

CLAIMS: This listing of claims will replace all prior versions, and listings, of claims in the application:

1. - 4. (canceled)

5. (new) A LED lamp package for receiving the downstream plug on an upstream host powered peripheral bus cable, drawing power therefrom to provide task lighting at the end of the cable, said LED lamp package comprising:

(a) at least one energy transducer die,

(b) at least one of said transducer die being of an electrical energy to a radiant energy type, the transducer being a device selected from the group consisting of LEDs and OLEDs and LDs,

(c) at least one electrical energy control die, electrically connected to the transducer, the controller being a device selected from the group consisting of fixed controllers and manually variable controllers and electronically variable controllers,

(d) a lead frame electrically connected to the controller, and forming a plurality of contacts, said plurality of contacts are electrically isolated conductors connected to the controller, at least one contact for receiving the electrical energy and at least one contact for returning the electrical energy and at least two contacts for controller signals,

(e) a transparent package encapsulating the transducer, the controller and said lead frame, forming the LED lamp package enclosure with a recess and an integrated optics region,

(f) said plurality of contacts protrude into the said recess forming an upstream jack or female electrical connector, the specification for said recess form and the contact positions in said recess being selected from the group consisting of USB upstream jacks and IEEE 1394 6 pin jack and IEEE 1394 9 pin jack and IEEE 802.3af jack, and

whereby said LED lamp package will be able to receive in its properly formed recess a compatible downstream cable plug, make electrical connection with its properly positioned plurality of contacts of the lead frame to the electrical energy and the control circuits of this plug connected to an upstream host or bus powering device, the electrical energy and the control signals from the connection enable the controller to provide the correct electrical

energy to the transducer to emit the radiant energy of the chosen wavelength and brightness at the end of this cable, thus providing a bus powered lamp on the end of a cable of any length for signaling and task lighting in and around an auto, a desk top computer, a server rack or a consumer electronics cluster, for system setup, trouble shooting and repair in regular, low or no light conditions.

6. (new) The LED lamp package of Claim 5 further including said energy transducer die of a radiant energy to an electrical energy type, and

whereby said transducer can receive modulated radiant energy and convert it to modulated electrical energy for communications or control through said controller and between said LED lamp packages connected to separate hosts via cables, the security of these connections could be great because of the large selection of wavelengths and communication protocols.

7. (new) The LED lamp package of Claim 5 wherein said radiant energy emitted by the transducer is in the ultraviolet range, and

whereby the LED lamp package can be used for tasks like Point of Sale (POS) fluorescence checking, money checking, credit card checking, security ink checking, document checking, etc. Additionally, UV lamps are also used for criminology (bodily fluids like blood and urine), sanitation inspections (pet and critter urine), oil-mining, mineralogy, antique (vaseline) glass and glass repair inspection, archeology, surveillance, chemical probe testing, biology, medical applications, chemistry, food checking, water pollution detection, etc.

8. (new) The LED lamp package of Claim 5 wherein said radiant energy emitted by the transducer is in the visible range, and

whereby the LED lamp package could be used for signaling, alignment, and task lighting in and around an auto, an aircraft, a desk top computer, a server rack or a consumer electronics cluster, for reading, system setup, trouble shooting and repair in low or no light conditions, etc.

9. (new) The LED lamp package of Claim 5 wherein said radiant energy emitted by the transducer is in the infrared range, and

whereby the LED lamp package can be used for the same applications as the white range, in situations where night vision equipment is being used, also for IR photography and high power machine-vision illumination.

10. (new) The LED lamp package of Claim 5 wherein more than one transducer is used and said radiant energy emitted is a combination of ultraviolet, visible and infrared, and
- whereby the LED lamp package can be used as a multifunction task light, for example, in criminology - the UV light for illuminating blood or urine, the white light for regular task lighting and the infrared for task lighting when using night vision equipment.
11. (new) The LED lamp package of Claim 5 wherein said integrated optics region, being a device selected from the group consisting of lenses and filters and mirrors and entrained down-converters and any combination thereof, and
- whereby the integrated optics will spatially control the LED lamp package radiant energy output to direct or redirect it.
12. (new) The down-converters entrainment material of Claim 11 being selected from the group consisting of phosphors and nanoparticles and quantum dots and photonic bandgap structures, and
- whereby said down-converters entrainment material will spectrally control the LED lamp package radiant energy output to, for example, photoluminescently downconvert a blue or UV emitting transducer to white radiant energy.
13. (new) The LED lamp package of Claim 5 wherein said enclosure has a functional exterior surface feature for attachment, being a device selected from the group consisting of grips and snaps and clips and magnets and suction cups and reusable adhesive and gecko tape and van der Waals bonds and velcro, and
- whereby said LED lamp package will be able to be mounted and directed in the area requiring task lighting.
14. (new) The LED lamp package of Claim 5 wherein said lead frame is a printed circuit.
- 15. (new)** A caddy accessory to power, store, and transport said LED lamp package, has a downstream carrier plug, a downstream jack and a battery compartment with connections to a switch that will apply an installed battery's power to either the plug or the jack, said caddy comprising:
- (a) a switch of single pole double throw type, with a common contact, a normally open contact and a normally closed contact,

