

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

QUASAR SCIENCE LLC
Petitioner,

v.

COLT INTERNATIONAL CLOTHING, INC. d/b/a COLT LED
Patent Owner.

Case: IPR2023-00614
U.S. Patent No. 10,566,895

PATENT OWNER'S UPDATED EXHIBIT LIST
UNDER 37 C.F.R. § 42.107

PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Exhibit Description
2001	U.S. Patent No. 10,411,582 to Macias (“’582 Patent”) (“Parent” or “Parent ‘582 Patent”)
2002	U.S. Patent No. 9,845,924 to Macias (“’924 Patent”) (“Grandparent”)
2003	U.S. Patent No. 9,719,642 to Macias (“’642 Patent”) (“Great-Grandparent”)
2004	Four “Request for Ex Parte Reexamination Transmittal Forms” by requester, Quasar Science, LLC (“Reexam Transmittals”): i. 9,719,642 Patent dated 5/30/18 (Control No. 90/014,146) ii. 9,845,924 Patent dated 6/12/18 (Control No. 90/014,150) iii. 9,719,642 Patent dated 9/4/19 (Control No. 90/014,371) 9,845,924 Patent dated 9/4/19 (Control No. 90/014,372)
2005	File History for U.S. Patent No. 10,411,582 to Macias
2006	Ex Parte Reexamination Certificate (11513 th), May 17, 2019 to Macias on US Patent No. 9,845,924 (“First ‘924 Reexam Certificate”)
2007	Ex Parte Reexamination Certificate (11548 th), July 29, 2019 to Macias on US Patent No. 9,719,642 (“First ‘642 Reexam Certificate”)
2008	Ex Parte Reexamination Certificate (11900 th), August 19, 2021 to Macias on US Patent No. 9,845,924 (“Second ‘924 Reexam Certificate”)
2009	Ex Parte Reexamination Certificate (11858 th), June 7, 2021 to Macias on US Patent No. 9,719,642 (“Second ‘642 Reexam Certificate”)
2010	U.S. Patent Publication No. 2011/0043137 to Negley (“Negley”)
2011	“Whiter, Brighter LEDs,” by Keeping, Steven, Electronics Products Magazine, Oct. 30, 2011 (“2011 Keeping Article”)

2012	U.S. Patent Publication No. 2003/0072156 to Pohlert et al. (“Pohlert”)
2013	U.S. Patent Publication No. 2007/0228999 to Kit (“Kit ‘999”)
2014	U.S. Patent Publication No. 2007/0258240 to Ducharme (“Ducharme ‘240”)
2015	Official Action dated October 17, 2018 in reexamination for U.S. Patent No. 9,719,642, Reexam Control No. 90/014,146 (“First ‘642 Reexam”)
2016	Office Action dated November 21, 2018, in reexamination for U.S. Patent No. 9,845,924, Reexam Control No. 90/014,150 (“First ‘924 Reexam”)
2017	Patent Owner Submission Amendment and Response to Office Action (“Amdt 2/21/19”) dated Feb. 21, 2019 in Reexamination Control No. 90/014,150 (First 924 Reexam)
2018	Notice of Intent to Issue Reexamination Certificate, Reexamination Control No. 90/014,150, dated April 2, 2019 (“NIRC First 924 Reexam”)
2019	Office Action dated Feb. 23, 2021, Reexamination Control No. 90/014,372 (“Second ‘924 Reexam”)
2020	U.S. Patent No. 8,511,851 to Van de Ven (“Van de Ven”)
2021	The Vitec Group plc Acquisitions and Trading Update, Press Release dated April 12, 2021
2022	“The Vitec Group plc changes its name to Videndum plc,” by Marchetti, May 2022, printed/accessed from https://videndum.com/media/videndum-in-action/the-vitec-group-plc-changes-its-name-to-videndum-plc/
2023	Quasar Science’s Request for Reexamination of U.S. Patent No. 9,719,642 dated September 4, 2019 (“Second ‘642 Reexam Request”)
2024	Quasar Science’s Request for Reexamination of U.S. Patent No. 9,845,924 dated September 4, 2019 (“Second ‘924 Reexam Request”)
2025	Patent Owner Colt’s Interrogatories

