

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BOE TECHNOLOGY GROUP CO. LTD.,
Petitioner,

v.

OPTRONIC SCIENCES, LLC,
Patent Owner.

IPR2024-01134
Patent 9,406,733 B2

PATENT OWNER'S SUR-REPLY

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Rules

37 C.F.R. § 42.73(b)	1
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Patent Owner's Exhibit List for IPR2024-01134

Pursuant to 37 C.F.R. § 42.63(e), Patent Owner Optronics Sciences LLC hereby submits its exhibit list associated with the above-captioned *inter partes* review of U.S. Patent No. 9,406,733.

Exhibit No.	Description
2001	Declaration of Benjamin T. Wang in Support of Motion to Appear <i>Pro Hac Vice</i>
2002	Declaration of Andrew D. Weiss in Support of Motion to Appear <i>Pro Hac Vice</i>
2003	Declaration of Christian W. Conkle in Support of Motion to Appear <i>Pro Hac Vice</i>
2004	Declaration of Paul A. Kroeger in Support of Motion to Appear <i>Pro Hac Vice</i>
2005	May 12, 2025 Disclaimer of U.S. Patent Number 9,406,733 Under CFR 1.321(a)
2006	July 19, 2024 Preliminary Infringement Contentions in District Court Case No. 2:23-cv-00549-JRG

I. ADVERSE JUDGMENT SHOULD NOT BE ENTERED

Although Patent Owner acknowledges the Board has discretion to enter adverse judgment under 37 C.F.R. § 42.73(b), the Board should decline to treat Patent Owner's disclaimer as a request for adverse judgment as a matter of policy for three reasons. First, terminating this case as moot will incentivize the conservation of resources. Second, the '733 Patent is not invalid. Finally, Petitioner's request for adverse judgment is intended to create unfair and unjust estoppel effects that should be avoided.

II. MOOTING THIS CASE WILL CONSERVE RESOURCES

In the co-pending district court litigation, 29 claims across 9 patents were initially asserted. *See* Ex. 2006 at 1–2. **Solely** to simplify the issues before the court, preserve the resources of the Board, prevent additional costs to the parties, and to open valuable technology to the public, Patent Owner disclaimed the '733 Patent. Ex. 2005. This was neither an admission of invalidity nor an unequivocal request for adverse judgment. *Apple Inc. v. Zipit Wireless, Inc.*, IPR2021-01124, Paper 14 at 3–4 (PTAB Dec. 21, 2022) (vacating adverse judgment because “I do not understand counsel's statements to have been an unequivocal abandonment”) (precedential).

An entry of adverse judgment has negative effects that would discourage Patent Owner from making efforts to streamline the issues, resulting in increased

complexity in litigation, increased constraints on the resources of the Board, and increased costs for the parties to reach a final written decision.

Patent Owner should not be discouraged from taking streamlining actions that result in reduced costs to the parties and freeing administrative and judicial resources. If adverse judgment is entered, Patent Owner will be disinclined to take such streamlining measures in the future, and Patent Owner will be incentivized to fight on the merits in every case. *See* Paper 17 (identifying related cases).

The Board has declined to enter adverse judgment for similar policy reasons before. For example, in *Bestway (USA), Inc. v. Intex Mktg. Ltd.*, the Board declined to enter adverse judgment, reasoning that an entry of adverse judgment would discourage Patent Owner from filing disclaimers and encourage Patent Owner to litigate every AIA trial proceeding through Final Written Decision. *Bestway (USA), Inc. v. Intex Mktg., Ltd.*, PGR2024-00036, 2024 WL 4595093, at *4 (PTAB Oct. 28, 2024) (citing *Gen Elec. Co. v. United Techs. Corp.*, IPR2017-00491, Paper 9 (PTAB July 6, 2017) (precedential)).

The equities do not favor adverse judgement. Although Petitioner expended some effort in preparing the Petition (Paper 27 at 3), this was a sunk cost by the time Patent Owner decided whether to disclaim the '733 Patent. It was *Patent Owner's* decision to disclaim the '733 Patent that spared Petitioner from incurring further

expenses, including subsequent expert depositions, technical briefing, and technical oral argument. It is Patent Owner who should be incentivized, not the Petitioner.

This is not a case where there is any risk of Patent Owner filing continuations with claims similar to the disclaimed claims. This is because prosecution is closed on the '733 Patent family, and there is no live continuation. Moreover, despite Petitioner's baseless speculation (Paper 27 at 2), Patent Owner will not seek any sort of reissue patent that are patentably indistinct from the disclaimed claims—this will be contrary to the very efficiency gain that Patent Owner sought to achieve.

The Board should instead dismiss the petition as moot because the '733 Patent has been disclaimed. There is no patent left to rule on.

