charge any fees due or credit any overpayments in regard to this communication to deposit account 08-1394

Certification of Electronic Transmission
I hereby certify that this paper is being electronically transmitted to the U.S. Patent and Trademark Office on the date shown below.

Cheryl Y. Price — **January 19, 2012** Date of Signature

Respectfully submitted,

Norman E. Carte
Agent for Applicants
Reg. No. 30,455

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Electronic Acknowledgement Receipt

EFS ID:	11873558
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Norman E. Carte/Cheryl Price
Filer Authorized By:	Norman E. Carte
Attorney Docket Number:	M-17467 US
Receipt Date:	19-JAN-2012
Filing Date:	29-SEP-2008
Time Stamp:	14:26:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		ROA_109.pdf	403607 2b6ee09541f2b88510d59e064cacca30690cd784	yes	9

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	3
	Applicant Arguments/Remarks Made in an Amendment	4	9
Warnings:			
Information:			
	Total Files Size (in bytes):	403607	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
12/240,011	09/29/2008	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
			TOTAL			TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED – PART II

AMENDMENT 01/19/2012	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 8	Minus	** 20	= 0	X $30 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 1	Minus	***3	= 0	X $125 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/STEFANIE BRYCE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

32605 7590 04/23/2012

Haynes and Boone, LLP
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EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

MAIL DATE	DELIVERY MODE
04/23/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/240,011	HELBING, RENE PETER	
	Examiner	Art Unit	
	JAMES CRANSON JR	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2012*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-8* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-8* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *29 September 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

Claims 1-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 12/705,240. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not been patented.

The Double Patenting rejection is maintained for the reasons of record.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002299694 A to Yamada et al.

Yamada in a LED light- source for illumination and illuminator discloses a light emitting diode (LED) apparatus comprising a package, a metal substrate having a reflective surface, a plurality of LED chips mounted directly to reflective surface of metal substrate to allow for thermal dissipation, at least a portion of the LED chips are spaced apart from each other to allow light to reflect from a portion of reflective surface that is located between portion of LED.

Re claim 1:

A light emitting diode (LED) apparatus (**ABSTRACT**) comprising: a metal substrate (**1**,**[0018]**) having a reflective surface (**"metallic base which has a reflex function"**,**[0018]**); and a plurality of LED chips (**2**) mounted directly to the reflective surface of the metal substrate to allow for thermal dissipation (**"die bonding of two or more LEDs is carried out to the metallic base 1"**,**[0018]**) and wherein at least a portion of the LED chips are spaced apart from each other to allow light ***from the portion of the LED chips*** to reflect from a portion of the reflective surface that is located between the portion of the LED chips (**Drawing 1 shows that LED chips are spaced apart),**

Re claim 6, according to claim 1, whereon the plurality of LED chips provide separate thermal and electrical paths.

Yamada discloses that the plurality of LED chips provide separate thermal and electrical paths.

Re claim 7, according to claim 1, wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Yamada discloses that the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002299694 A to Yamada et al.

Re claim 2, according to claim 1, wherein the reflective surface comprises polished aluminum.

Yamada discloses the claimed invention including that reflective surface comprises aluminum but does not disclose polished aluminum. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada to have a reflective surface comprised of polished aluminum because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (***In re Leshin*, 125 USPQ 416**).

Claim 2 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Re claim 3, according to claim 1, wherein the reflective surface comprises silver plating.

Yamada discloses the claimed invention except that reflective surface comprises silver plating. It would have been obvious to one of ordinary skill in the art at the time of the invention

for Yamada to have a reflective surface comprised of silver plating because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (***In re Leshin*, 125 USPQ 416**).

Claim 3 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Re claim 5, according to claim 1; wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

Yamada discloses the claimed invention except for the LED chips forming an array having a chip spacing that is in the range of approximately .5 millimeters or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada have the LED chips form an array having a chip spacing that is approximately in the range of .5 millimeters or greater in the gap 4 because it has been held that lacking any criticality, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range based on its suitability for the intended use involves only routine skill in the art. (***In re Aller*, 105 USPQ 233).**

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002299694 A to Yamada et al. in view of US 2007/0200128 A1 to Yano.

Yamada does not specifically disclose that reflectivity is 70% or greater. Yano in a light emitting device teaches the use of a polished substrate to get a reflectively of 70% or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Yano to provide Yamada with a polished substrate to get a

reflectively of 70% or greater. The reason for using a polished surface, as stated by Yano, is to increase reflectivity so that more light can be effectively reflected [0044].

Re claim 4, according to claim 1, wherein the reflective surface has a reflectively of 70% or greater.

Claim 4 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Response to Arguments

Applicant's arguments filed 01/19/2012 have been fully considered but they are not wholly persuasive. The claims still remain broad in scope. Contrary to the response, "Yamada merely shows a plurality of LED chips without any indication regarding the spacing thereof", the drawing are part of the teaching and drawing 1 clearly shows the spacing between LED chips. The metal substrate which has a reflective surface and the reflective surface is disclosed repeatedly in the translation [0019, 0020, 0021, 0022] as the reflector spreading metal substrate 1 that reflects light . The spacing provides increased reflective area and more illumination for the predicted result which is to reflect from a portion of the reflective surface that is located between portions of the LED chips. Further applicant claims "**to allow ----**and **to reflect---**" This is intended use and not a patentable limitation. Yamada does teach that LED chips spaced sufficiently apart from one another to allow the substrate to reflect light from LED chips as claimed in the instant application.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES CRANSON JR whose telephone number is (571)272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dianne Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./
Examiner, Art Unit 2875

/STEPHEN F HUSAR/
Primary Examiner, Art Unit 2875

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1471	362/249.02.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:53
L2	69	1 AND METAL NEAR2 SUBSTRATE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:53
L3	9984	257/88,98.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:55
L4	1435	3 AND METAL NEAR2 SUBSTRATE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:55
L5	1204	4 and (LED or light near2 emitting near2 diode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:56
L6	888	5 and chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:56
L7	393	6 and reflect$4 near2 surface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:57
S1	1	"6871982".pn.	US-PGPUB;	OR	ON	2010/08/10

			USPAT; USOCR			12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30

S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39
S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30

S30	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S31	202	S30 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S32	20	S31 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
S33	115	S30 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14
S34	8	S33 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14
S35	1	"20100079990".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 09:05
S36	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:16
S37	1	"6949772".pn. and metal	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:26
S38	1	"6949772".pn. and aluminum	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:29
S39	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:16
S40	1	"6949772".pn. and metal.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:18
S41	1	"6949772".pn. and electrical$4	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:35
S42	1	"20100079990".pn. and (chip near2 chip)	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:39
S43	0	"6949772".pn. and silver	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 14:05
S44	1	"6949772".pn. and connector	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:01
S45	1	"6949772".pn. and 12a	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:12
S46	1180	"257"/$.cor. and chip adj chip.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S47	1180	"257"/$.cor. and (chip adj chip).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S48	38	"257"/$.cor. and (chip adj chip and metal near2 substrate).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:18

S49	65	257/706,707.cor. and (light adj emitting adj diode or LED)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:18
S50	304	257/99.cor. and (light adj emitting adj diode or LED) and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:24
S51	31	("6412971").PN. OR ("6949772").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:37
S52	284	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S53	204	S52 not S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S54	88	("20020061174" | "20020123163" | "20020163001" | "20020171911" | "20020195935" | "20030183852" | "20040041222" | "20040047151" | "20040079557" | "20040080939" | "20040126913" | "20040227149" | "20040232435" | "20040238930" | "20050023548" | "20050072981" | "20050093005" | "20050127377" | "20050179376" | "20060022212" | "20060049477" | "20060108594" | "20060157828" | "20070030676" | "20070046176" | "20070109779" | "20070223219" | "20070269586" | "20080074029" | "20080186702" | "20090050907" | "20090050908" | "3760237" | "4307297" | "4511425" | "4946547" | "5040868" | "5130761" | "5167556" | "5200022" | "5703401" | "5706177" | "5790298" | "5813753" | "5907151" | "5959316" | "6061160" | "6066861" | "6183100" | "6224216" | "6259608" | "6296367" | "6359236" | "6376902" | "6454437" | "6469321" | "6573580" | "6610563" | "6614058" | "6624491" | "6680490" | "6686609" | "6707069" | "6710373" | "6759733" | "6770498" | "6774401" | "6858879" | "6872585" | "6876149" | "6900511" | "6911678" | "6919586" | "6940704" | "6946714" | "6975011" | "6995510" | "7021797" | "7064907" | "7066626" | "7102213" | "7119422" | "7224000" | "7285802" | "D572210" | "D572670" | "D576574" | "RE34861").PN. OR	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:45

		("7821023").URPN.				
S55	36	("20030049007" | "20030219207" | "20040043693" | "20040066645" | "20040071437" | "20040109306" | "20040246696" | "20040246744" | "20050007756" | "20050063187" | "20050093146" | "20050121686" | "20050135116" | "20050141244" | "20060158901" | "20070007558" | "20070158674" | "20070189007" | "20080079018" | "5050946" | "5217811" | "5581876" | "5725808" | "5883684" | "5953203" | "6270831" | "6274890" | "6455930" | "6518502" | "6536909" | "6805456" | "6854854" | "7098483" | "7163331" | "7217025" | "7293906").PN. OR ("7719021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:48
S56	472	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S57	188	S56 not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S58	3167	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:30
S59	1876	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S60	516	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S61	473	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S62	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S63	411	S60 not S61	US-PGPUB; USPAT;	OR	OFF	2011/02/15 07:35

			USOCR; FPRS; EPO; JPO; IBM_TDB			
S64	0	"11908112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:44
S65	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:45
S66	38	("20020187571" | "20020197764" | "20030015721" | "20030168720" | "20030205712" | "20040026708" | "20040075399" | "20040206970" | "20040211972" | "20040217362" | "20040012958" | "20050077532" | "20050205890" | "20050211989" | "20050225973" | "20060202223" | "20060202225" | "20070063209" | "20090272971" | "3777239" | "5487999" | "5751013" | "6274924" | "6504301" | "6871982" | "6917057" | "6957899" | "6472688" | "6547249" | "7105860" | "7211832" | "7213942" | "7221044" | "7372082" | "7405433" | "7470938" | "7473934" | "7531843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:48
S67	590	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:51
S68	479	S67 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:52
S69	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S70	1	"20060022211".pn. and metal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S71	1	"20060022211".pn. and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:51
S72	1	"20060022211".pn. and "22"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2011/02/15 11:53

			IBM_TDB			
S73	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 12:58
S74	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 15:25
S75	1132	362/249.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 16:59
S76	4385	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:10
S77	715	257/88,98.cor. and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:11
S78	284	S77 and LED NEAR2 CHIP	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:12
S79	1	"2002299694"	JPO	OR	ON	2011/10/11 09:37

4/ 18/ 2012 1:03:22 PM
C:\ Users\ jcranson\ Documents\ EAST\ Workspaces\ 12240011.wsp

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2010	12/23/2010	02/15/2011	09/20/2011	04/18/2012				
	1	✓	✓	✓	✓	✓				
	2	✓	✓	✓	✓	✓				
	3	✓	✓	✓	✓	✓				
	4	✓	✓	✓	✓	✓				
	5	✓	✓	✓	✓	✓				
	6	✓	✓	✓	✓	✓				
	7	✓	✓	✓	✓	✓				
	8	✓	✓	✓	✓	✓				
	9	N	-							
	10	N	-							
	11	N	-							
	12	N	-							
	13	N	-							
	14	N	-							
	15	N	-							
	16	N	-							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	Art Unit
	James W Cranson	2875

SEARCHED

Class	Subclass	Date	Examiner
362	218,294,,247,249.02,296.04	8/9/2010	JWC
257	98,88	8/9/2010	JWC
362	249.02	12/23/2010	JWC
362	218,294,249.02	02/14/2011	JWC
257	88,98	2/14/2011	JWC
362	249.02	09/20/2011	JWC
257	88,98	09/20/2011	JWC
362	249.02	4/18/2012	JWC
257	88,98	4/18/2012	JWC

SEARCH NOTES

Search Notes	Date	Examiner
362/$.CCLS.	8/9/2010	JWC
INVENTOR SEARCH	8/9/2010	JWC
362/$.cor.	12/23/2010	JWC
362/$.cor.	02/14/2011	JWC
257/$.cor.	2/14/2011	JWC
362/$.cor.	09/20/2011	JWC
257/$.cor.	09/20/2011	JWC
362/$.cor.	4/18/2012	JWC
257/$.cor.	4/18/2012	JWC

INTERFERENCE SEARCH

Class	Subclass	Date	Examiner

PTO/SB/80 (11-08)
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 105377

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 105377

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

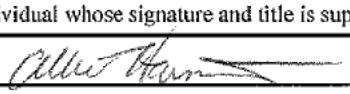
Assignee Name and Address:

Bridgelux, Inc.
Portola Ave.
Livermore, CA 94551

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	April 3, 2012
Name	Albert Harnois	Telephone	(925) 583-8549
Title	Associate General Counsel		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/96 (07-09)
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Rene Peter Helbing