2026	Declaration of David L. Hoffman
2027	Complaint filed February 17, 2022 against Petitioner Quasar Science LLC (and others) for patent infringement, Case No. 1:22-cv-00213 (Dist. Del.)(“Complaint”)
2028	First Amended Complaint filed June 1, 2022 in Case No. 1:22-cv-00213 (Dist. Del.)(“FAC”)
2029	Docket sheet for Case No. 1:22-cv-00213 (Dist. Del.)(“Litigation Docket”)
2030	Protective Order in Case No. 1:22-cv-00213 (Dist. Del.)(“Protective Order”)
2031	Colt’s Initial Infringement Contentions cover document and excerpts re ‘895 Patent (“Infringement Contentions”)
2032	Marketing printed in 2017 from QuasarScience.com web site (“Old QuasarScience.com Marketing Excerpts”)
2033	Marketing printed on 11/16/2023 from QuasarScience.com web site 2023 (“Petitioner QuasarScience.com Marketing Excerpts”)
2034	Marketing printed on 11/16/2023 from www.movie-men.com/producto/12-quasar-120/ (“Movie Men Web Marketing”)
2035	Marketing printed on 11/16/2023 from https://www.bpm-media.de/en/products/light/light-tubes/quasar-science-crossfade-x-4-ft/ (“BPM Web Marketing”)
2036	Marketing printed on 11/16/2023 from https://qual.wikis.its.utexas.edu/display/comm/Quasar+Tubes+Q-LED+X+CrossFade+Linear+Lamp (“UT Austin Web Marketing”)
2037	Marketing printed on 11/16/2023 from https://www.filmandvideolighting.com/quasar-tubes-q-led-x-crossfade-linear-lamps.html (“Film & Video Web Marketing”)
2038	Marketing printed on 11/16/2023 from https://www.austinmoviegear.com/quasarcrossfadeledtube

	("Austin Movie Gear Web Marketing")
2039	Declaration of Zhang, Ya Jun ("Zhang Decl.")
2040	Vitec Group PLC entitled "The Vitec Group plc 2021 Full Year Results" dated March 1, 2022 from https://files.q4europe.com/news-pdf/3294/VitecGroup_15348316.pdf ("Vitec 2021 Report")
2041	Declaration of Todd Csernecky ("Csernecky Decl.")
2042	Pictures of Ladder Lights, printed/accessed from www.ColtLED.com on December 18, 2023
2043	Image of a lighting tube taped to wall from www.quasarscience.com/products/crossfade-x , video at time code 0:38, printed/accessed December 18, 2023 ("Lighting Tube Taped to Wall Image")
2044	Image of Multibank Q-Blocks from www.quasarscience.com/products/crossfade-x , video at time code 1:34, printed/accessed December 18, 2023 ("Multibank Q-Blocks Image")
2045	MacTech LED "Why LED" web page from Wayback Machine, https://web.archive.org/web/20140223160146/http://www.mactechled.com/why-led , Printed/Accessed December 18, 2023 ("MacTech Why LED")
2046	<u>Set Lighting Technician's Handbook</u> , 4 th Ed., Box, Harry C., Focal Press, New York, published 2013 ("Set Lighting Handbook 2013")
2047	Declaration of Kevin Baxter with Appendix A (Curriculum Vitae (CV) and Patent List of Kevin Baxter) and Appendix B (Photo of Raymond James Stadium printed/accessed from https://supertailgate.com/stadium/tampa-bay-buccaneers) ("Baxter Decl.")

