

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: IPR2023-00611
U.S. Patent No. 10,197,224

**PATENT OWNER'S SUR-REPLY
TO PETITIONER'S RESPONSE**

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PATENT OWNER'S UPDATED EXHIBIT LIST

Exhibit No.	Exhibit Description
2001	MacTech LED FAQ web page, MacTech LED, Sun Valley, CA, Nov. 28, 2014, printed/accessed from https://web.archive.org/web/20141128184548/http://www.mactechled.com/faq/
2002	MacTech LED FAQ web page, MacTech LED, Sun Valley, CA, April 1, 2017, printed/accessed from https://web.archive.org/web/20170401011340/http://www.mactechled.com/faq/
2003	U.S. Patent Publication No. 2003/0072156 to Pohlert et al. (Pohlert)
2004	U.S. Patent Publication No. 2004/0105261 to Ducharme et al. (Ducharme '261)
2005	U.S. Patent No. 7,646,029 to Mueller et al. (Mueller '029)
2006	U.S. Patent Publication No. 2010/0102730 to Simon et al. (Simon '730)
2007	"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/
2008	Patent Owner Colt's Interrogatories
2009	Declaration of David L. Hoffman
2010	Complaint filed February 17, 2022 against Petitioner Quasar Science LLC (and others) for patent infringement, Case No. 1:22-cv-00213 (Dist. Del.)(“Complaint”)
2011	First Amended Complaint filed June 1, 2022 in Case No. 1:22-cv-00213 (Dist. Del.)(“FAC”)
2012	Docket sheet for Case No. 1:22-cv-00213 (Dist. Del.)(“Litigation Docket”)

2013	Protective Order in Case No. 1:22-cv-00213 (Dist. Del.)(“Protective Order”)
2014	Colt’s Initial Infringement Contentions cover document and excerpts re ‘582 Patent (“Infringement Contentions”)
2015	Declaration of Zhang, Ya Jun (“Zhang Decl.”)
2016	Marketing Material from Petitioner Quasar’s website at https://www.quasarscience.com/products/rainbow concerning the Rainbow model, downloaded November 17, 2023
2017	Marketing Material from Petitioner Quasar’s online marketing downloaded from https://cdn.shopify.com/s/files/1/0903/0580/files/QS_RR-R2_One-Sheet.pdf concerning the Rainbow 2 model downloaded November 17, 2023
2018	Marketing Material from https://rstvisions.com/products/quasar-q-led-2-r-rainbow-linear-rgbx printed on November 17, 2023
2019	The Vitec Group plc Acquisitions and Trading Update dated April 12, 2019 from Videndum plc’s website at www.Videndum.com
2020	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”)
2021	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)
2021	Petitioner’s Objections and Answers to Patent Owner’s Interrogatory Nos. 1 – 5, served January 12, 2024 (“Petitioner’s Interrogatory Responses”)(PUBLIC-REDACTED)

2022	Declaration of Bradley Brunon (“Brunon Decl.”)
2023	Deposition Transcript of Ya Jun Zhang, taken October 12, 2018 (“Zhang Depo Transcript”)
2024	Declaration of Guillermo Macias (“Macias Decl.”)
2025	Declaration of Fernando Silva (“Silva Decl.”)
2026	2022-2023 Q3 Production Report, “No Surprise: Summer of Strikes Sends LA Shoot Days Lower,” FilmLA, 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”)

I. INTRODUCTION

Quasar copied Patent Owner's entertainment industry, multicolored luminaire and had success with it.

Ground 1 fails because the primary reference, Kit (Ex. 1004), only teaches white LEDs or colored LEDs instead of white, but not white with colored LEDs. The Board already so found. (Institution Decision, # Paper #10, pp. 17-18.) It also fails for the same reasons as Ground II.

Ground II fails as well. Claim 1 requires an on-board driver. The primary reference, Mueller (Ex. 1006), lacks an onboard driver.

At least dependent claims 4, 10 and 11 (and the other dependent claims incorporating the same elements) would not have been obvious for reasons explained herein.

The secondary evidence of copying and sales tip the balance against obviousness.

II. CLAIM CONSTRUCTION

Petitioner argues that the preamble is just an intended use. But, here the preamble is needed to give life to the claim. The preamble recites:

An LED lighting device configured for providing light
suitable for a commercial image recording...