- (b) a set of battery contacts being the positive contact and the negative contact,
- (c) a set of plug contacts being a power contact and a ground contact,
- (d) a set of jack contacts being a power contact and a ground contact,
- (e) a lead frame with a plurality of electrically isolated leads, comprising: a ground lead connecting the battery's negative contact to both the downstream plug's ground contact and the downstream jack's ground contact, a power lead connecting the battery's positive contact to the switch common contact, a switch NO lead connecting the the switch's normally open contact to the downstream plug's power contact, and a switch NC lead connecting the switch's normally closed contact to the downstream jack's power contact,
- (f) a molded package encapsulates the assembled and electrically connected components consisting of the switch, the switch contacts, the battery contacts, the plug contacts, the jack contacts and the lead frames, and forms the caddy enclosure with several recesses and a protrusion,
- (g) said battery contacts protrude into a first recess forming a battery compartment,
- (h) said jack contacts protrude into a second recess forming a downstream jack, the specification for said recess form and the contact positions in said recess being selected from the group consisting of USB downstream jacks and IEEE 1394 6 pin jack and IEEE 1394 9 pin jack and IEEE 802.3af jack,
- (i) said plug contacts protrude into a third recess in a protrusion forming a downstream plug, the specification for said recess and protrusion form and the contact positions in said recess being selected from the group consisting of USB downstream plug and IEEE 1394 6 pin plug and IEEE 1394 9 pin plug and IEEE 802.3af plug, and

whereby this caddy with a battery installed and power switched to its jack can carry and securely store the LED lamp package of this invention on its plug or become a handheld task light when power is switched to this plug, or used as lightweight task light for tight spaces when the LED lamp package is on a cable connected to the jack and power switched to this jack, also this caddy can power a prior art computer laptop light, check a cable's power circuit, or identify a single cable in a bundle remotely.

16. (new) The caddy of Claim 15 wherein the jack, the plug and said battery compartment are COTS components.

17. (new) The caddy of Claim 15 wherein there are two plugs and two jacks formed.

18. (new) The caddy of Claim 17 wherein the two plugs and two jacks are COTS components.

19. (new) A LED lamp package for receiving the downstream plug on an upstream host powered peripheral bus cable, drawing power therefrom to provide task lighting at the end of the cable, said LED lamp package comprising:

(a) a commercial off the shelf upstream jack, the COTS jack being selected from the group consisting of USB upstream jacks and IEEE 1394 6 pin jack and IEEE 1394 9 pin jack and IEEE 802.3af jack,

(b) at least one COTS discrete LED current controller, electrically connected to the COTS jack, the controller being selected from the group consisting of fixed controllers and manually variable controllers and electronically variable controllers,

(c) at least one COTS discrete LED, electrically connected to the controller, being a device selected from the group consisting of COTS LEDs and COTS LED lamps, to emit radiant energy, said radiant energy being at least one wavelength or color selected from the group consisting of ultraviolet and visible and infrared,

(d) a molded package partially encapsulating the COTS jack, the controller and the COTS LED lamp, forming the LED lamp package enclosure, and

whereby said LED lamp package will be able to receive in its COTS jack a compatible downstream cable plug, make electrical connection to the power and the control circuits of this plug connected to an upstream host or bus powering device, the power and the control signals from the connection enable the controller to provide the correct current to the COTS discrete LED to emit the proper brightness at the end of this cable, thus providing a bus powered lamp on the end of a cable of any length for signaling and task lighting in and around an auto, a desk top computer, a server rack or a consumer electronics cluster, for system setup, trouble shooting and repair in regular, low or no light conditions.

20. (new) The LED lamp package of Claim 19 wherein said radiant energy emitted by the COTS LED is in the ultraviolet range, and

whereby the LED lamp package can be used for tasks like Point of Sale (POS) fluorescence checking, money checking, credit card checking, security ink checking, document checking,

etc. Additionally, UV lamps are also used for criminology (bodily fluids like blood and urine), sanitation inspections (pet and critter urine), oil-mining, mineralogy, antique (vaseline) glass and glass repair inspection, archeology, surveillance, chemical probe testing, biology, medical applications, chemistry, food checking, water pollution detection, etc.

21. (new) The LED lamp package of Claim 19 wherein said radiant energy emitted by the COTS LED is in the visible range, and

whereby the LED lamp package could be used for signaling, alignment, and task lighting in and around an auto, an aircraft, a desk top computer, a server rack or a consumer electronics cluster, for reading, system setup, trouble shooting and repair in low or no light conditions, etc.

22. (new) The LED lamp package of Claim 19 wherein said radiant energy emitted by the COTS LED is in the infrared range, and

whereby the LED lamp package can be used for the same applications as the white range, in situations where night vision equipment is being used, also for IR photography and high power machine-vision illumination.

23. (new) The LED lamp package of Claim 19 wherein more than one COTS LED are used and said radiant energy emitted is a combination of ultraviolet, visible and infrared, and

whereby the LED lamp package can be used as a multifunction task light, for example in criminology - the UV light for illuminating blood or urine, the white light for regular task lighting and the infrared for task lighting when using night vision equipment.

24. (new) The LED lamp package of Claim 19 wherein said enclosure has a functional exterior surface feature for attachment, being a device selected from the group consisting of grips and snaps and clips and magnets and suction cups and reusable adhesive and gecko tape and van der Waals bonds and velcro, and

whereby said LED lamp package will be able to be mounted and directed in the area requiring task lighting.