2048	Wayback Machine/Internet Archive from KinoFlo.com's website showing its Diva-Lite® fluorescent tube product, dated May 25, 2012, at https://web.archive.org/web/20120525111604/http://www.kinoflo.com/Lighting%20Fixtures/Diva-Lite/Diva-Lite.htm , Printed/accessed January 19, 2024 ("Diva-Lite® May 2012 Wayback")
2049	Wayback Machine/Internet Archive from KinoFlo.com's website showing its Celeb® 200 DMX LED fixture, dated May 13, 2012, at https://web.archive.org/web/20120513120651/http://kinoflo.com/Lighting%20Fixtures%20(LED)/Celeb_200/Celeb_200.html , Printed/accessed January 19, 2024 ("Celeb_200® May 2012 Wayback")
2050	"Are LED retrofits that work with existing ballasts a good idea?", by Wright, Maury, Ed., <u>LED Magazine</u> , June 2014, p. 4 as printed/accessed January 19, 2024 from https://digital.ledsmagazine.com/ledsmagazine/201406?pg=7#pg7
2051	Declaration of David L. Hoffman in Support of Patent Owner's Response ("Hoffman POR Decl.")
2052	Various photos of Patent Owner Colt's Bicolor LED Tubular Light ("Colt Bicolor Photos")
2053	Claim Chart showing selected '895 Patent Claims vs. Colt's Bicolor LED Tubular Lights ("Claim Chart '895 Patent vs Colt Bicolor")
2054	Wayback Machine of Old Quasar's website at www.quasarscience.com of November 2016 showing Specifications for "All Quasar products," https://web.archive.org/web/20161123195106/http://www.quasarscience.com/pages/specifications , Printed/Accessed December 13, 2023 ("2016 Specifications")
2055	Wayback Machine of Old Quasar's website at www.quasarscience.com of November 2016 showing information for Old Quasar's Q-Line model lamps

	including its “S-Switch” models (at PDF2) and its Crossfade models (at PDF3) from https://web.archive.org/web/20161120111322/http://www.quasarscience.com/pages/q-line , Printed/Accessed December 13, 2023 (“2016 Q-Line”)
2056	Wayback Machine, from Old Quasar’s website at www.quasarscience.com of February 2017 showing details concerning Old Quasar’s S-Switch Lamp models https://web.archive.org/web/20170209215712/http://www.quasarscience.com/products/q-led-s-switch-linear-lamps?variant=3592534851 , Printed/Accessed December 13, 2023 (“2017 Q-LEDs”)
2057	Various photos of Old Quasar’s S-Switch model, four-foot size (“S-Switch Photos”)
2058	Q50XG INFO SHEET for Old Quasar’s Crossfade model, four-foot size as accessed/downloaded from the Wayback Machine at https://web.archive.org/web/20180712172527/http://admin.quasarscience.com/photometrics/2018-05-30-Q50XG%20Info%20Sheet.pdf on December 13, 2023 (“2018 Q50XG Info Sheet”)
2059	Claim Chart showing selected ‘895 Patent Claims vs. Old Quasar’s S-Switch Tubular LED Lights (“Claim Chart ‘895 Patent vs Quasar S-Switch”)
2060	Various Photos of Quasar’s Crossfade product, four-foot length (“Crossfade Photos”)
2061	Various Photos of Petitioner Quasar’s Crossfade X product, two-foot length (“Crossfade X Photos”)
2062	Information page on Crossfade product from Petitioner Quasar’s website downloaded from https://www.quasarscience.com/collections/lights/products/crossfade , Printed/Accessed December 13, 2023 (“Crossfade Info Page”)
2063	Information page on Crossfade X product from Petitioner Quasar’s website downloaded from https://www.quasarscience.com/collections/lights/products