Application No./Patent No.: 12/240,011 Filed/Issue Date: September 29, 2008

Titled: EFFICIENT LED ARRAY

Bridgelux, Inc. , a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 021599, Frame 0623, or for which a copy therefore is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Jesus Del Castillo/ May 3, 2012

Signature Date

Jesus Del Castillo Attorney

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	12700644
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	32605
Filer:	Jesus Del Castillo
Filer Authorized By:	
Attorney Docket Number:	M-17467 US
Receipt Date:	03-MAY-2012
Filing Date:	29-SEP-2008
Time Stamp:	18:37:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	sb0021_Transmittal_Form_BL080041_US_U1.pdf	261795 94fe95c09b969da00a7206b5e188d31296b940ff	no	2

Warnings:	
Information:	

2	Power of Attorney	Signed_PoA_to_prosecute_before_USPTO.pdf	77048 b0920b878f39002433eecf549d71009792f485ad	no	1
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73(b).	sb0096_BL080041US-U1.pdf	423827 efe14ee2c7e38559741ed894914e20604ed01047	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	762670	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	5

Application Number	12/240,011
Filing Date	September 29, 2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson, Jr.
Attorney Docket Number	M-17467 US

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☑ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please Identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Bridgelux Inc.		
Signature	/Jesus Del Castillo/		
Printed name	Jesus Del Castillo		
Date	May 3, 2012	Reg. No.	51,604

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Signature			
Typed or printed name		Date	

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

105377
Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

POA ACCEPTANCE LETTER

OC000000054211900

Date Mailed: 05/14/2012

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/03/2012.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hchristian/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

POWER OF ATTORNEY NOTICE

32605
Haynes and Boone, LLP
IP Section
2323 Victory Avenue
SUITE 700
Dallas, TX 75219

OC000000054211858

Date Mailed: 05/14/2012

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/03/2012.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/hchristian/

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PTO/SB/80 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 106719

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 106719

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address:

Bridgelux, Inc.
101 Portola Avenue
Livermore, CA 94551

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	Albert Harnois	Date	06-08-2012
Name	Albert Harnois	Telephone	925-583-8549
Title	Associate General Counsel		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/96 (07-09)
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Rene Peter Helbing

Application No./Patent No.: 12/240,011 Filed/Issue Date: 09-29-2008

Titled: EFFICIENT LED ARRAY

Bridgelux, Inc. , a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 021599, Frame 0623, or for which a copy therefore is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Pavel Kalousek/ 06-11-2012

Signature Date

Pavel Kalousek, Registration No. 44,178 Attorney for Assignee

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	13032486
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	105377
Filer:	Pavel Kalousek
Filer Authorized By:	
Attorney Docket Number:	M-17467 US
Receipt Date:	15-JUN-2012
Filing Date:	29-SEP-2008
Time Stamp:	20:39:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	General_POA_CN.pdf	73667 e90038d597190c1adc8c8428451f31ab2b8c8ed4	no	1

Warnings:	
Information:	

2	Assignee showing of ownership per 37 CFR 3.73(b).	BL080041US-U1_sb0096.pdf	422780 1f2183c8f850efa7ca23e0540e637635da65591a	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	496447

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

106719
Pavel Kalousek
22262 Crestline Road
P.O. Box 245
Palomar Mountain, CA 92060

POA ACCEPTANCE LETTER

OC000000054967864

Date Mailed: 06/22/2012

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/15/2012.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/zabraha/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

POWER OF ATTORNEY NOTICE

105377
Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

OC000000054967857

Date Mailed: 06/22/2012

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

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/zabraha/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Doc Code: M865 or FAI.REQ.INTV

PTOL-413A (08-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Applicant Initiated Interview Request Form

Application No.: 12/240,011 First Named Applicant: HELBING, RENE PETER
Examiner: JAMES CRANSON JR Art Unit: 2875 Status of Application: Pending

Tentative Participants:
(1) JAMES CRANSON JR **(2)** Pavel Kalousek
(3) _____ **(4)** _____

Proposed Date of Interview: After 08-27-2012 **Proposed Time:** 10:00 a.m. **(AM/PM)**

Type of Interview Requested:
(1) [✓] Telephonic (2) [ ] Personal (3) [ ] Video Conference

Exhibit To Be Shown or Demonstrated: [ ] YES [✓] NO
If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) Rejection	1-8	Yamada et al.	[ ]	[ ]	[ ]
(2)			[ ]	[ ]	[ ]
(3)			[ ]	[ ]	[ ]
(4)			[ ]	[ ]	[ ]

[ ] Continuation Sheet Attached [ ] Proposed Amendment or Arguments Attached
Brief Description of Arguments to be Presented: As filed in a response to Office action dated July 20, 2012

An interview was conducted on the above-identified application on _____

NOTE: This form should be completed and filed by applicant in advance of the interview (see MPEP § 713.01). If this form is signed by a registered practitioner not of record, the Office will accept this as an indication that he or she is authorized to conduct an interview on behalf of the principal (37 CFR 1.32(a)(3)) pursuant to 37 CFR 1.34. This is not a power of attorney to any above named practitioner. See the Instruction Sheet for this form, which is incorporated by reference. By signing this form, applicant or practitioner is certifying that he or she has read the Instruction Sheet. After the interview is conducted, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible. This application will not be delayed from issue because of applicant's failure to submit a written record of this interview.

/Pavel Kalousek/
Applicant/Applicant's Representative Signature

Examiner/SPE Signature

Pavel Kalousek
Typed/Printed Name of Applicant or Representative

44178
Registration Number, if applicable

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 24 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTOL-413A (08-10)
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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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Instruction Sheet for:
APPLICANT INITIATED INTERVIEW REQUEST FORM

(Not to be Submitted to the USPTO)

1. If this form is signed by a registered practitioner not of record, the authority to submit the Applicant Initiated Interview Request Form is pursuant to limited authority to act in a representative capacity under 37 CFR 1.34 and further proof of authority to act in a representative capacity may be required. *See* 37 CFR 1.34.

   The Office will accept the signed form as an indication that the registered practitioner not of record is authorized to conduct an interview on behalf of the principal in pursuant to 37 CFR 1.34.

   For more information, see the "Conducting an Interview with a Registered Practitioner Acting in a Representative Capacity" notice which is available on the USPTO Web site at: http://www.uspto.gov/patents/law/notices/2010.jsp.

2. This is not a power of attorney to any named practitioner. Accordingly, any registered practitioner not of record named on the form does not have authority to sign a request to change the correspondence address, a request for express abandonment, a disclaimer, a power of attorney, or other document requiring the signature of the applicant, assignee of the entire interest or an attorney of record. If appropriate, a separate power of attorney to the named practitioner should be executed and filed in the US Patent and Trademark Office.

3. Any interview concerning an unpublished application under 35 U.S.C. § 122(b) with a registered practitioner not of record, pursuant to 37 CFR 1.34, will be conducted based on the information and files supplied by the practitioner in view of the confidentiality requirements of 35 U.S.C. § 122(a).

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 12/240,011
Filing Date: 09-29-2008
First-Named Inventor: HELBING, RENE PETER
Docket No.: BL080041US-U1
Confirmation No.: 4526
Examiner: JAMES CRANSON JR
Group Art Unit: 2875

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Dear Sir:

In response to the Advisory Action dated 04/23/2012, please amend the above-identified application as follows.

Claims begin on page 2 of this paper.

Remarks begin on page 4 of this paper.

IN THE CLAIMS

1. (Currently amended) A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate ~~to allow for~~ creating and efficient thermal ~~dissipation~~ path~~,~~ and ~~wherein~~ at least a portion of the LED chips ~~are~~ being spaced apart from each other to ~~allow light from the portion of LED chips to reflect from a portion~~ expose regions of the reflective surface ~~that is located~~ between the portion of the LED chips, the exposed regions reflecting light emitted from the portion of the LED chips, ~~wherein~~ and

an electrical path ~~is~~ formed by connecting the LED chips in a chip to chip fashion.

2. (Original) The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. (Original) The apparatus of claim 1, wherein the reflective surface comprises silver plating.

4. (Original) The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. (Original) The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. (Original) The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. (Original) The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

8. (Original) The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

9-32. (Cancelled).

REMARKS

Claims 1-8 are pending in the application. Claims 1-8 have been rejected.

Applicant amended claim 1 to more clearly claim the inventive subject-matter. Support for the amendment can be found in the application as originally filed, *cf.*, at least paragraph [0026]-[0030]. Consequently, no new matter has been introduced by this amendment.

Applicant respectfully traverses the rejection as detailed below.

Claim Rejections - 35 USC § 102

In order for a claim to be anticipated under 35 U.S.C. § 102(b), the reference must teach *every element* of the claim. MPEP 2131, (emphasis supplied). In this regard, the Federal Circuit has held that "a claim is anticipated only if each and every element as set forth in the claim is found, either *expressly* or *inherently* described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987), (emphasis supplied).

Claims 1, 6, and 7 are rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by JP 2002299694 A to Yamada et al.

Claim 1

Claim 1 recites in part:

> "a plurality of LED chips mounted directly to the reflective surface of the metal substrate creating and efficient thermal path and at least a portion of the LED chips being spaced apart from each other to expose regions of the reflective surface between the portion of the LED chips, the exposed regions reflecting light emitted from the portion of the LED chips; and"

The current Office action argued that the part of the claimed feature reciting:

> "a plurality of LED chips mounted *directly to* the *reflective surface* of the metal substrate to allow for thermal dissipation,"

is disclosed in Yamada et al. "('die bonding of two or more LEDs is carried out to the metallic base 1',[0018])".

Applicant respectfully disagrees with the Examiner's interpretation. It is noted at the outset that upon Applicant request under MPEP § 706.02, the Examiner supplied a *machine* translation of the Yamada et al. reference. In this respect, it is noted that reliance on machine translation has been criticized by The Board of Appeals in *Ex Parte Rudd*, Appeal 2007-3775, due to:

> "'[u]ntranslatable words are replaced with asterisks (****)' and the fact that 'the machine translations appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.'"

As will be demonstrated below, the text is so ambiguous as to prevent clear and unambiguous interpretation of the term "directly mounted to".

Consequently, should a disagreement regarding interpretation of the text arise; the Applicant reserves the right to request a human translated version of Yamada et al.

To set the stage for the discussion, it is noted that the term "directly" is defined as excluding any intervening elements (between the plurality of LED chips and the surface of metal substrate), *cf.*, above-identified application paragraph [0019]. Because in general metals have high thermal conductivity, such direct mounting results in creation of an efficient thermal path allowing heat to pass from the plurality of LED chips to the metal substrate, *cf.* claim 1, application paragraph [0026]. As such, the claim language is not an intended use, but limitation, as explained below.

Turning now an attention to the cited portion of Yamada et al., it is noted that the *recitation* does *not* indicate that the LEDs are bonded *directly to* the metallic base as per the meaning of the term as defined in the above-identified application. Referring to paragraph [0018] of Yamada et al., it is disclosed (emphasis supplied):

> "In the figure, 1 is a metallic base which has a reflex function, *high reflection materials*, such as white, *are applied to the substrate* which uses as a base material metal with a good

radiation characteristic which served as the *insulating layer*, or mirror finish is performed."

This convoluted sentence is difficult to understand. For example, the term "substrate" is introduced by a *definite* article, although the "substrate" – as applicable to the inventive subject matter - is mentioned herein for the first and only time. Consequently, it is impossible to understand what is meant by the term substrate.

As best as applicant understands this convoluted sentence, Yamada et al. discloses a metallic base, to which *high reflection materials*, such as white, are applied; the high reflection materials providing an *insulating* layer. Such a disclosure may be interpreted as an affirmation that in *all embodiments*, high reflection materials which serve as an *insulation* layer are applied to the metallic base of the substrate.

The ambiguity is not resolved by referring to the section "Means for solving problem" starting in paragraph [0010], where it is disclosed (emphasis supplied):

"A LED light source device for Lighting Sub-Division concerning this invention is provided with the following:

A metallic base which *has a reflex function*.

Two or more LED tips by which die bonding was carried out *to this metallic base via an electrical insulator*."

The recitation appears to disclose that an *additional* electrical insulator - note the *indefinite* article introducing the term “electrical insulator” is applied to the metallic base, to which reflective material with *insulating* properties was already applied.

For statements with the *same* import, *cf.*, e.g., claims 1 and 2; paragraphs [0011], [0033]-[0034] of Yamada et al.

Based on the foregoing, it appears that a *high reflective material* with *insulation properties* is applied on the metallic base of the substrate and an additional electrical *insulator* is applied on the high reflective material.

This interpretation signifies the fact that the LED chips are *not mounted directly to* the reflective surface of the metal substrate as the term is defined, because of the presence of an *intervening insulating* material*s* applied to the metallic base substrate.

Applicant is aware that the translation in paragraph [0018] recites that a "mirror finish is performed". However, the translation *fails* to clearly delimit upon which layer is the mirror finish being performed. In other words, and especially considering the argument above, the recitation may be interpreted as having the mirror finish performed upon *a material that is applied to the metallic base rather than to the metallic base itself*. Thus, the mirror finish could be applied to the high reflection materials discussed above, rather than to the metallic base.

Based on the foregoing, Yamada fails to *unambiguously* state that a mirror finish is performed upon the substrate and the LED is then attached *directly* to the mirror fished substrate.