Ex. 1001 ('224 patent), claims 1, 13, 23 and 35 (preamble).

While Petitioner cites various cases of the general rule of claim interpretation, the situation is much more like Patent Owner's cited cases: *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999); *Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003); *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Moreover, with respect to at least dependent claims 4 and 11, the term "suitable for commercial image recording" is connected to specific claim body language. In claim 4, there is reference to the "entertainment industry." In claim 11, the two most popular color temperature ranges, tungsten and daylight, in the entertainment industry are referenced. Petitioner admits this. Reply, p. 16, bottom.

III. CLAIM 1 (AND THE OTHER INDEPENDENT CLAIMS 13, 23, 35)

A. Ground 2 – Mueller

Petitioner first argues that Mueller discloses the five color combination of claim 1. Reply, Section III.C., pp. 6-7. But Mueller's laundry list does not provide sufficient direction to a POSITA. The secondary evidence here shows nonobviousness.

Petitioner argues that claim 1 does not require an onboard driver and in any

event is obvious. Reply, pp. 8-11. Petitioner's main argument is that there is no language in the claim requiring it to be onboard, and that the driver only be in electrical connection. But, element 1[e] concerning the housing recites, last two lines, that the housing "further compris[es] an electrical input connection for receiving input power." Element 1[f], first two lines, recites that the "input connection is in electrical communication with the LED driver." Since the electrical input connection is part of the housing, and since power comes to that connection, and since logically and by the claim language the driver must be downstream of the input connection, the driver is onboard. This is consistent with the specification. Ex. 1001, Figs. 3-4 (driver 36 onboard) and Fig. 14A (showing AC power source 610 going into the input connection).

This onboard driver is not obvious from Mueller. Petitioner cites language from Mueller, Ex. 1006, [0064] relating to the lighting unit being associated with or packaged together with control circuitry. Reply, p. 9. But this does not specifically say that the driver is onboard.

Petitioner refers to Ivey, Ex. 1008, having a controller in a package. Reply, p. 9-bottom; Ex. 1008-Ivey, [0016]. But Ivey discloses an LED-based light controller for an emergency notification system such as smoke or a fire or tornado. Ex. 1008 at Title and [0022].

In element 1[f], the housing has a 41 mm or less diameter: "wherein the

housing has a linear form factor substantially that of a fluorescent tube having an axial direction and having a diameter of no greater than about 41 mm....” It would not have been obvious to add components, such as an onboard driver, to an already crowded luminaire with multiple color LEDs.

Ivey does not change that. Again, the secondary evidence here shows nonobviousness.

B. Ground 1: Kit Lacks White With Multiple Colored LEDs

With respect to Ground 1, Petitioner appears to concede non-obviousness.

The Reply is one paragraph and cites Kit, Ex. 1004 at 20:50-63, for white LEDs in combination with colored LEDs. Reply, p. 18 (Section V.A.) Kit merely says there that colors are available and lists some that may be used. But that does specifically teach using white color temperatures with other colors. The Board found that Kit (Ex.1004) did not teach use of white LEDs in combination with colored LEDs. See, Institution Decision, Paper #10, pp. 17-18.

Kit also lacks any reference to commercial image recording use.

IV. DEPENDENT CLAIMS

A. Claims 4, 26 and 38 – Entertainment Industry Color Wheel

Petitioner argues that Mueller discloses “an entertainment industry color

wheel.” Petitioner equates the color wheel to DMX. Reply, p. 15-top. But there is nothing in Mueller but general reference to use of DMX. There is only passing reference to use in the industry. Ex. 1004 [0295] (“studio, theatre, TV and video”). This is not enough direction for a POSITA to construct the claimed invention. The secondary evidence here shows that.

B. Claims 10 and 32 -- RGBAW

Petitioner argues that the specific combination of claims 10 and 32 is that red, green, blue, amber and white are in the list of colored LEDs that Mueller discloses, and any combination may be assembled, and therefore this specification combination, red, green, blue, amber and white (“RGBAW”) is either disclosed or obvious. Reply, pp. 15-16. But Mueller lacks specific direction for this combination, and this combination is successful and was copied, as shown by the secondary evidence.