	s/crossfade-x, Printed/Accessed December 13, 2023 (“Crossfade X Info Page”)
2064	Third party marketing from BH Photo’s website at https://www.bhphotovideo.com/c/product/1686089-REG/quasar_science_921_2303_crossfade_x_linear_led.html for Petitioner Quasar’s Crossfade X product, printed/accessed on 11/11/2023 (“BH Photo Crossfade X”)
2065	Claim Chart showing selected ‘895 Patent Claims vs. Petitioner Quasar Science’s Crossfade Model LED Tubular Lights (Crossfade including Crossfade X) (“Claim Chart ‘895 Patent vs Quasar Crossfades”)
2066	Declaration of Fernando Silva (“Silva Decl.”)
2067	Declaration of Bruce Wonderlick with Appendix A (“Wonderlick Decl.”)
2068	Declaration of Guillermo Macias (“Macias Decl.”)
2069	Patent Owner Colt’s website at www.coltled.com on January 12, 2019 marketing Colt’s Bicolor LED Tubes
2070	Patent Owner Colt’s List of TV Shows and Movies Using Colt’s Bicolor LED Tubes from 2013 to beginning 2017 (“List of Shows/Movies”)
2071	Patent Owner Colt’s Actual Sales from 2017 and 2018 to Wamco (“Actual Sales List”)(CONFIDENTIAL-PROTECTIVE ORDER MATERIAL)
2072	Patent Owner Colt’s website at www.ColtLED.com printed/accessed on January 12, 2019 (“ColtLED Home Page”)
2073	Warner Bros. Set Lighting rental list excerpts, June 2018 (“WB 2018 Rental Excerpts”)
2074	Warner Bros. Set Lighting rental list, 2023 (“WB 2023 Rental List”)
2075	Quasar’s web page from the internet.org archive of November 23, 2016 (“Quasar’s 2016 web page”)

2076	Kino Flo retail prices from www.bhphotovideo.com (B&H) and www.filmandvideolighting.com (Barn Door) websites, printed/accessed on January 13, 2019 (“Kino Flo Prices”)
2077	Report No. L091914008R01 on Lux/FC/Colormetrics by Light Laboratory Inc., issued October 21, 2019 on Colt’s Bicolor LED Tube in four-foot length (“Lumen and Colormetrics Report”)
2078	Declaration of Bradley Brunon (“Brunon Decl.”)
2079	Deposition Transcript of Ya Jun Zhang, taken October 12, 2018 (“Zhang Depo Transcript”)
2080	Declaration of Gary Allen, Ph.D. (“Allen Decl.”)
2081	Cree XLamp MK-R LEDs, Product Family Data Sheet, CLD-D560 REV OA, (2012)(“2012 Cree Data Sheet”)
2082	“GE Global Research Breaks OLED Records,” Photonics Spectra, March 2004 (“GE Global Research OLED”)
2083	Cree LED Luminaire Design Guide, #CLD-AP15 REV 0E 2016 (“Cree Design Guide”)
2084	“Thermal Design of integral LED replacement lamps,” by Allen, Gary, et al., GE Lighting Solutions and General Electric Lighting, presented at 13th International Symposium on the Science and Technology of Lighting (LS13), June 26, 2012 (“Dr. Allen Thermal Design Paper”)
2085	“Effect of Ambient Temperature,” by Lamptech, Updated 30-X-2011, printed/accessed on January 19, 2024 from http://www.lamptech.co.uk/Documents/FL_Temperature.htm (“Lamptech Effect of Ambient Temp”)
2086	LED Luminaire Reliability: Impact of Color Shift, April 2017, The Next Generation Lighting Industry Alliance

	(NGLIA) as printed/accessed on January 19, 2024 at https://www.energy.gov/sites/prod/files/2017/04/f34/lsrc_colorshift_apr2017.pdf (“Color Shift Report”)
2087	“ANSI NEMA LED BINNING STANDARD, blog post by MADPCB, September 7, 2016, printed/accessed from https://madpcb.com/ansi-nema-led-binning-standard/ on January 21, 2024 (“MADPCB 2016 Blog”)
2088	Cree Application Bulletin CLD-AP22 rev 22 (2008 – 2014), Binning and Labeling, “Cree® XLamp® XP Family LEDs,” printed/accessed at on January 21, 2024 from https://www.mouser.com/pdfdocs/xlampxpbinlabel.pdf (“Cree 2008-2014 Binning Standards”)
2089	“ANSI NEMA ANSLG C78.377-2008,” American National Standard Lighting Group, Rosslyn, Virginia, Copyright 2008 (“2008 ANSI Standards”)
2090	NIST Spectrally Tunable Lighting Facility for Color Rendering and Lighting Experiments, by Miller, C. ,et al Light and Lighting Conference with Special Emphasis on LEDs and Solid State Lighting, Budapest, (2009), printed/accessed on January 20, 2024 from https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=903085 (“Miller NIST Paper”)
2091	Błaszczak, et.al., “Characterization of Multi-Emitter Tuneable Led Source for Endoscopic Applications, Metrol. Meas. Syst.,” Vol. 26 (2019) No. 1), pp. 153–169, printed/accessed on January 20, 2024 from https://journals.pan.pl/Content/110245/PDF/art_14.pdf (“Błaszczak Tunable LED Source”)
2092	“Rationale of Color Quality Scale,” by Ohno, Yoshi et al, NIST, June 8, 2010, printed/accessed on January 20, 2024 from https://www1.eere.energy.gov/buildings/publications/pdfs/ssl/cqs_rationale_06-10.pdf , (“Rationale of Color Quality Scale”)