Applicant further respectfully submits that the analysis above is not altered by recitation in, e.g., paragraph [0021], reciting (emphsis supplied):

> "*Direct mounting* of two or more LED tips 2 is carried out to the metallic base 1, . . ."

First, the new terminology "*directly* mounted" adds another layer of ambiguity to the ambiguity discussed above.

Second, as discussed above, the translation is a machine translation, and the Japanese term directly may *not* correspond to the English term because the dictionary definition of the English term "direct" has literally tens of synonyms, several of which may be substituted; *cf.* Roget's International Thesaurus, 4th edition, Harper & Row, Publishers, Inc., 1974.

Third, even considering for the sake of an argument that the term "direct" has the same synonymic meaning in Japanese and in English, there is *no definition* of the term in Yamada et al.; therefore, it is not disclosed that Yamada et al. uses the term in the meaning *as defined by the above identified-application and claimed*.

Additionally, even considering for the sake of an argument that the term "direct" has the same synonymic meaning in Japanese and in English and the

meaning is that as defined in the application, which is not admitted, the LED chips in Yamada et al. would be bonded directly to *both the reflecting layer* which, as disclosed, is an *insulator* and the additional *electrical insulator* layer. Consequently, the structure would *fail* to create an efficient thermal path.

Finally, paragraph [0018] discloses in part (emphasis supplied):

> "Die bonding of two or more LED tips 2 is *carried out to the metallic base 1, and by the gold streak 3, wire bonding is carried out*, it is mounted, the mold of the transparent resin layer 5 containing the fluorescent substance 4 is integrally carried out to the circumference, and the surface is a flat surface."

Although again difficult to understand the sentence implied that the *wire bonding is carried out to the metallic base*, *cf.* Fig. 2. But this cannot be correct, because in that case both wires would be connected to the metallic base thus creating a short circuit; consequently, the device would not function. Therefore, an insulating material must be present.

Based on the foregoing, Yamada et al. fails to *expressly* describe that a plurality of LED chips are mounted *directly to* the *reflective surface of the metal substrate to create an efficient thermal path.*

Second, Applicant respectfully submits that the Yamada et al. disclosure does not meet the standard of inherency as established by the case law.

"In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

Applicant respectfully submits that mounting of the LED directly to the substrate *does not necessarily* flow from the teachings of Yamada et al.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531,1534,28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82,212 USPQ 323,326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted)."

Applicant respectfully submits that as discussed above, Yamada et al. teaches the application of reflective material to the substrate. Although Yamada et al. discloses the application of a "mirror finish" it is not *clear* that the mirror finish is formed upon the substrate and that the mirror finish is formed in the absence of an applied reflective material such that the LED can be mounted directly to the substrate.

Based on the foregoing, the alleged direct mounting does not appear to be inherent to the disclosure of Yamada et al.

The current Office action further argued that the part of the claimed feature reciting:

> "and at least a portion of the LED chips being spaced apart from each other to expose regions of the reflective surface between the portion of the LED chips, the exposed regions reflecting light emitted from the portion of the LED chips;"

is disclosed in Yamada et al. by reciting "(Drawing 1 shows that LED chips are spaced apart)."

Applicant agrees that drawings 1 and 2 of Yamada et al. show that LED chips are *spaced apart*; however, it does not follow that the LED chips are *spaced apart* from each other to expose regions of the reflective surface which reflects light *emitted from the LED chips*.

In order to rely on drawings to disclose dimensions, *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000) established that:

> "[I]t is well established that patent drawings do not define the precise proportions of the elements and *may not be relied on to show particular sizes if the specification is completely silent on the issue*."

No such disclosure is found in Yamada et al. As a person of ordinary skills would recognize, if the LED chips are not sufficiently spaced from one another, light from the LED chip will be incident upon an adjacent LED chip rather than being incident up the substrate.

In fact, in the section "Problems to be solved by the invention" starting in paragraph [0008], Yamada et al. discusses the need to combat the reflection *not* of light incident on the substrate *from the LED chips*, but reflection of *light from a fluorescent layer*, *cf.*, paragraph [0019] (emphasis supplied):

> "Although *a part of light which reached the fluorescent substance 4 is reflected on the surface of the fluorescent substance 4 and the reflector spreading metallic base 1 is reached*, *this reflected light is ahead reflected by the metallic base 1*, and light is efficiently emitted outside from the luminescent surface 6a."

Yamada et al. *does not even indicate* that light from the LED chips is incident upon the substrate. By means of an example, light from the LED chips of Yamada et al. may be emitted upwardly, such that the light is not incident upon the substrate. The direction and pattern of light emission from the LED chips of Yamada depends upon the position and configuration of the active area or light emitting region of the LED chips.

In this respect, considering, e.g., Fig. 4 and associated text in paragraphs [0024]-[0026], the LED chips are located in a “concave part 9”, which is depicted with *straight* sides, thus if light were emitted from the sides of the LED chips, it would *reflect back* into the LED chip.

Based on the foregoing, Yamada et al. fails to *explicitly* disclose that the LED chips are *spaced apart* from each other *to expose regions of the reflective surface which reflects light emitted from the LED chips*.

Second, Applicant respectfully submits that the Yamada et al. disclosure does not meet the standard of inherency as established by the case law as cited above.

First, as discussed above, it is not clear from the teachings of Yamada that the LED chips are "spaced apart from each other to allow light from the portion of LED chips to reflect from a portion of the reflective surface that is located between the portions of the LED chips" as claimed.

Furthermore, from the above-discussed fact that the LED chips are spaced apart to enable reflection from the fluorescent substance does not does not necessarily flow that the LED chips are also “spaced apart from each other to allow light from the portion of LED chips to reflect from a portion of the reflective surface that is located between the portion of the LED chips” as claimed.

Based on the foregoing, the alleged direct mounting does not appear to be inherent to the disclosure of Yamada et al.

In the Response to Arguments section the current Office action argued:

> “Further applicant claims "**to allow ----and to reflect---**" This is intended use and not a patentable limitation.”

Applicant respectfully disagrees. First, it is respectfully noted that the Office action’s statement is a mere conclusion, not supported by any legal or factual analysis.

Furthermore, the law requires that the determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "'whereby' clause states a condition that is material to patentability, it *cannot be ignored in order to change the substance of the invention*." *Id.* (Emphasis supplied).

In the instant application, Applicant identified problem with closely spaced LED chips, *cf.*, paragraph [0004], and disclosed that the spacing between LED

chips is required to allow light to reflect from a portion of the reflective surface that is located between the portions of the LED chips. Consequently, the clause claiming such spacing cannot be ignored, because doing so would change the substance of the invention. By means of an example, as demonstrated above, although Yamada et al. shows spacing between LED chips, no requirement on the spacing is disclosed apart from allowing for the reflection of *light from a fluorescent layer*, *above* the LED chips.

However, in an interest of advancing the prosecution, Applicant amended claim 1 to clarify that a particular spacing between the structural elements – defined in claim 1- is *required*.

Consequently, Yamada et al. fails to disclose the currently analyzed feature of claim 1.

Claim 1 further discloses in part:

> "an electrical path formed by connecting the LED chips in a chip to chip fashion."

As explained in the application, *cf*. at least paragraph [0038] referring to paragraph [0032], this structural limitation results in *separation* of electrical and thermal paths, consequently, the electrical current does not contribute to the heating of the substrate.

Applicant respectfully notes that Yamada et al. fails to disclose such a feature. Considering the recited Fig. 1 and associated text in paragraph [0018], it

is clear that *both* electrodes are wired to *the metallic base*. The electrodes being the selectircal path. As discussed above, die bonding of two or more LEDs is also carried out to the metallic base. The dies of LEDs comprising a thermal paths. As a consequence, the electrical and thermal paths in Ymada et al. are *not* separated.

Regarding the Examiner's response in Office action dated 12/29/2010, arguing that such feature is not disclosed (emphsis supplied):

> "Examiner agrees, however, since an electrical path between the LED chips is required for the LED chips to *function* and having the LED chips connected in chip to chip fashion as opposed to bonding wires connecting the LED chips would be obvious to one of ordinary skill in the art because both ways of connecting perform the same function.",

Applicant respectfully notes that the Examiner failed to establish a *prima facie* case of obviousness because the Examiner (1) failed to establish the *Graham v. John Deere Co.*, 383 U.S. 1 (1966) factors, (2) failed to provide a reference showing such a connection.

Additionally, as disclosed in the application, *cf.* at least paragraph [0038], the reason for such a chip-to-chip wiring is not only to provide power to the LED chips, but also to *separate the thermal and electrical paths.* Consequently, the

reasoning in the Office action goes only to the first function, the second being *undisclosed* by other documents than Applicant's.

Consequently, Yamada et al. fails to disclose the currently analyzed feature of claim 1.

Claim 6

Claim 6 recites:

"The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths."

Claim 6 depends from an independent claim 1, which Applicant respectfully submits is allowable. Accordingly, claim 6 is allowable at least for the reason that this claim depend from an allowable base claim.

The current Office action argued that the claimed feature is disclosed because:

"Yamada discloses that the plurality of LED chips provide separate thermal and electrical paths."

Applicant notes that, as demonstrated above, Yamada et al. discloses in paragraph [0010] that:

""Die bonding of two or more LED tips 2 is *carried out to the metallic base 1, and by the gold streak 3, wire bonding is carried*

out, it is mounted, the mold of the transparent resin layer 5 containing the fluorescent substance 4 is integrally carried out to the circumference, and the surface is a flat surface."

and considering reference to Fig. 1 and 2, it is clear that the wire bonding is carried out to the metallic base. Because the LED chips are also mounted to the metallic base via insulating material, the electrical and thermal paths are not separated.

As such, the disclosure in Yamada et al. fails to support the Office action's assertion; consequently, Yamada et al. fails to disclose the feature of claim 6.

Claim 7

Claim 7 depends from an independent claim 1, which Applicant respectfully submits is allowable. Accordingly, claim 7 is allowable at least for the reason that this claim depend from an allowable base claim.

Claim Rejections - 35 USC § 103

Claims 2, 3, 5 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2002299694 A to Yamada et al.

A failure of the cited art(s) to teach or suggest each and every feature of a claim is fatal to an obviousness rejection under 35 U.S.C. §103. For example, section 2143.03 of the MPEP requires the "consideration" of every claim feature in an obviousness determination. Consequently, this "consideration" requires that the Examiner find that Andrews in view of Kubota et al. teach or suggest

each and every claim feature. See, *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added): to establish *prima facie obviousness* of a claimed invention, *all the claim features* must be taught or suggested by the prior art. As the Board of Patent Appeal and Interferences has recently confirmed, a proper obviousness determination requires that an Examiner make "a searching comparison of the claimed invention—*including all its limitations*—with the teaching of the prior art." See, *In re Wada and Murphy*, Appeal 2007-3733, citing In re Ochiai, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis in original). Further, the necessary presence of all claim features is axiomatic, since the Supreme Court has long held that obviousness is a question of law based on underlying factual inquiries, including . . . ascertaining the differences between *the claimed invention* and the prior art. Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966) (emphasis added).

Claims 2, 3, and 5

Claims 2, 3, and 5 depend from an independent claim 1, which Applicant respectfully submits is allowable. Accordingly, claims 2, 3, and 5 are allowable at least for the reason that these claims depend from an allowable base claim.

The current Office action asserted concerning claim 2 that:

> "Yamada discloses the claimed invention including that reflective surface comprises aluminum but does not disclose polished aluminum."

Applicant perused Yamada et al. but failed to find *any notion of a material from which the metallic base is made*. As such, the disclosure in Yamada et al. fails to support the Office action's assertion; consequently, Yamada et al. fails to disclose the feature of claim 2.

The current Office action asserted concerning claim 3 that:

> "Yamada discloses the claimed invention except that reflective surface comprises silver plating. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada to have a reflective surface comprised of silver plating because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (In re Leshin, 125 USPQ 416)."

Applicant respectfully disagrees. First, regarding the first sentence, as discussed above, Yamada et al. discloses in paragraph [0018] that (emphasis supplied):

> "In the figure, 1 is a metallic base which has a reflex function, *high reflection materials*, *such as white*, *are applied to the substrate* which uses as a base material metal with a good radiation characteristic which served as the *insulating layer*, or mirror finish is performed."

Applicant notes that *silver* plated layer would not have *insulating* property; consequently, silver plating would violate the Yamada et al. teaching.

Additionally, the selection of a material used for the "high reflection material" is *critical* for Yamada et al., since as demonstrated the material must have *insulating* property; therefore, selection of silver plating would *not* be obvious choice.

The Office action asserted concerning claim 5 that:

> "It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada have the LED chips form an array having a chip spacing that is approximately in the range of .5 millimeters or greater in the gap 4 because it has been held that lacking any criticality, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range based on its suitability for the intended use involves only routine skill in the art. (**In re Aller, 105 USPQ 233**)."

Applicant respectfully disagrees. First, as noted by the Office action, *In re Aller*, 105 USPQ 233 requires that *the general conditions of a claim are disclosed in the prior art*. The Office action suggests that such conditions comprise the LED chip spacing. However, as demonstrated above, the conditions are not *general*, but *specific* and different. For the application the conditions are to reflect light incident on the reflective surface *from the LED chips*; for Yamada et

al. the conditions are to reflect light incident on the reflective surface *reflected from the fluorescent substance*.