C. Claims 11, 33 and 44 – Daylight and Tungsten

Petitioner argues that the specific combination of claims, five colors including producing daylight and tungsten, would have been obvious since they are commonly used in the entertainment industry. Reply, p. 16. Petitioner also argues that there broad-spectrum white is disclosed by Mueller, since he discloses

phosphor-based LEDs. Reply, p. 16.

And Petitioner argues that Mueller discloses various color temperature ranges from 700 to over 10,000 degrees Kelvin. Reply, p. 17, citing Ex. 1006 [0062-63, 0194].

Claim 11 recites that “among the colors the driver is configured to selectively produce are white light in each of daylight and tungsten temperature ranges” in the claimed combination with broad-spectrum white light as well as multiple colors of LEDs and a tubular format, suitable for commercial image recording. Ex. 1001, claim 11 (emphasis added).

These two ranges are very commonly used in the entertainment industry. The combination of these two ranges in the lighting device of claim 1, in addition to colors, would not have been obvious. This gives the light versatility for the entertainment industry. Mueller's broad disclosure of use for studio and related uses does not connect these two temperature ranges with use with other colors sufficiently for a POSITA to do so.

The Reply cites to three paragraphs of Mueller: Ex. 1006 at [0194] and [0062]-[0063]. Mueller, in paragraph [0194], has no mention of any specific color temperature ranges of white light. Ex. 1006 at [0194]. Mueller, at paragraph [0062], only refers to the broad range of 700K to 10,000K, and paragraph [0063] is only discussing temperatures that provide various color tints. Ex. 1006 at [0062]-[0063].

There is no guidance to putting the claimed color temperature ranges together with the other claimed elements. There is no guidance to a POSITA to pick and choose the claimed elements in combination without the use of hindsight.

The secondary evidence of copying and sales tip the balance against obviousness.

V. SECONDARY CONSIDERATIONS

In Patent Owner's Response to the Petition, Patent Owner submitted evidence that Quasar copied Patent Owner's entertainment industry, multicolored luminaire and had success with it. Petitioner attacks this evidence.

A. Nexus

Petitioner argues that there is no nexus between the claimed invention and Quasar's Rainbow product. Sales of Quasar's Rainbow (copied from Colt's product and corresponding to the claimed invention) were shown with Patent Owner's Reply in Petitioner's Interrogatory Responses, Ex. 2021, see pp. 7-8 (confidential). Patent Owner Response, pp. 48-49 (and Ex. 2026 on limited filming days in recent years).

Specifically, Petitioner cites cases that the nexus must be tied to "novel elements of the claim at issue." Reply, p. 19. But the cited cases are all before the Federal Circuit clarified and/or modified the test such that patentee need only tie the

objective evidence to the **invention as a whole** (for consistency with 35 U.S.C. §103), noting: “This is especially true for situations like those at issue here, where the claimed invention is, admittedly, a **combination of elements that were known individually in the prior art.**” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1331-32 (Fed.Cir. 2016)(emphasis added).

Petitioner also argues that attorney argument is not sufficient evidence, and that a copy of infringement contentions from the district court case is not sufficient. But the cases cited only relate to attorney argument and/or failure to do a claim construction chart.

Here, the “infringement contentions” are claim charts (Ex. 2014) and were submitted in litigation in district court and so were subject to FRCP 11 requirements. Ex. 2009, ¶6 (authenticating the contentions/charts of Ex. 2014).

The technology is not so difficult that the claim charts would have had to been done by an expert. The claim charts are detailed in that they include images of the Quasar Rainbow product. The Hoffman Declaration, Ex. 2009, authenticates the charts. Ex. 2009, ¶6.

The charts include claims 1, 4, 10, 11 among other claims.

Note that Petitioner never objected to Ex. 2009 and Ex. 2014, and Petitioner makes no specific objections to any portions of the claim charts.

Petitioner also attacks the materials submitted, Exs. 2016-2018, evidencing

marketing of the Rainbow products. The marketing materials referenced are authenticated. Ex. 2009, ¶s 8-10. Petitioner never objected.

B. Copying

Petitioner also attacks Patent Owner's evidence of copying.

Petitioner asserts Zhang's 2018 declaration (Ex. 2015) and 2018 deposition transcript (Ex. 2023) conflict on whether he received Colt's product from Gonzalez or Lau. Reply, pp. 20-21.