2093	Petitioner's Objections and Answers to Patent Owner's Interrogatory Nos. 1 – 5, served January 12, 2024 ("Petitioner's Interrogatory Responses") (CONFIDENTIAL-PROTECTIVE ORDER MATERIAL)
2093	Petitioner's Objections and Answers to Patent Owner's Interrogatory Nos. 1 – 5, served January 12, 2024 ("Petitioner's Interrogatory Responses") (PUBLIC-REDACTED)
2094	Declaration of Bruce Finn ("Finn Decl.")
2095	GoDaddy WHOIS Search Results for www.madpcb.com, Printed/Accessed at https://www.godaddy.com/whois/results.aspx?domain=www.madpcb.com on January 21, 2024 ("WhoIs www.madpcb.com")
2096	"ANSI NEMA LED Binning Standard Turnkey PCB Assembler MADPCB" Google Search Results for www.madpcb.com, Printed/Accessed at https://www.google.com/search?q=ANSI+NEMA+LED+Binning+Standard+Turnkey+PCB+Assembler+MADPCB&rlz=1C1CHBD_enUS939US939&oq=ANSI+NEMA+LED+Binning+Standard+Turnkey+PCB+Assembler+MADPCB&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIGCAEQRRg80gEKMTE5MjdqMGoxNagCALACAA&sourceid=chrome&ie=UTF-8 on January 21, 2024 ("MADPCB Google Search")
2097	"Thermal Management White LED Challenges LED Lighting Control Systems," <u>LED Professional Review</u> , Edited by Luger, Siegfried, Nov/Dec 2007, printed/accessed from https://www.led-professional.com/downloads/LpR_04_free_23761.pdf on December 1, 2023 ("Thermal Management")
2098	U.S. Patent No. 8,754,594 to Lenk ("Lenk '594")

2099	U.S. Patent No. 8,638,033 to Lenk (“Lenk ‘033”)
2100	Declaration of Ken Fisher (“Fisher Decl.”)
2101	BBS Area 48 LED, by BBS Lighting (2013) (“BBS Remote Phosphor Data Sheet”)
2102	“Lighting Advances Focus on Size, Efficiency,” Johnston, Craig, <u>TV Technology</u> , July 15, 2013, accessed/printed from https://www.tvtechnology.com/news/lighting-advances-focus-on-size-efficiency on January 27, 2024 (“Lighting Advances Efficiency”)
2103	“Advances in Lighting Add More Versatility,” Johnston, Craig, <u>TV Technology</u> , August 03, 2014, accessed/printed from https://www.tvtechnology.com/news/advances-in-lighting-add-more-versatility) on January 27, 2024 (“More Versatility”)
2104	Arri Studio Cool 4 web page, October 6, 2013 as accessed/printed from https://web.archive.org/web/20131006045207/http://www.arri.com/lighting/lighting_americas/studio_cool_fluorescent/studio_cool_4.html on January 31, 2024 (“Arri 2013 Studio Cool”)
2105	ARRI SkyPanel S60-C DataSheet, October 2015, as printed/accessed from https://web.archive.org/web/20160327134438/http://www.arri.com/skypanel/assets/pdf/ARRI_SkyPanel_S60-C_Data_Sheet.pdf on January 31, 2024 (“Arri 2015 SkyPanel”)
2106	MacTech LED Rental and Sales web page from May 2, 2013 from https://web.archive.org/web/20130502023555/http://quote.mactechled.com/ , printed/accessed January 31, 2024 (“MacTech 2013 LED Tube”)
2107	MacTech LED Rental and Sales web page from August 1, 2015 from