Based on the foregoing, not only are the conditions *not general*, but the distance is a *critical* factor.

Claim 8

The Office action failed to present any arguments supporting the assertion that claim 8 is unpatentable over Yamada et al., thus admitting that claim 8 is patentable.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2002299694 A to Yamada et al. in view of US 2007/0200128 Al to Yano.

The Office action asserted concerning claim 5 that:

> "Yamada does not specifically disclose that reflectivity is 70% or greater. Yano in a light emitting device teaches the use of a polished substrate to get a reflectively of 70% or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Yano to provide Yamada with a polished substrate to get a reflectively of 70% or greater. The reason for using a polished surface, as stated by Yano, is to increase reflectivity so that more light can be effectively reflected [0044]."

Claim 4 depends from an independent claim 1, which Applicant respectfully submits is allowable. Accordingly, claim 4 is allowable at least for the reason that this claim depend from an allowable base claim.

Applicant further perused Yano, but failed to find any teaching regarding *the percentage* to which the surface is to be polished.

As such, the disclosure in Yano fails to support the Office action's assertion; consequently, Yamada et al. in combination with Yano, if such combination would be allowable, which is not admitted, fails to disclose the feature of claim 4.

CONCLUSION

It is respectfully submitted that all the issues raised in previous office actions have been traversed and the claims brought into a condition for allowance. Reconsideration and an allowance are, therefore, respectfully requested.

Should the Examiner have any questions or concerns, a telephone conference with the undersigned is welcomed and encouraged.

Date: July 20, 2012

Respectfully submitted,

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Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Pavel Kalousek
Attorney Docket Number:	M-17467 US

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for continued examination	1801	1	930	930
		Total in USD ($)		**930**

Electronic Acknowledgement Receipt

EFS ID:	13298354
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	106719
Filer:	Pavel Kalousek
Filer Authorized By:	
Attorney Docket Number:	M-17467 US
Receipt Date:	20-JUL-2012
Filing Date:	29-SEP-2008
Time Stamp:	07:17:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$930
RAM confirmation Number	7598
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Request for Continued Examination (RCE)	BL080041US-U1_sb0030e.pdf	697389 37b57944432750a3f40ce04e1e170a51cff770b9	no	3
Warnings:					
Information:					
2	First Action Interview - Schedule Interview request	BL080041US-U1_PTOL413A.pdf	442615 595467c79071fba39a7ac547752dbf8f891f9d0e	no	3
Warnings:					
Information:					
3		BL080041US-U1_ResponseToOfficeyAction.pdf	78656 f09507bba53f4a4e1bcc8382a42d0e5b16c7cb9a	yes	24

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Submitted/Entered with Filing of CPA/RCE	1	1
	Claims	2	3
	Applicant Arguments/Remarks Made in an Amendment	4	24

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30334 2cbceda39e3ebfba89a70e017b7b27846fa200bf	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1248994		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	12/240,011	Filing Date	2008-09-29	Docket Number (if applicable)	BL080041US-U1	Art Unit	2875
First Named Inventor	Rene Peter Helbing			Examiner Name	CRANSON JR, JAMES W		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☐ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No _____

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Pavel Kalousek/	Date (YYYY-MM-DD)	2012-07-20
Name	Pavel Kalousek	Registration Number	44178

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/06 (07-06)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
12/240,011	09/29/2008	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 07/20/2012	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 8	Minus	** 32	= 0	X $30 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 1	Minus	***4	= 0	X $125 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/ZURIASHWORK ZENEBE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/80 (11-08)
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 105377

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 105377

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

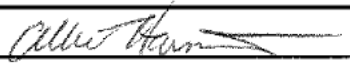
Assignee Name and Address:

Bridgelux, Inc.
Portola Ave.
Livermore, CA 94551

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	April 3, 2012
Name	Albert Harnois	Telephone	(925) 583-8549
Title	Associate General Counsel		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/SB/96 (07-09)
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Rene Peter Helbing

Application No./Patent No.: 12/240,011 Filed/Issue Date: September 29, 2008

Titled: EFFICIENT LED ARRAY

Bridgelux, Inc. , a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 021599, Frame 0623, or for which a copy therefore is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Jesus Del Castillo/ November 14, 2012

Signature Date

Jesus Del Castillo Attorney

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Rene Peter Helbing	Confirmation No. 4526
Application No.: 12/886,349	Examiner: James W. Cranson Jr.
Filed: September 29, 2008	Group Art Unit: 2875
Title: EFFICIENT LED ARRAY	
Customer No.: 105377	Summary of Examiner Interview

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

November 14, 2012

Summary of Interview with Examiner

Counsel for Assignee would like to thank Examiner Cranson for the courtesies extended during the telephonic interview conducted on November 14, 2012. During the interview, Counsel for Assignee and the Examiner discussed the claimed invention, the current state of the art in light emitting diode (LED) technologies and the problems that this invention addresses. No agreement was reached. The interview ended with the Examiner stating that he would review the latest claim amendments.

Respectfully submitted,

/Jesus Del Castillo/

Jesus Del Castillo
Reg. No. 51,604

Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551
Tel: 925-583-8661
Fax: 925-583-8401

Electronic Acknowledgement Receipt

EFS ID:	14229016
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	106719
Filer:	Jesus Del Castillo
Filer Authorized By:	
Attorney Docket Number:	BL080041US-U1
Receipt Date:	14-NOV-2012
Filing Date:	29-SEP-2008
Time Stamp:	16:37:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	Transmittal_Form_BL080041_US_U1_11_14_2012.pdf	262372 19d795f39daf7bfb887d673ce4f93951bf463973	no	2

Warnings:	
Information:	

2	Power of Attorney	Signed_PoA_to_prosecute_before_USPTO1.pdf	77048 edc96f3c5b8c2ee12cedbb27b509046522c52fb3	no	1
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73.	sb0096_1_BL080041US-U1.pdf	424001 d83fff9e16f183662162e90ee10068f9a9aa7b70	no	2
Warnings:					
Information:					
4	Applicant summary of interview with examiner	BL080041US_U1_Examiner_Interview_Summary_11_14_2012.pdf	17542 bc6c10e47a5025ff14de32cdf78f5e41108ed459	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	780963		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	6

Application Number	12/240,011
Filing Date	September 29, 2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson, Jr.
Attorney Docket Number	M-17467 US

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☑ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  Summary of Interview with Examiner

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Bridgelux Inc.		
Signature	/Jesus Del Castillo/		
Printed name	Jesus Del Castillo		
Date	November 14, 2012	Reg. No.	51,604

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name		Date	

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

105377
Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

POA ACCEPTANCE LETTER

OC000000057734287

Date Mailed: 11/28/2012

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/14/2012.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/agizaw/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	BL080041US-U1

CONFIRMATION NO. 4526

106719
Pavel Kalousek
22262 Crestline Road
P.O. Box 245
Palomar Mountain, CA 92060

POWER OF ATTORNEY NOTICE

OC000000057734264

Date Mailed: 11/28/2012

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/14/2012.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/agizaw/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	12/240,011	HELBING, RENE PETER	
	Examiner	Art Unit	
	JAMES CRANSON JR	2875	

All participants (applicant, applicant's representative, PTO personnel):

(1) *JAMES CRANSON JR*. (3)_____.

(2) *Jesus Del Castillo*. (4)_____.

Date of Interview: *14 November 2012*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *1*.

Identification of prior art discussed: *JP 2002299694 A to Yamada et al.*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

. During the interview, Counsel for Assignee and the Examiner discussed the claimed invention, the current state of the art in light emitting diode (LED) technologies and the problems that this invention addresses.
No agreement was reached. The interview ended with the Examiner stating that he would review the latest claim amendments..

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/J. C./ Examiner, Art Unit 2875	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

105377 7590 11/30/2012

Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	
MAIL DATE	DELIVERY MODE
11/30/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/240,011	HELBING, RENE PETER	
	Examiner	Art Unit	
	JAMES CRANSON JR	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2012*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-8* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-8* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *29 September 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/20/2012 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***HUMAN TRANSLATION*** (non machine translation) of JP 2002299694 A to Yamada et al.

Yamada in a LED light- source for illumination and illuminator discloses a light emitting diode (LED) apparatus comprising a metal substrate having a reflective surface and a plurality of LED chips mounted directly to reflective surface of metal substrate at least a portion of the LED chips being spaced apart from each other to expose regions of reflective surface between portion of LED chips, the exposed regions reflecting light emitted from the portion of the LED chips and the LED chips are connected in chip to chip fashion.

Yamada does not specifically create an efficient thermal path on metal substrate.

It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada to have an efficient thermal path on metal substrate since Yamada discloses that "temperature rise is suppressed" [0021] by metal substrate and an LED device is functionally required to be a thermally efficient device or LED device will overheat.

Re claim 1:

A light emitting diode (LED) apparatus (**TITLE, ABSTRACT**) comprising: a metal substrate (**1**,**[0010]**) having a reflective surface (**"metal substrate having a reflection function"**,**[0010]**); and a plurality of LED chips (**2**) mounted directly to the reflective surface of the metal substrate for creating an efficient thermal path (**"several LED chips are directly mounted on the metal substrate 1"**,**[0021]**) and wherein at least a portion of the LED chips are spaced apart from each other to expose regions of the reflective surface between the portion of the LED chips (**Figure 1 shows that LED chips are spaced apart),** the exposed regions reflecting light emitted from the portion of the LED CHIPS and an electrical path is formed by connecting the LED chips in a chip to chip fashion (**Figure 3 and figure 5 disclose connecting**

the LED chips in a chip to chip fashion via substrate and the corresponding electrical path).

Re claim 2, according to claim 1, wherein the reflective surface comprises polished aluminum.

Yamada discloses the claimed invention including that reflective surface comprises aluminum but does not disclose polished aluminum. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada to have a reflective surface comprised of polished aluminum because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (***In re Leshin*, 125 USPQ 416**).

Claim 2 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Re claim 3, according to claim 1, wherein the reflective surface comprises silver plating.

Yamada discloses the claimed invention except that reflective surface comprises silver plating. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada to have a reflective surface comprised of silver plating because it has been held that lacking any criticality, the selection of known material based on its suitability for the intended use for prior art parts does not make the claimed invention patentable over that prior art (***In re Leshin*, 125 USPQ 416**).

Claim 3 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Re claim 5, according to claim 1; wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

Yamada discloses the claimed invention except for the LED chips forming an array having a chip spacing that is in the range of approximately .5 millimeters or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention for Yamada have the LED chips form an array having a chip spacing that is approximately in the range of .5 millimeters or greater in the gap 4 because it has been held that lacking any criticality, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range based on its suitability for the intended use involves only routine skill in the art. (***In re Aller*, 105 USPQ 233).**

Re claim 6, according to claim 1, whereon the plurality of LED chips provide separate thermal and electrical paths.

Yamada as modified for claim 1 has that the plurality of LED chips provide separate thermal and electrical paths.

Re claim 7, according to claim 1, wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Yamada as modified for claim 1 has that plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002299694 A to Yamada et al. in view of US 2007/0200128 A1 to Yano.

Yamada does not specifically disclose that reflectivity is 70% or greater. Yano in a light emitting device teaches the use of a polished substrate to get a reflectively of 70% or greater. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Yano to provide Yamada with a polished substrate to get a reflectively of 70% or greater. The reason for using a polished surface, as stated by Yano, is to increase reflectivity so that more light can be effectively reflected [0044].

Re claim 4, according to claim 1, wherein the reflective surface has a reflectively of 70% or greater.

Claim 4 is unpatentable over Yamada for the reasons set forth above in the obviousness statement.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002299694 A to Yamada et al. in view of US 2006/0022211 A1 to Yatsuda et al.

Yamada does not disclose that metal substrate is mounted directly to a heat sink. Yatsuda et al. in LED lamp for light source of lighting device teaches having a metal substrate is mounted directly to a heat sink (**22**). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Yatsuda in Yamada to provide a heat sink to remove more heat.