III. THE '733 PATENT IS NOT INVALID

The Board should not enter any adverse judgement of invalidity because the claims are not invalid in view of the prior art. Instead, the proceeding is now moot.

Petitioner has not met its burden of proving invalidity. For example, the Petition relies on different claim constructions of “auxiliary electrode” and points to inconsistent structures in the prior art as the claimed “auxiliary electrode” that are neither “auxiliary” nor “electrodes.” *See, e.g.*, Pet. at 3–6, 19–22; Paper 7 at 1. Petitioner's claim constructions are wrong and cannot be used to support invalidity.

A. Claim Construction

As noted in co-pending IPR2024-01133, Paper 24 at 21–25, “auxiliary” means something supplemental or secondary, not primary. And “electrode” refers to the end structure of a conductor for making electrical contact; it is not the entire conductive pathway. *Id.* at 25–27. This can be easily understood by the following example of electrodes and wires, where the “electrodes” are the end structure for making contact, and the wires lead up to the electrode:



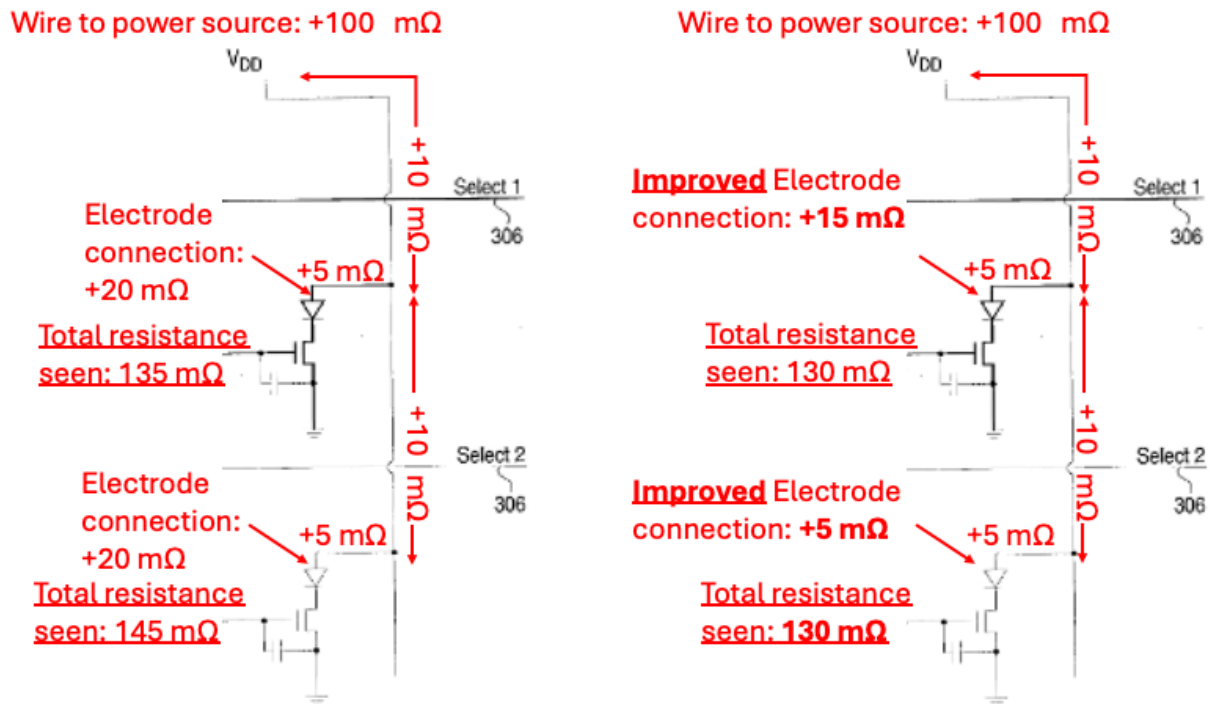
<https://zollwebstore.com/defib-and-monitors/rseries/electrodes-padz/8900-4052-40>

Visited August 27, 2025, excerpted, annotated with red.