	https://web.archive.org/web/20150801193922/http://www.mactechled.com/ , as printed/accessed January 31, 2024 (“MacTech 2015 LED Panel”)
2108	U.S. Patent No. 6,948,823 to Pohlert, Grosswendt, Fisher and Baxter (“’823 Patent”)
2109	“Litepanels New 1x1 Bi-Color LED Light,” Press Release, December 22, 2008, from https://www.studiodaily.com/2008/12/litepanels-new-1x1-bi-color-led-light/ , accessed/printed on February 1, 2024 (“Litepanels 2008 Bi-Color Panel Launch”)
2110	Petitioner Quasar Science’s website “about us” page, printed/accessed from https://www.quasarscience.com/pages/about-us , on February 1, 2024 (“Quasar’s About Us Web Page”)
2111	Pipeline LED System, by BBS Lighting (2013) (“BBS 2013 Pipeline LED Data Sheet”)
2112	“Effect of Current Spreading on the Efficiency of Droop of InGaN Light-Emitting Diodes,” by Ryu, Han-Youl et al., <u>Optics Express</u> , Vol. 19, No. 4, January 31, 2011 (“Current Droop Paper”)
2113	“FilmLA Reports That ‘Production is Starting to Responsibly Return’ Following Near-Collapse of On-Location Filming in Q2,” Robb, David, <u>Deadline</u> , July 8, 2020, from https://deadline.com/2020/07/los-angeles-film-tv-production-report-q2-2020-coronavirus-1202980579/ , printed/accessed on 12/5/2023 (“Deadline July 2020 Article”)
2114	2021 Q2 Production Report, “Los Angeles Shoot Days,” <u>FilmLA</u> , from https://filmla.com/wp-content/uploads/2021/08/2021_Q2_Production_Report_FilmLA.pdf , printed/accessed on 12/5/2023 (“FilmLA 2021 Q2 Report”)
2115	2022-2023 Q3 Production Report, “No Surprise: Summer of Strikes Sends LA Shoot Days Lower,” <u>FilmLA</u> , October 17, 2023, from https://filmla.com/no-surprise-summer-of-strikes-sends-la-shoot-days-lower/ ,

	printed/accessed on 12/5/2023 (“FilmLA 2022-2023 Q3 Report”)
2116	U.S. Patent No. 9,127,818 to Maxik et al. (“Maxik”)
2117	U.S. Patent No. 4,530,179 to Larew (“Larew”)
2118	U.S. Patent No. 8,587,185 to Negley (“Negley ‘185”)
2119	European Patent Specification Publication No. EP 0572733B1 to Hochheim and Swink (“Hochheim”)
2120	U.S. Patent No. 8,456,091 to Goitiandia, Hochheim and Primrose (“Gotiandia”)
2121	WO 2011/146657 A1 to Vasquez (“Vasquez”)
2122	<u>Set Lighting Technician’s Handbook</u> , Ed., Box, Harry C., Focal Press, Boston, published 1993 [1 st edition], cover, copyright page, p.102 (“1993 Handbook Excerpts”)
2123	Provisional Application No. 61/648,554 filed May 17, 2012 (“Macias Provisional”)
2124	Corrected Official Filing Receipt for Serial No. 61/648,554, mailed 06/04/2012 (“Provisional Filing Receipt”)

Date: February 7, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **PATENT OWNER'S UPDATED EXHIBIT LIST** was served on February 8, 2024, via email directed to counsel of record for Petitioner at the following:

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