Response to Arguments

Applicant's arguments, see amendment, filed 7/20/2012, with respect to the rejection(s) of claim(s) 1,6 and 7 under 102(b) for JP 2002299694 A to Yamada et al. and claims 2-5 under

103 (a) have been fully considered and are persuasive. Therefore, the previous rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of ***HUMAN TRANSLATION*** (non machine translation) of JP 2002299694 A to Yamada et al. under 103(a).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES CRANSON JR whose telephone number is (571)272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M. - 5:00P.M. .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dianne Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./
Examiner, Art Unit 2875
/STEPHEN F HUSAR/
Primary Examiner, Art Unit 2875

Notice of References Cited	Application/Control No. 12/240,011	Applicant(s)/Patent Under Reexamination HELBING, RENE PETER	
	Examiner JAMES CRANSON JR	Art Unit 2875	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2006/0022211	02-2006	Yatsuda et al.	257/098
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	PTO 12-5792 HUMAN TRANSLATION OF JP 2002299694
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	Art Unit
	James W Cranson	2875

SEARCHED

Class	Subclass	Date	Examiner
362	218,294,,247,249.02,296.04	8/9/2010	JWC
257	98,88	8/9/2010	JWC
362	249.02	12/23/2010	JWC
362	218,294,249.02	02/14/2011	JWC
257	88,98	2/14/2011	JWC
362	249.02	09/20/2011	JWC
257	88,98	09/20/2011	JWC
362	249.02	4/18/2012	JWC
257	88,98	4/18/2012	JWC
362	218,294,247,249.02,296.04	11/20/2012	JWC
257	88,98	11/20/2012	JWC

SEARCH NOTES

Search Notes	Date	Examiner
362/$.CCLS.	8/9/2010	JWC
INVENTOR SEARCH	8/9/2010	JWC
362/$.cor.	12/23/2010	JWC
362/$.cor.	02/14/2011	JWC
257/$.cor.	2/14/2011	JWC
362/$.cor.	09/20/2011	JWC
257/$.cor.	09/20/2011	JWC
362/$.cor.	4/18/2012	JWC
257/$.cor.	4/18/2012	JWC
362/$.cor.	11/20/2012	JWC

INTERFERENCE SEARCH

Class	Subclass	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2811	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2012/11/21 14:12
L2	11	1 and (metal adj substrate with chips)	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/21 14:13
L3	59	257/88,98.cor. and (metal adj substrate with chips)	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/21 14:16
L4	59	3 not 2	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/21 14:17
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT;	OR	ON	2010/08/10 12:50

			USOCR			
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with heat adj sink and reflect$4)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30
S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39
S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2010/08/10 18:20

			EPO; JPO; DERWENT; IBM_TDB			
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30
S30	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S31	202	S30 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S32	20	S31 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
S33	115	S30 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14
S34	8	S33 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14
S35	1	"20100079990".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 09:05
S36	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:16
S37	1	"6949772".pn. and metal	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:26
S38	1	"6949772".pn. and aluminum	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:29
S39	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:16
S40	1	"6949772".pn. and metal.clm.	US-PGPUB;	OR	ON	2011/02/14

			USPAT; USOCR			13:18
S41	1	"6949772".pn. and electrical$4	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:35
S42	1	"20100079990".pn. and (chip near2 chip)	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:39
S43	0	"6949772".pn. and silver	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 14:05
S44	1	"6949772".pn. and connector	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:01
S45	1	"6949772".pn. and 12a	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:12
S46	1180	"257"/$.cor. and chip adj chip.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S47	1180	"257"/$.cor. and (chip adj chip).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S48	38	"257"/$.cor. and (chip adj chip and metal near2 substrate).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:18
S49	65	257/706,707.cor. and (light adj emitting adj diode or LED)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:18
S50	304	257/99.cor. and (light adj emitting adj diode or LED) and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:24
S51	31	("6412971").PN. OR ("6949772").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:37
S52	284	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S53	204	S52 not S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S54	88	("20020061174" | "20020123163" | "20020163001" | "20020171911" | "20020195935" | "20030183852" | "20040041222" | "20040047151" | "20040079557" | "20040080939" | "20040126913" | "20040227149" |	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:45

		"20040232435" | "20040238930" | "20050023548" | "20050072981" | "20050093005" | "20050127377" | "20050179376" | "20060022212" | "20060049477" | "20060108594" | "20060157828" | "20070030676" | "20070046176" | "20070109779" | "20070223219" | "20070269586" | "20080074029" | "20080186702" | "20090050907" | "20090050908" | "3760237" | "4307297" | "4511425" | "4946547" | "5040868" | "5130761" | "5167556" | "5200022" | "5703401" | "5706177" | "5790298" | "5813753" | "5907151" | "5959316" | "6061160" | "6066861" | "6183100" | "6224216" | "6259608" | "6296367" | "6359236" | "6376902" | "6454437" | "6469321" | "6573580" | "6610563" | "6614058" | "6624491" | "6680490" | "6686609" | "6707069" | "6710373" | "6759733" | "6770498" | "6774401" | "6858879" | "6872585" | "6876149" | "6900511" | "6911678" | "6919586" | "6940704" | "6946714" | "6975011" | "6995510" | "7021797" | "7064907" | "7066626" | "7102213" | "7119422" | "7224000" | "7285802" | "D572210" | "D572670" | "D576574" | "RE34861").PN. OR ("7821023").URPN.				
S55	36	("20030049007" | "20030219207" | "20040043693" | "20040066645" | "20040071437" | "20040109306" | "20040246696" | "20040246744" | "20050007756" | "20050063187" | "20050093146" | "20050121686" | "20050135116" | "20050141244" | "20060158901" | "20070007558" | "20070158674" | "20070189007" | "20080079018" | "5050946" | "5217811" | "5581876" | "5725808" | "5883684" | "5953203" | "6270831" | "6274890" | "6455930" | "6518502" | "6536909" | "6805456" | "6854854" | "7098483" | "7163331" | "7217025" | "7293906").PN. OR ("7719021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:48
S56	472	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S57	188	S56 not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S58	3167	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2011/02/15 07:30

			IBM_TDB			
S59	1876	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S60	516	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S61	473	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S62	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S63	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2011/02/15 07:35
S64	0	"11908112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:44
S65	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:45
S66	38	("20020187571" | "20020197764" | "20030015721" | "20030168720" | "20030205712" | "20040026708" | "20040075399" | "20040206970" | "20040211972" | "20040217362" | "20040012958" | "20050077532" | "20050205890" | "20050211989" | "20050225973" | "20060202223" | "20060202225" | "20070063209" | "20090272971" | "3777239" | "5487999" | "5751013" | "6274924" | "6504301" | "6871982" | "6917057" | "6957899" | "6472688" | "6547249" | "7105860" | "7211832" | "7213942" | "7221044" | "7372082" | "7405433" | "7470938" | "7473934" | "7531843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:48
S67	590	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:51

S68	479	S67 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:52
S69	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S70	1	"20060022211".pn. and metal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S71	1	"20060022211".pn. and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:51
S72	1	"20060022211".pn. and "22"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:53
S73	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 12:58
S74	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 15:25
S75	1132	362/249.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 16:59
S76	4385	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:10
S77	715	257/88,98.cor. and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2011/09/20 17:11

			DERWENT; IBM_TDB			
S78	284	S77 and LED NEAR2 CHIP	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:12
S79	1	"2002299694"	JPO	OR	ON	2011/10/11 09:37
S80	1471	362/249.02.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:53
S81	69	S80 AND METAL NEAR2 SUBSTRATE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:53
S82	9984	257/88,98.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:55
S83	1435	S82 AND METAL NEAR2 SUBSTRATE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:55
S84	1204	S83 and (LED or light near2 emitting near2 diode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:56
S85	888	S84 and chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:56
S86	393	S85 and reflect$4 near2 surface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:57

S87	183919	"257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:51
S88	28648	S87 and (chip to chip and die near2 bonding).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:54
S89	526	S87 and ((chip to chip) and (die near2 bonding)).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:55
S90	1050	S87 and (chip to chip) and (die near2 bonding).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:55
S91	419	S87 and (chip to chip) and (die near2 bonding).clm.	USPAT	OR	ON	2012/11/20 11:55
S92	6	S87 and (chip near2 chip near2 bonding) and (die near2 bonding).clm.	USPAT	OR	ON	2012/11/20 11:57
S93	83	S87 and (chip near2 chip near2 bonding).clm.	USPAT	OR	ON	2012/11/20 11:58
S94	183919	"257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 14:48
S95	12629	S94 and (chip to chip near2 bonding).clm.	USPAT	OR	ON	2012/11/20 14:48
S96	12629	S94 and (chip to chip adj bonding).clm.	USPAT	OR	ON	2012/11/20 14:48
S97	6	S94 and (chip adj chip adj bonding).clm.	USPAT	OR	ON	2012/11/20 14:48
S98	1	"7468556".pn. and (chip adj chip adj bonding)	USPAT	OR	ON	2012/11/20 14:51
S99	18	"257"/$.cor.and (chip adj chip adj bonding)	USPAT	OR	ON	2012/11/20 14:54
S100	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2012/11/20 18:28
S101	1	"20060022211".pn. and heat adj sink	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2012/11/20 18:30

11/21/2012 2:19:57 PM
C:\Users\jcranson\Documents\EAST\Workspaces\12240011.wsp

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2010	12/23/2010	02/15/2011	09/20/2011	04/18/2012	11/19/2012			
	1	✓	✓	✓	✓	✓	✓			
	2	✓	✓	✓	✓	✓	✓			
	3	✓	✓	✓	✓	✓	✓			
	4	✓	✓	✓	✓	✓	✓			
	5	✓	✓	✓	✓	✓	✓			
	6	✓	✓	✓	✓	✓	✓			
	7	✓	✓	✓	✓	✓	✓			
	8	✓	✓	✓	✓	✓	✓			
	9	N	-							
	10	N	-							
	11	N	-							
	12	N	-							
	13	N	-							
	14	N	-							
	15	N	-							
	16	N	-							

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Rene Peter Helbing	Confirmation No. 4526
Application No.: 12/240,011	Examiner: James W. Cranson Jr.
Filed: September 29, 2008	Group Art Unit: 2875
Title: EFFICIENT LED ARRAY	
Customer No.: 105377	AMENDMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May 28, 2013

Commissioner:

In response to the Office Action mailed November 30, 2012 on the above-referenced application, please enter the following amendments and remarks:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 4 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A light emitting diode (LED) apparatus comprising:

a metal substrate having a reflective surface; and

a plurality of LED chips mounted directly to the reflective surface of the metal substrate creating ~~and~~ an efficient thermal path and at least a portion of the LED chips being spaced apart from each other to expose regions of the reflective surface between the portion of the LED chips, the exposed regions reflecting light emitted from the portion of the LED chips, and

an electrical path formed by connecting the LED chips in a chip to chip fashion.

2. (Original) The apparatus of claim 1, wherein the reflective surface comprises polished aluminum.

3. (Original) The apparatus of claim 1, wherein the reflective surface comprises silver plating.

4. (Original) The apparatus of claim 1, wherein the reflective surface has a reflectivity of 70% or greater.

5. (Original) The apparatus of claim 1, wherein the at least a portion of the LED chips form an array having a chip spacing that is approximately .5 millimeters or greater.

6. (Original) The apparatus of claim 1, wherein the plurality of LED chips provide separate thermal and electrical paths.

7. (Original) The apparatus of claim 1 wherein the plurality of LED chips have a first surface that is mounted to the reflective surface, and electrical contacts that are provided on one or more surfaces that are not the first surface.

8. (Original) The apparatus of claim 1, wherein the metal substrate is mounted directly to a heat sink.

9-32. (Cancelled).

33. (New) The apparatus of claim 1, wherein the electrical path formed by connecting the LED chips in a chip to chip fashion does not include an electrical connection between the LED chips and the reflective surface.

REMARKS/ARGUMENTS

This response is submitted as a reply to the Office Action mailed November 30, 2012. Reconsideration and allowance are requested.

Claims 1-8 and 33 remain in this application. Claims 9-32 were previously cancelled. Claim 1 has been amended to correct a typographical error. Claim 33 is a new claim added by this amendment. No new matter has been added. Support for these amendments can be found in the specification and claims of the originally filed application.

Claim Rejection under 35 USC 103(a)

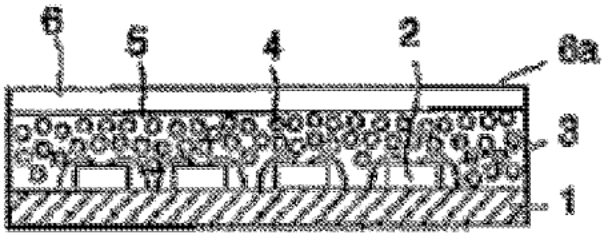
In the Office Action, claims 1-3 and 5-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over HUMAN TRANSLATION (non-machine translation) of JP 2002299694 A to Yamada et al. (hereinafter "Yamada"). Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada in view of Yano et al. (US Publication No. 2007/0200128, hereinafter "Yano"). Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada in view of Yatsuda et al. (US Publication No. 2006/0022211, hereinafter "Yatsuda"). The standard for determining obviousness is the application of the factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148, USPQ 459 (1966). Applicants submit that claims 1-8 are patentable over the cited references because each and every element set forth in the claims is not expressly or inherently described in the cited references.