Mr. Zhang's 2018 declaration was obviously for another proceeding, and not prepared for this IPR proceeding. Therefore, any attempt to depose Zhang in this IPR would require a motion for additional discovery. Petitioner never brought such a motion. See, IPR docket. Presumably, because Zhang was adverse to Patent Owner, Zhang would have cooperated with Petitioner if his testimony were favorable to Petitioner, and/or Petitioner would have brought a motion for additional discovery. Petitioner did neither.

The Zhang 2018 declaration says he copied Colt's bicolor and then he "I also duplicated Colt Led color tube for Quasar...." Ex. 2015, ¶s 4-5. Petitioner argues Zhang is not credible for various reasons including that the declaration and deposition conflict regarding whom he met from Quasar. Reply, pp. 20-22.

But both Gonzalez and Lau were with Quasar. More importantly, Zhang's

deposition testimony that Lau provided Colt's product to copy is uncontroverted.

Ex. 2023-Zhang.Depo.@14:24-15:4 (Lau not satisfied with initial product);

Id.@15:22-16:3 (sample from Lau to take apart); *Id.*@20:3-7 (sample from Lau to

copy). There is additional corroboration with uncontroverted evidence that Quasar's

Gonzalez obtained sample Colt products from Silva. Ex.2025-Silva, ¶s 15-16. There

even are photos of Colt's (bicolor) products disassembled (below). Ex. 2023-

Zhang.Depo., @PDF95. See also, POR, #30 (confidential); #38 (public), pp. 44-47

(Zhang deposition excerpts evidencing copying).



Ex.2023, @PDF95.

This corroboration evidence, albeit with respect to copying Colt's bicolor, still corroborates key information that Zhang divulged and so supports his credibility.

Petitioner presents Gonzalez's terse declaration that he never met or instructed Zhang to copy. Reply, pp. 22-23; Ex.1059-Gonzalez. But Petitioner and Gonzalez **never** contradict that Zhang received Colt's products from Quasar to copy. Petitioner did not submit any denials from Lau. Patent Owner's claim charts showing Quasar's products match Colt's claims are undisputed. Ex.2051-Hoffman, ¶12; Ex.2059 (claim chart).

Petitioner asserts Zhang and Macias have competing declarations in unrelated case, Laysion v Colt, a commercial dispute (resolved) concerning an alleged oral order from Colt. See, Reply, p. 22; Ex.1023-Macias.Depo., @288:4-9 (dispute resolved). Zhang and Colt's business dispute including factual disagreement does not change corroboration explained above including the photo of disassembled product.

Petitioner also attacks success as lacking nexus on novel elements of the claims. Reply, pp. 19 (cases) and 23 (argument). But, per the Federal Circuit, patentee need only tie the objective evidence to the **invention as a whole** (for consistency with 35 U.S.C. §103), noting: "This is especially true for situations like those at issue here, where the claimed invention is, admittedly, a **combination of elements that were known individually in the prior art.**" *WBIP, LLC v. Kohler*

Co., 829 F.3d 1317, 1331-32 (Fed.Cir. 2016)(emphasis added). Here, both Patent Owner and Petitioner agree that claim 1 comprises individually known elements.

Nexus is shown by the marketing materials:

Ex. 2016 p. 2 marketing “Candlelight” (tungsten) and “Daylight” in combination with “RGB” and p. 1 showing the Rainbow in a tube form factor – see claims 10 and 11. See also Exhibits 2017 and 2018 to similar effect.

C. Combined Secondary Evidence

Secondary evidence must be considered **as a whole** and can sum to **substantial weight** even if individually insubstantial. *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1215 (Fed.Cir. 2023). Colt has substantial secondary evidence summing

VI. CONCLUSION

Judgment confirming patentability of all challenged claims is respectfully requested.

Dated: June 26, 2024

By: /David L. Hoffman/
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VII. CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the foregoing **PATENT OWNER'S SUR-REPLY TO PETITIONER'S RESPONSE** complies with the type-volume requirements of 37 C.F.R. § 42.24(b)(2) because it contains fewer than 5600 words, excluding the parts exempted under 37 C.F.R. § 42.24(c), as measured by the word-processing system used to prepare this paper.

Date: June 26, 2024

Respectfully submitted,
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VIII. CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **PATENT OWNER'S SUR-REPLY TO PETITIONER'S RESPONSE** was served on June 26, 2024, via email directed to counsel of record for Petitioner at the following:

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