Claim 1

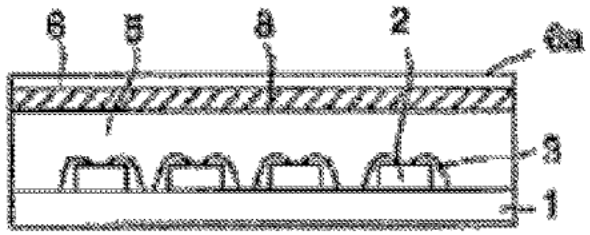
Applicants submit that Yamada fails to teach all of the limitations recited in claim 1. For example, Yamada fails to disclose "an electrical path formed by connecting the LED chips in a chip to chip fashion," as recited in claim 1. Instead, Yamada discloses that each LED chip is connected to the metal substrate 1 through wires 3, which is different than claim 1. Yamada's electrical connections between the LED chips and the metal substrate are clearly illustrated in Yamada's FIGS. 2, 3, and 5, which show all the LED chips 2 independently connected to the metal substrate 1 via the metal wires 3. In paragraph [0018], Yamada also teaches that the LED chips 2 are die-bonded to the metal substrate 1 and mounted by wire

bonding with metal wires 3. For convenience, Applicants have reproduced Yamada's FIGS. 2, 3 and 5 here:

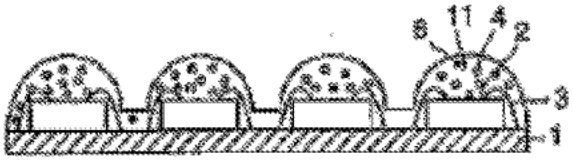
[Figure 2]



[Figure 3]



[Figure 5]



In contrast, claim 1 recites that an electrical path is formed by connecting the LED chips in a chip to chip fashion. An example of connecting the LED chips in a chip to chip

fashion is illustrated in FIG. 3 of the subject application, which is reproduced here for convenience.

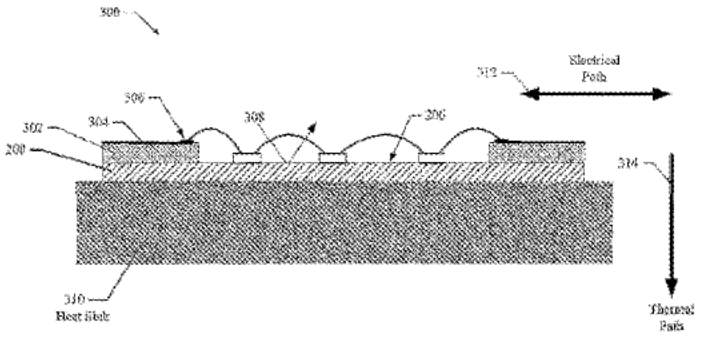


FIG. 3

A comparison of Yamada's FIGS. 2, 3, and 5 with the subject application's FIG. 3, shows that Yamada does not form an electrical path by connecting the LED chips in a chip to chip fashion. Instead Yamada appears to teach forming an electrical path by connecting the LED chips in a chip to substrate fashion, which is different than claim 1.

Further, claim 1 recites "…a plurality of LED chips mounted directly to the reflective surface of the metal substrate creating **an efficient thermal path**…and **an electrical path** formed by connecting the LED chips in a chip to chip fashion." (Emphasis added in bold.) In claim 1, the efficient thermal path is created by the LED chips mounted directly to the reflective substrate whereas the electrical path is formed by connecting the LED chips in a chip to chip fashion. FIG. 3 of the subject application shows an example of the electrical and thermal paths being in different directions, according to one embodiment. In contrast, Yamada teaches that the electrical path and thermal paths are in the same direction. Specifically, Yamada teaches that the LED die are physically attached to the metal substrate and that the LED die are electrically connected to the metal substrate, which means that the electrical and thermal paths are in the same direction and different than claim 1. As will be appreciated, Yamada's electrical and thermal paths are coupled together, which is not necessarily the case in claim 1. Further, Yamada appears to teach, in paragraph [0020], that having the electrical and thermal paths be the same is an advantage for temperature control.

> [0020] If the current flows to the LED chips 2, the temperature is raised by the generation of heat, however since the LED chips 2 are wire-bonded to the metal surface 1 with good radiation characteristic, the temperature rise is small.

Applicants believe that Yamada's teachings are different than claim 1, which includes an efficient thermal path that is created by the LED chips mounted directly to the reflective substrate and an electrical path that is formed by connecting the LED chips in a chip to chip fashion.

Therefore, Applicants believe that Yamada fails to teach all the limitations recited in claim 1. Applicants respectfully request that in light of these remarks, the Examiner reconsider the rejection of claim 1.

Claim 6

Claim 6 depends from claim 1 and is thus patentable for at least a similar rationale as discussed for the allowability of claim 1. Claim 6 further recites the plurality of LED chips provides separate thermal and electrical paths, which further distinguishes claim 6 from Yamada because in Yamada the electrical and thermal paths are in the same direction along the substrate. Applicants respectfully request that in light of these remarks the Examiner reconsider the rejection of claim 6.

Claims 2-5, and 7-8

Claims 2-5 and 7-8 depend from claim 1, and are thus patentable for at least a similar rationale as discussed for the allowability of claim 1. Applicant do not believe that either Yano or Yatsuda, as best understood, cure the deficiencies of Yamada. Applicants respectfully request that in light of these remarks the Examiner reconsider the rejection of claims 2-5 and 7-8.

New Claim

Claim 33 is a new claim added by this amendment. Support for new claim 33 can be found throughout the originally filed application including, for example, in paragraph [0026] of the originally filed application. Applicants submit that new claim 33 is patentable over the cited references for substantially the same or similar reasons that claims 1-8 are patentable over the cited references, as discussed above.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment in connection with this paper to Deposit Account No. 50-5508.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-583-8661.

Respectfully submitted,

/Jesus Del Castillo/

Jesus Del Castillo
Reg. No. 51,604

Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551
Tel: 925-583-8661
Fax: 925-583-8401

Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Jesus Del Castillo
Attorney Docket Number:	M-17467 US

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with $0 paid	1253	1	1400	1400

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**1400**

Electronic Acknowledgement Receipt

EFS ID:	15888614
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	105377
Filer:	Jesus Del Castillo
Filer Authorized By:	
Attorney Docket Number:	M-17467 US
Receipt Date:	28-MAY-2013
Filing Date:	29-SEP-2008
Time Stamp:	20:06:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1400
RAM confirmation Number	10236
Deposit Account	505508
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	Transmittal_Form_BL080041_US_U1_5_28_2013.pdf	262603 8f6dee020f2982f603b3d2b69d4ba061796503e4	no	2
Warnings:					
Information:					
2	Extension of Time	BL080041US_U1_sb0022_Extension_of_Time_5_28_2013.pdf	188109 05dbf46be34a5b2e6119c6141188f15cab50cfbc	no	2
Warnings:					
Information:					
3		BL080041US_U1_Response_to_Office_Action_Dated_11_30_2012.pdf	436313 197b24a76a4f4c94c49e189d2ba57c73f9ffb00eb	yes	8

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	3
Applicant Arguments/Remarks Made in an Amendment	4	8

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30308 0f4ac7d5b0167965e359d83a9bff2110c73f56fe	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	917333		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	14

Application Number	12/240,011
Filing Date	September 29, 2008
First Named Inventor	Rene Peter Helbing
Art Unit	2875
Examiner Name	James W. Cranson, Jr.
Attorney Docket Number	M-17467 US

ENCLOSURES *(Check all that apply)*

- ☑ Fee Transmittal Form
  - ☑ Fee Attached
- ☑ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☑ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please Identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Bridgelux Inc.		
Signature	/Jesus Del Castillo/		
Printed name	Jesus Del Castillo		
Date	May 28, 2013	Reg. No.	51,604

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name		Date	

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/22 (03-13)
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): M-17467 US

Application Number: 12/240,011

Filed: September 29, 2008

For: EFFICIENT LED ARRAY

Art Unit: 2875

Examiner: James W. Cranson Jr.

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☑ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$ 1400
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-5508.

☐ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 51,604.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Jesus Del Castillo/ — Signature

May 28, 2013 — Date

Jesus Del Castillo — Typed or printed name

(925) 583-8661 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
12/240,011	09/29/2008	

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **05/28/2013**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 9	Minus	** 32	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 1	Minus	***4	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/STELLA LITTLE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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NOTICE OF ALLOWANCE AND FEE(S) DUE

105377 7590 07/05/2013

Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

EXAMINER
CRANSON JR, JAMES W

ART UNIT	PAPER NUMBER
2875	

DATE MAILED: 07/05/2013

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

TITLE OF INVENTION: EFFICIENT LED ARRAY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$890	$0	$0	$890	10/07/2013

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

105377 7590 07/05/2013
Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

TITLE OF INVENTION: EFFICIENT LED ARRAY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$890	$0	$0	$890	10/07/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
CRANSON JR, JAMES W	2875	362-294000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29	NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
❑ Applicant asserting small entity status. See 37 CFR 1.27	NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
❑ Applicant changing to regular undiscounted fee status.	NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

105377 7590 07/05/2013

Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

EXAMINER	
CRANSON JR, JAMES W	
ART UNIT	PAPER NUMBER
2875	

DATE MAILED: 07/05/2013

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 63 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 63 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 12/240,011	Applicant(s) HELBING, RENE PETER	
	Examiner JAMES CRANSON JR	Art Unit 2875	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *05/28/2013*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-8 and 33*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/J. C./
Examiner, Art Unit 2875

DETAILED ACTION

Allowable Subject Matter

Claims 1-8 and 33 are allowed.

Claim 1 has a light emitting diode (LED) apparatus comprising a metal substrate having a reflective surface, a plurality of LED chips mounted directly to reflective surface of metal substrate creating an efficient thermal path and at least a portion of LED chips being spaced apart from each other to expose regions of reflective surface between portion of LED chips, exposed regions reflecting light emitted from portion of LED chips and an electrical path formed by connecting LED chips in a chip to chip fashion.

The combination of limitations claimed is not found, taught or suggested by the prior art.

Claims 2-8 and 33 depend directly from claim 1, add further limitations and are allowable for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is US 2007/0075325 A1 to Baek et al.

Response to Arguments

Applicant's arguments, see amendment, filed 05/28/2013, with respect to the Office Action mailed 11/30/2012 have been fully considered and are persuasive. The rejections of the Office Action mailed 11/30/2012 have been withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES CRANSON JR whose telephone number is (571)272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M. - 5:00P.M. .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dianne Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./
Examiner, Art Unit 2875
/STEPHEN F HUSAR/
Primary Examiner, Art Unit 2875

Notice of References Cited	Application/Control No. 12/240,011	Applicant(s)/Patent Under Reexamination HELBING, RENE PETER	
	Examiner JAMES CRANSON JR	Art Unit 2875	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2007/0075325	04-2007	Baek et al.	257/099
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	Art Unit
	James W Cranson	2875

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
362	218,294,,247,249.02,296.04	8/9/2010	JWC
257	98,88	8/9/2010	JWC
362	249.02	12/23/2010	JWC
362	218,294,249.02	02/14/2011	JWC
257	88,98	2/14/2011	JWC
362	249.02	09/20/2011	JWC
257	88,98	09/20/2011	JWC
362	249.02	4/18/2012	JWC
257	88,98	4/18/2012	JWC
362	218,294,247,249.02,296.04	11/20/2012	JWC
257	88,98	11/20/2012	JWC
362	249.02	6/26/2013	JWC
257	88,98,99	6/26/2013	JWC

SEARCH NOTES		
Search Notes	Date	Examiner
362/$.CCLS.	8/9/2010	JWC
INVENTOR SEARCH	8/9/2010	JWC
362/$.cor.	12/23/2010	JWC
362/$.cor.	02/14/2011	JWC
257/$.cor.	2/14/2011	JWC
362/$.cor.	09/20/2011	JWC
257/$.cor.	09/20/2011	JWC

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
362/$.cor.	4/18/2012	JWC
257/$.cor.	4/18/2012	JWC
362/$.cor.	11/20/2012	JWC
362/$.cor.	6/26/2013	JWC
257/$.cor.	6/26/2013	JWC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
	PGPUB text interference search, UPAD	06/26/2013	JWC

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	JAMES CRANSON JR	2875

CPC		
Symbol	**Type**	**Version**

CPC Combination Sets				
Symbol	**Type**	**Set**	**Ranking**	**Version**

/JAMES CRANSON JR/ Examiner.Art Unit 2875	06/26/2013	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	9	
/STEPHEN F HUSAR/ Primary Examiner.Art Unit 2875	06/27/2013	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

Issue Classification

Application/Control No.	Applicant(s)/Patent Under Reexamination
12240011	HELBING, RENE PETER
Examiner	**Art Unit**
JAMES CRANSON JR	2875

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS
362	249.02

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
257	88	98			
362	247	294			

INTERNATIONAL CLASSIFICATION														
CLAIMED					NON-CLAIMED									
H	0	1	L	33 / 00 (2010.01.01)										
F	2	1	V	29 / 00 (2006.01.01)										

/JAMES CRANSON JR/ Examiner.Art Unit 2875	06/26/2013	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	9	
/STEPHEN F HUSAR/ Primary Examiner.Art Unit 2875	06/27/2013	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	JAMES CRANSON JR	2875

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1														
2	2														
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5	5														
6	6														
7	7														
8	8														
9	33														

/JAMES CRANSON JR/ Examiner.Art Unit 2875	06/26/2013	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	9	
/STEPHEN F HUSAR/ Primary Examiner.Art Unit 2875	06/27/2013	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

EAST Search History

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	(LED or light near2 emitting near2 diode) and metal adj substrate and reflective near2 surface and LED adj chip and efficient and thermal near2 path and chip near2 chip.clm.	US-PGPUB; USPAT; UPAD	OR	ON	2013/06/27 09:55
S120	153	("LED" or light near2 emitting near2 diode) and metal adj substrate and reflective near2 surface.clm.	US-PGPUB; USPAT; UPAD	OR	ON	2013/06/26 19:26
S121	27	("LED" or light near2 emitting near2 diode) and metal adj substrate and reflective near2 surface and LED adj chip.clm.	US-PGPUB; USPAT; UPAD	OR	ON	2013/06/26 19:26
S122	8	("LED" or light near2 emitting near2 diode) and metal adj substrate and reflective near2 surface and LED adj chip and thermal near2 path.clm.	US-PGPUB; USPAT; UPAD	OR	ON	2013/06/26 19:27
S123	8	light near2 emitting near2 diode and metal adj substrate and reflective near2 surface and LED adj chip and thermal near2 path.clm.	US-PGPUB; USPAT; UPAD	OR	ON	2013/06/26 19:40
S124	8	light near2 emitting near2 diode and metal adj substrate and reflective near2 surface and LED adj chip and efficient and thermal near2 path.clm.	US-PGPUB; USPAT; UPAD	OR	ON	2013/06/26 19:41

6/27/2013 9:58:17 AM
C:\Users\jcranson\Documents\EAST\Workspaces\12240011.wsp

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"6871982".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S2	1	"6954270".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S3	1	"7075112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:40
S4	44	("3920495" | "4125777" | "4257061" | "4267559" | "4394600" | "4729076" | "4911519" | "4996586" | "5032898" | "5060027" | "5113232" | "5136205" | "5173839" | "5181874" | "5235347" | "5291039" | "5434750" | "5629232" | "5632551" | "5656823" | "5680008" | "5753928" | "5777433" | "5785418" | "5789772" | "5825794" | "5841177" | "5869883" | "5885475" | "5929557" | "5940683" | "5945217" | "5952680" | "5958100" | "5959316" | "5966393" | "5972528" | "5998047" | "6274924" | "6356376").PN. OR ("7075112").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:45
S5	3	S4 and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:47
S6	150	(metal adj substrate with chips).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:48
S7	113	(metal adj substrate with chips).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:49
S8	5	(metal adj substrate with chips with heat).clm. and "257"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 12:50
S9	0	"20080290354".pn. and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:42
S10	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:52
S11	1	"20070200128".pn. and polished	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 13:53
S13	3	(metal adj substrate with chips with heat adj sink and reflect$4) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:09
S14	19	(metal adj substrate with chips with	US-PGPUB;	OR	ON	2010/08/10

		heat adj sink and reflect$4)	USPAT; USOCR			14:12
S15	8	(metal near2 substrate with chips with heat near2 sink and reflective)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S16	1	S15 not S14	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:26
S17	0	"20070200128".pn. and heat near2 sink	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:30
S18	1	"20070200128".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 14:39
S19	1	"20080029772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 16:56
S20	8	(metal adj substrate with chips with heat adj sink) and "257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:16
S21	36	(metal adj substrate with chips with heat adj sink)	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:21
S22	1	"20070108599".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2010/08/10 17:33
S23	4	(HELBING NEAR2 PETER NEAR2 RENE).IN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:18
S24	5	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE).CLM.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:19
S25	29	(SILVER NEAR2 PLATING WITH REFLECTIVE NEAR2 SURFACE)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2010/08/10 18:20
S26	1879	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 18:46
S27	3128	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29

S28	2309	257/88,98.cor. and light adj emitting adj diode	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:29
S29	134	257/88,98.cor. and light adj emitting adj diode and metal adj substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2010/08/10 19:30
S30	815	362/249.02	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S31	202	S30 and chip	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:04
S32	20	S31 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:05
S33	115	S30 and chips	US-PGPUB; USPAT; USOCR	OR	OFF	2010/12/23 15:14
S34	8	S33 and metal near2 substrate	US-PGPUB; USPAT; USOCR	OR	ON	2010/12/23 15:14
S35	1	"20100079990".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 09:05
S36	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:16
S37	1	"6949772".pn. and metal	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:26
S38	1	"6949772".pn. and aluminum	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 10:29
S39	1	"6949772".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:16
S40	1	"6949772".pn. and metal.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:18
S41	1	"6949772".pn. and electrical$4	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:35
S42	1	"20100079990".pn. and (chip near2 chip)	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 13:39
S43	0	"6949772".pn. and silver	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 14:05
S44	1	"6949772".pn. and connector	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:01
S45	1	"6949772".pn. and 12a	US-PGPUB;	OR	ON	2011/02/14

			USPAT; USOCR			15:12
S46	1180	"257"/$.cor. and chip adj chip.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S47	1180	"257"/$.cor. and (chip adj chip).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:17
S48	38	"257"/$.cor. and (chip adj chip and metal near2 substrate).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 15:18
S49	65	257/706,707.cor. and (light adj emitting adj diode or LED)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:18
S50	304	257/99.cor. and (light adj emitting adj diode or LED) and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:24
S51	31	("6412971").PN. OR ("6949772").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:37
S52	284	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S53	204	S52 not S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:40
S54	88	("20020061174" | "20020123163" | "20020163001" | "20020171911" | "20020195935" | "20030183852" | "20040041222" | "20040047151" | "20040079557" | "20040080939" | "20040126913" | "20040227149" | "20040232435" | "20040238930" | "20050023548" | "20050072981" | "20050093005" | "20050127377" | "20050179376" | "20060022212" | "20060049477" | "20060108594" | "20060157828" | "20070030676" | "20070046176" | "20070109779" | "20070223219" | "20070269586" | "20080074029" | "20080186702" | "20090050907" | "20090050908" | "3760237" | "4307297" | "4511425" | "4946547" | "5040868" | "5130761" | "5167556" | "5200022" | "5703401" | "5706177" | "5790298" | "5813753" | "5907151" | "5959316" | "6061160" | "6066861" | "6183100" | "6224216" | "6259608" | "6296367" | "6359236" |	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:45

		"6376902" | "6454437" | "6469321" | "6573580" | "6610563" | "6614058" | "6624491" | "6680490" | "6686609" | "6707069" | "6710373" | "6759733" | "6770498" | "6774401" | "6858879" | "6872585" | "6876149" | "6900511" | "6911678" | "6919586" | "6940704" | "6946714" | "6975011" | "6995510" | "7021797" | "7064907" | "7066626" | "7102213" | "7119422" | "7224000" | "7285802" | "D572210" | "D572670" | "D576574" | "RE34861").PN. OR ("7821023").URPN.				
S55	36	("20030049007" | "20030219207" | "20040043693" | "20040066645" | "20040071437" | "20040109306" | "20040246696" | "20040246744" | "20050007756" | "20050063187" | "20050093146" | "20050121686" | "20050135116" | "20050141244" | "20060158901" | "20070007558" | "20070158674" | "20070189007" | "20080079018" | "5050946" | "5217811" | "5581876" | "5725808" | "5883684" | "5953203" | "6270831" | "6274890" | "6455930" | "6518502" | "6536909" | "6805456" | "6854854" | "7098483" | "7163331" | "7217025" | "7293906").PN. OR ("7719021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/14 16:48
S56	472	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2 bond	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S57	188	S56 not S52	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/14 16:52
S58	3167	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:30
S59	1876	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S60	516	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S61	473	"257"/$.ccls. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and wire near2	US-PGPUB; USPAT; USOCR;	OR	ON	2011/02/15 07:31

		bond	FPRS; EPO; JPO; IBM_TDB			
S62	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 07:31
S63	411	S60 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2011/02/15 07:35
S64	0	"11908112".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:44
S65	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:45
S66	38	("20020187571" | "20020197764" | "20030015721" | "20030168720" | "20030205712" | "20040026708" | "20040075399" | "20040206970" | "20040211972" | "20040217362" | "20040012958" | "20050077532" | "20050205890" | "20050211989" | "20050225973" | "20060202223" | "20060202225" | "20070063209" | "20090272971" | "3777239" | "5487999" | "5751013" | "6274924" | "6504301" | "6871982" | "6917057" | "6957899" | "6472688" | "6547249" | "7105860" | "7211832" | "7213942" | "7221044" | "7372082" | "7405433" | "7470938" | "7473934" | "7531843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2011/02/15 08:48
S67	590	"257"/$.cor. and (light adj emitting adj diode or LED) and metal near2 substrate and chips and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:51
S68	479	S67 not S61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 08:52
S69	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:16
S70	1	"20060022211".pn. and metal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2011/02/15 11:16

			IBM_TDB			
S71	1	"20060022211".pn. and series	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:51
S72	1	"20060022211".pn. and "22"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 11:53
S73	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 12:58
S74	1	"20090267085".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2011/02/15 15:25
S75	1132	362/249.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 16:59
S76	4385	257/88,98.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:10
S77	715	257/88,98.cor. and metal near2 substrate	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:11
S78	284	S77 and LED NEAR2 CHIP	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/09/20 17:12
S79	1	"2002299694"	JPO	OR	ON	2011/10/11 09:37
S80	1471	362/249.02.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/04/18 12:53

			DERWENT; IBM_TDB			
S81	69	S80 AND METAL NEAR2 SUBSTRATE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:53
S82	9984	257/88,98.CCLS.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:55
S83	1435	S82 AND METAL NEAR2 SUBSTRATE	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:55
S84	1204	S83 and (LED or light near2 emitting near2 diode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:56
S85	888	S84 and chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:56
S86	393	S85 and reflect$4 near2 surface	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/04/18 12:57
S87	183919	"257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:51
S88	28648	S87 and (chip to chip and die near2 bonding).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:54
S89	526	S87 and ((chip to chip) and (die near2 bonding)).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:55
S90	1050	S87 and (chip to chip) and (die near2 bonding).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 11:55
S91	419	S87 and (chip to chip) and (die near2 bonding).clm.	USPAT	OR	ON	2012/11/20 11:55
S92	6	S87 and (chip near2 chip near2 bonding) and (die near2 bonding).clm.	USPAT	OR	ON	2012/11/20 11:57

S93	83	S87 and (chip near2 chip near2 bonding).clm.	USPAT	OR	ON	2012/11/20 11:58
S94	183919	"257"/$.cor.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/20 14:48
S95	12629	S94 and (chip to chip near2 bonding).clm.	USPAT	OR	ON	2012/11/20 14:48
S96	12629	S94 and (chip to chip adj bonding).clm.	USPAT	OR	ON	2012/11/20 14:48
S97	6	S94 and (chip adj chip adj bonding).clm.	USPAT	OR	ON	2012/11/20 14:48
S98	1	"7468556".pn. and (chip adj chip adj bonding)	USPAT	OR	ON	2012/11/20 14:51
S99	18	"257"/$.cor.and (chip adj chip adj bonding)	USPAT	OR	ON	2012/11/20 14:54
S100	1	"20060022211".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2012/11/20 18:28
S101	1	"20060022211".pn. and heat adj sink	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2012/11/20 18:30
S102	2811	362/218,294,247,249.02,296.04.cor.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2012/11/21 14:12
S103	11	S102 and (metal adj substrate with chips)	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/21 14:13
S104	59	257/88,98.cor. and (metal adj substrate with chips)	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/21 14:16
S105	59	S104 not S103	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/21 14:17
S106	479	362/249.02.COR.	US-PGPUB	OR	ON	2013/06/26 18:51
S107	146518	"362"/$.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2013/06/26 19:08
S108	40952	S107 and ("LED" or light near2 emitting near2 diode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2013/06/26 19:09
S109	507	S108 and metal adj substrate	US-PGPUB; USPAT;	OR	ON	2013/06/26 19:10

			USOCR			
S110	135	S109 and LED adj chip	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:10
S111	122	S110 and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:11
S112	54	S111 and path	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:12
S113	15193	257/88,98,99.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:20
S114	12266	S113 and ("LED" or light near2 emitting near2 diode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2013/06/26 19:20
S115	784	S114 and metal adj substrate	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:21
S116	295	S115 and LED adj chip	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:21
S117	254	S116 and reflect$4	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:21
S118	119	S117 and path	US-PGPUB; USPAT; USOCR	OR	ON	2013/06/26 19:22
S119	1183	("LED" or light near2 emitting near2 diode) and metal adj substrate.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; IBM_TDB	OR	ON	2013/06/26 19:25

6/27/2013 9:57:52 AM
C:\Users\jcranson\Documents\EAST\Workspaces\12240011.wsp

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	12240011	HELBING, RENE PETER
	Examiner	**Art Unit**
	James W Cranson	2875

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2010	12/23/2010	02/15/2011	09/20/2011	04/18/2012	11/19/2012	06/26/2013		
1	1	✓	✓	✓	✓	✓	✓	=		
2	2	✓	✓	✓	✓	✓	✓	=		
3	3	✓	✓	✓	✓	✓	✓	=		
4	4	✓	✓	✓	✓	✓	✓	=		
5	5	✓	✓	✓	✓	✓	✓	=		
6	6	✓	✓	✓	✓	✓	✓	=		
7	7	✓	✓	✓	✓	✓	✓	=		
8	8	✓	✓	✓	✓	✓	✓	=		
	9	N	-							
	10	N	-							
	11	N	-							
	12	N	-							
	13	N	-							
	14	N	-							
	15	N	-							
	16	N	-							
9	33							=		

PTO/SB/80 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 113369

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 113369

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address:

BRIDGELUX, Inc.
101 Portola Avenue
Livermore, CA 94551

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	3/11/2013
Name	Bradley J. Bullington	Telephone	(925) 583-8400
Title	Chief Executive Officer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Bridgelux, Inc.

Application No./Patent No.: 12/240,011 Filed/Issue Date: 9/29/2008

Titled: EFFICIENT LED ARRAY

Bridgelux, Inc. , a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 021599, Frame 0623, or for which a copy therefore is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Craig A. Gelfound/ September 6, 2013

Signature Date

Craig A. Gelfound Partner

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	16790304
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	105377
Filer:	Craig A. Gelfound/Dana Casterlin
Filer Authorized By:	Craig A. Gelfound
Attorney Docket Number:	M-17467 US
Receipt Date:	06-SEP-2013
Filing Date:	29-SEP-2008
Time Stamp:	18:44:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	GeneralPOA.pdf	63831 c618820cb576f801bdbbdc1428c9fd1ace40bdc6	no	1

Warnings:	
Information:	

2	Assignee showing of ownership per 37 CFR 3.73.	sb96.pdf	370477 443a66fe955f388ed50fcc42d7b1e72fe82cbaff	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	434308

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

113369
Arent Fox, LLP and Bridgelux Inc.
555 Fifth Street
Los Angeles, CA 90013

POA ACCEPTANCE LETTER

OC000000063681552

Date Mailed: 09/10/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/06/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/tcouch/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US

CONFIRMATION NO. 4526

105377
Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

POWER OF ATTORNEY NOTICE

OC000000063681536

Date Mailed: 09/10/2013

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/06/2013.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/tcouch/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

105577 3501 07/05/2013
Bridgelux, Inc.
Legal Department
101 Portola Ave.
Livermore, CA 94551

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	09/29/2008	Rene Peter Helbing	M-17467 US	4526

TITLE OF INVENTION: EFFICIENT LED ARRAY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	~~SMALL~~ undiscounted	~~$960~~ $1780	~~$0~~ $300	$0	~~$960~~ $2080	10/07/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
CRANSON JR, JAMES W	2875	362-294000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 Arent Fox LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: BRIDGELUX, INC.
(B) RESIDENCE: (CITY and STATE OR COUNTRY): LIVERMORE, CA

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies .....

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
☐ A check is enclosed.
☒ Payment by credit card. ~~Form PTO-2038 is attached.~~
☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 01-2300 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Craig A. Gelfound/ Date September 27, 2013

Typed or printed name Craig A. Gelfound Registration No. 41032

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Electronic Patent Application Fee Transmittal

Application Number:	12240011
Filing Date:	29-Sep-2008
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Filer:	Craig A. Gelfound/gissela rendon
Attorney Docket Number:	030348.00560

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	1501	1	1780	1780
Publ. Fee- Early, Voluntary, or Normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**2080**

Electronic Acknowledgement Receipt

EFS ID:	16977889
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	113369
Filer:	Craig A. Gelfound/gissela rendon
Filer Authorized By:	Craig A. Gelfound
Attorney Docket Number:	030348.00560
Receipt Date:	27-SEP-2013
Filing Date:	29-SEP-2008
Time Stamp:	14:10:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$2080
RAM confirmation Number	552
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Issue Fee Payment (PTO-85B)	030348-00560_IssueFeeTransmittal.pdf	369732 9b86fea19bb18675e72e95f024f3ed90fb2b1a65	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	31724 1dc04447a2eecc468c76ae924e2e9fd612dc905f	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	401456		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/240,011	10/29/2013	8567988	030348.00560	4526

113369 7590 10/09/2013

Arent Fox, LLP and Bridgelux Inc.
555 Fifth Street
Los Angeles, CA 90013

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 63 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Rene Peter Helbing, Sunnyvale, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

TO: **Mail Stop 8** **Director of the U.S. Patent & Trademark Office** **P.O. Box 1450** **Alexandria, VA 22313-1450**	**REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK**

In Compliance with 35 § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Northern District of California on the following:
(X) Patents or ( ) Trademarks

DOCKET NO:	DATE FILED:	UNITED STATES DISCTRICT COURT
17-cv-03363-JSW	June 10, 2017	Ronald Dellums Federal Building 1301 Clay Street Oakland, CA 94612

PLAINTIFF:	DEFENDANT:
Everlight Electronics Co., Ltd.	Bridgelux, Inc.

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1. 6335548	8567988	
2. 6869812		
3. 7855 3448		
4. 8092051		
5. 8256929		

In the above-entitled case, the following patent(s) have been included.

DATE INCLUDED INCLUDED BY:
( ) Amendment ( ) Answer ( ) Cross Bill ( ) Other Pleading

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1.		
2.		
3.		
4.		
5.		

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGEMENT:
See Attached Order Granting Stipulation of Dismissal.

Susan Y. Soong
Susan Y. Soong, Clerk

Cynthia J. Lenahan
(by) Deputy Clerk, Cynthia Lenahan

Copy 1 – Upon initiation of action, mail this copy to Commissioner
Copy 2 – Upon filing document adding patent(s) mail this copy to Commissioner
Copy 3 – Upon termination of action, mail this copy to the Commissioner
Copy 4 – Case file copy

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

Everlight Electronics Co., Ltd.,

Plaintiff,

v.

Bridgelux, Inc.,

Defendant.

Bridgelux, Inc.,

Counterclaimant,

v.

Everlight Electronics Co., Ltd., and Everlight Americas, Inc.,

Counterdefendants.

Case No. 4:17-cv-03363-JSW

~~[PROPOSED]~~ ORDER GRANTING STIPULATION AND JOINT MOTION TO DISMISS WITHOUT PREJUDICE

Complaint Filed: June 10, 2017
Answer/Counterclaim Filed: July 6, 2017
Judge: Hon. Jeffrey S. White, Courtroom 5

[Concurrently filed with Stipulation and Joint Motion to Dismiss Without Prejudice]

~~[PROPOSED]~~ ORDER

Pursuant to the Stipulation and Joint Motion of Plaintiff-Counterdefendant Everlight Electronics Co., Ltd., Counterdefendant Everlight Americas, Inc., and Defemdant-Counterclaimant Bridgelux, Inc., the Court hereby orders that all claims and counterclaims in the above-captioned matter are dismissed in their entirety without prejudice. Each side shall bear its own costs and attorneys' fees.

IT IS SO ORDERED.

Dated: December 14, 2018

Jeffrey S. White

HON. JEFFREY S. WHITE

AO 120 (Rev. 08/10)

TO:	Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas, Waco Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:22-cv-00445	5/2/2022	Western District of Texas, Waco Division

PLAINTIFF	DEFENDANT
BX LED LLC	Walmart Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,869,812	3/22/2005	BX LED LLC
2	7,901,109	3/8/2011	BX LED LLC
3	7,973,465	7/5/2011	BX LED LLC
4	8,203,260	6/19/2012	BX LED LLC
5	8,567,988	10/29/2013	BX LED LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☑ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas, Waco Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:22-cv-00445	5/2/2022	Western District of Texas, Waco Division

PLAINTIFF	DEFENDANT
BX LED LLC	Walmart Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,998,433	4/7/2015	BX LED LLC
2	10,966,300	3/30/2021	BX LED LLC
3			
4			
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☑ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas, Waco Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:22-cv-00446	5/2/2022	Western District of Texas, Waco Division

PLAINTIFF	DEFENDANT
BX LED LLC	Wayfair LLC

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,869,812	3/22/2005	BX LED LLC
2	7,901,109	3/8/2011	BX LED LLC
3	7,973,465	7/5/2011	BX LED LLC
4	8,567,988	10/29/2013	BX LED LLC
5	8,998,433	4/7/2015	BX LED LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☑ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO:	Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas, Waco Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:22-cv-00444	5/2/2022	Western District of Texas, Waco Division

PLAINTIFF	DEFENDANT
BX LED LLC	The Home Depot U.S.A. Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	6,869,812	3/22/2005	BX LED LLC
2	7,901,109	3/8/2011	BX LED LLC
3	7,973,465	7/5/2011	BX LED LLC
4	8,203,260	6/19/2012	BX LED LLC
5	8,567,988	10/29/2013	BX LED LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☑ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas, Waco Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:22-cv-00444	5/2/2022	Western District of Texas, Waco Division

PLAINTIFF	DEFENDANT
BX LED LLC	The Home Depot U.S.A. Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,998,433	4/7/2015	BX LED LLC
2	9,913,333	3/6/2018	BX LED LLC
3	10,966,300	3/30/2021	BX LED LLC
4			
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☑ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

PTO/SB/81A (12-08)
Approved for use through 09/30/2025. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

PATENT - POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Patent Number	US8567988
Issue Date	10/29/2013
First Named Inventor	Helbing, Rene Peter
Title	Efficient LED array
Attorney Docket No.	030348.00560

I hereby revoke all previous powers of attorney given in the above-identified patent.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the Customer Number identified in the box at right as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

66,000

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified patent to:

☐ The address associated with the above-identified Customer Number.

OR

☐ The address associated with the Customer Number identified in the box at right:

OR

☒ Firm or Individual Name	IP VALUATION PARTNERS II LLC				
Address	4940 BROADWAY SUITE 130				
City	SAN ANTONIO	State	TEXAS	Zip	78209
Country	USA				
Telephone	5045839743	Email	JASON@IPVAL.COM		

I am the:

☐ Inventor, having ownership of the patent.

OR

☒ Patent owner.

Statement under 37 CFR 3.73(b) (Form PTO/SB/96) submitted herewith or filed on 6/1/2023.

SIGNATURE of Inventor or Patent Owner

Signature	/ADAM BAUMLI /	Date	6/1/2023
Name	ADAM BAUMLI	Telephone	2148701240
Title and Company	BX LED LLC		

NOTE: Signatures of all the inventors or patent owners of the entire interest or their representative(s) are required. If more than one signature is required, submit multiple forms, check the box below, and identify the total number of forms submitted in the blank below.

☒ A total of 1 forms are submitted.

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995, unless the information collection has a currently valid OMB Control Number. The OMB Control Number for this information collection is 0651-0035. Public burden for this form is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the Chief Administrative Officer, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 or email InformationCollection@uspto.gov. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **If filing this completed form by mail, send to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013). https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf

Routine uses of the information in this record may include disclosure to: 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law; 2) a Federal, state, local, or international agency, in response to its request; 3) a contractor of the USPTO having need for the information in order to perform a contract; 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record; 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record; 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations; 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals; 8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)); 9) the Office of Personnel Management (OPM) for personnel research purposes; and 9) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Additional Uses

Additional USPTO uses of the information in this record may include disclosure to: 1) the International Bureau of the World Intellectual Property Organization, if the record is related to an international application filed under the Patent Cooperation Treaty; 2) the public i) after publication of the application pursuant to 35 U.S.C. 122(b), ii) after issuance of a patent pursuant to 35 U.S.C. 151, iii) if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections, or an issued patent, or iv) without publication of the application or patent under the specific circumstances provided for by 37 CFR 1.14(a)(1)(v)-(vii); and/or 3) the National Archives and Records Administration, for inspection of records.

Electronic Acknowledgement Receipt

EFS ID:	48093976
Application Number:	12240011
International Application Number:	
Confirmation Number:	4526
Title of Invention:	EFFICIENT LED ARRAY
First Named Inventor/Applicant Name:	Rene Peter Helbing
Customer Number:	113369
Filer:	Jason Keshav Bourgeois
Filer Authorized By:	
Attorney Docket Number:	030348.00560
Receipt Date:	02-JUN-2023
Filing Date:	29-SEP-2008
Time Stamp:	13:36:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73	US8567988B2BX37CFR373.pdf	307687 1ce3c4681ed0e9ec0001f2eb0c7b590d941a82a1	no	2

Warnings:

Information:					
2	Power of Attorney	US8567988BXPOA.pdf	515555 494c58314604672e1dae16b6d0b11ae13523ed7d	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	823242	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/96 (07-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: BX LED

Application No./Patent No.: US8567988B2 Filed/Issue Date: 10/29/2013

Titled: EFFICIENT LED ARRAY

BX LED, a LLC

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. [X] the assignee of the entire right, title, and interest in;

2. [ ] an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or

3. [ ] the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. [X] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 059048, Frame 0101, or a copy* is attached.

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To:

_The document was recorded in the United States Patent and Trademark Office at

Reel_____, Frame_____, or a copy* is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel_____, Frame_____, or a copy* is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel_____, Frame_____, or a copy* is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet(s).

[ ] *As required by 37 CFR 3.73(b)(1)(i), if a copy/copies is/are attached, the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Adam Baumli/ 06/02/2023

Signature Date

Adam Baumli Managing Member

Printed or Typed Name Title or Registration Number

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/240,011	09/29/2008	Rene Peter Helbing	030348.00560

CONFIRMATION NO. 4526

IMPROPER CPOA LETTER

113369
Arent Fox, LLP and Bridgelux Inc.
555 Fifth Street
Los Angeles, CA 90013

OC000000057968281

Date Mailed: 06/07/2023

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 06/02/2023. The power of attorney in this application is not accepted for the reason(s) listed below:

- The person(s) appointed in the power of attorney is/are not registered to practice before the U.S. Patent and Trademark Office.

/sltorres/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

66000
EVA G. TRONCOSO
16990 WILDWOOD DRIVE
MONTROSE, CO 81401
UNITED STATES