B. Background of the Invention

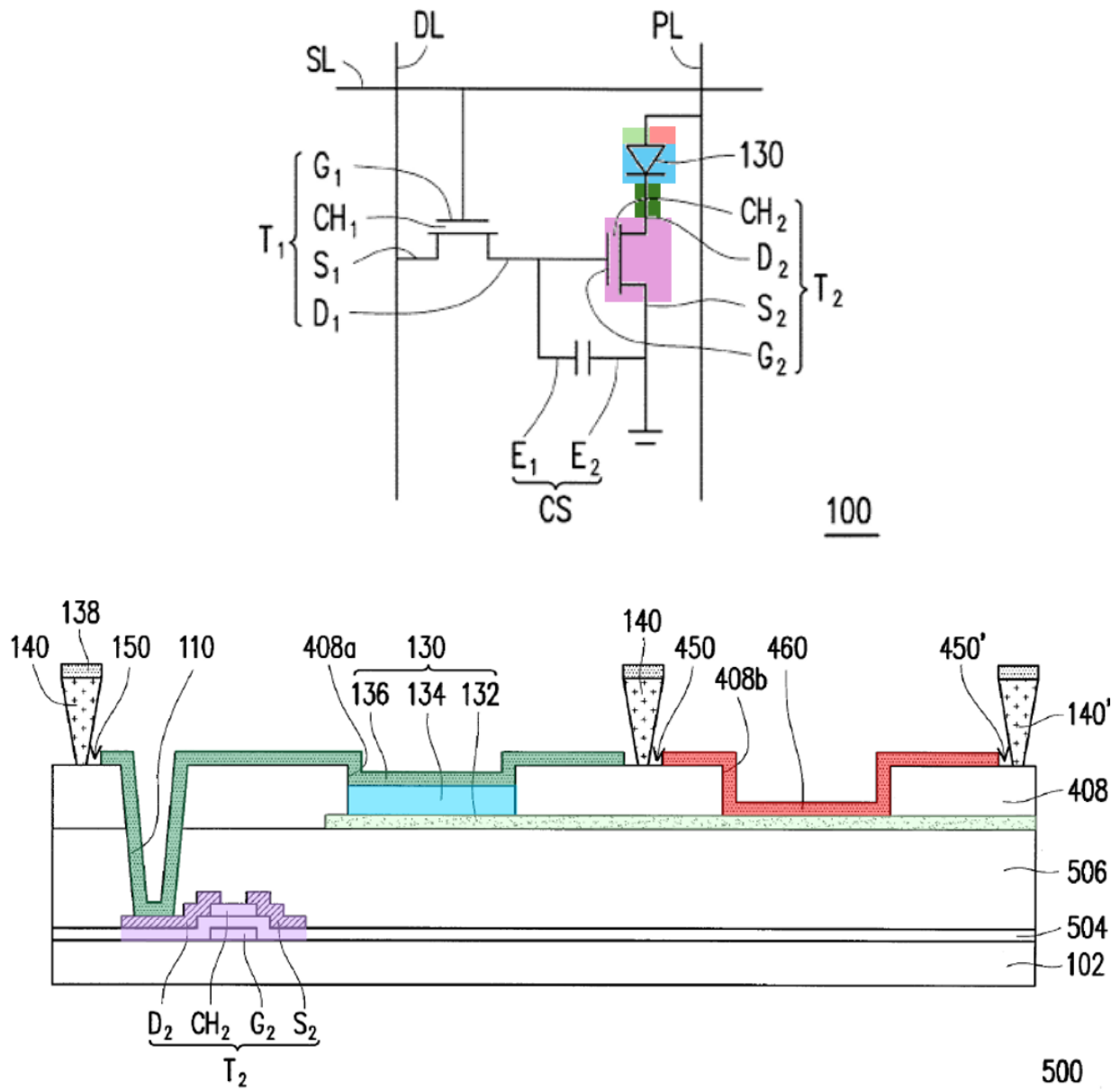
The shape, location, and purpose of the “auxiliary electrode” plays a key role in the claims of the ’733 Patent. Specifically, “the first electrode layer of the light emitting device with the auxiliary electrode decreases the resistance of the first electrode layer.” Ex. 1001 at 2:18–20. This electrode structure can be uniquely adjusted *at each individual pixel* to reduce the resistance *of that pixel*, to counterbalance the increased parasitic resistance of longer wires of a pixel array, thereby “improving the overall luminous uniformity of the display panel.” Ex. 1001 at 2:15–23. It is **not** an adjusting of the wires or connections that lead up to each electrode in the pixels, as this does not solve the problem of overall luminous uniformity.

Consider the following example. The left side shows a traditional diode array, where each diode is identical such that farther diodes have more resistance (135 mΩ or 145 mΩ) to the power supply. Because voltage drops with resistance, the farthest diode will appear slightly dimmer. The right side shows the use of improved electrode connections, counterbalancing the increase in wiring resistance, such that all diodes see 130 mΩ of resistance to the power source and appear equally bright. None of the prior art gets at this idea.



Based on excerpt of Ex. 1006 at Fig. 3; annotated in Red; values made up for convenience.

The location of the “auxiliary electrode” plays a key role in the claims of the ’733 Patent. As shown in the annotated figures of the ’733 Patent below, there is a first electrode layer 132 and a second auxiliary electrode 460. Notably, the Power Line “PL” is not shown in Figures 2–6, and the “electrodes” do not refer to the Power Line PL. Ex. 1001 at 3:37–42.



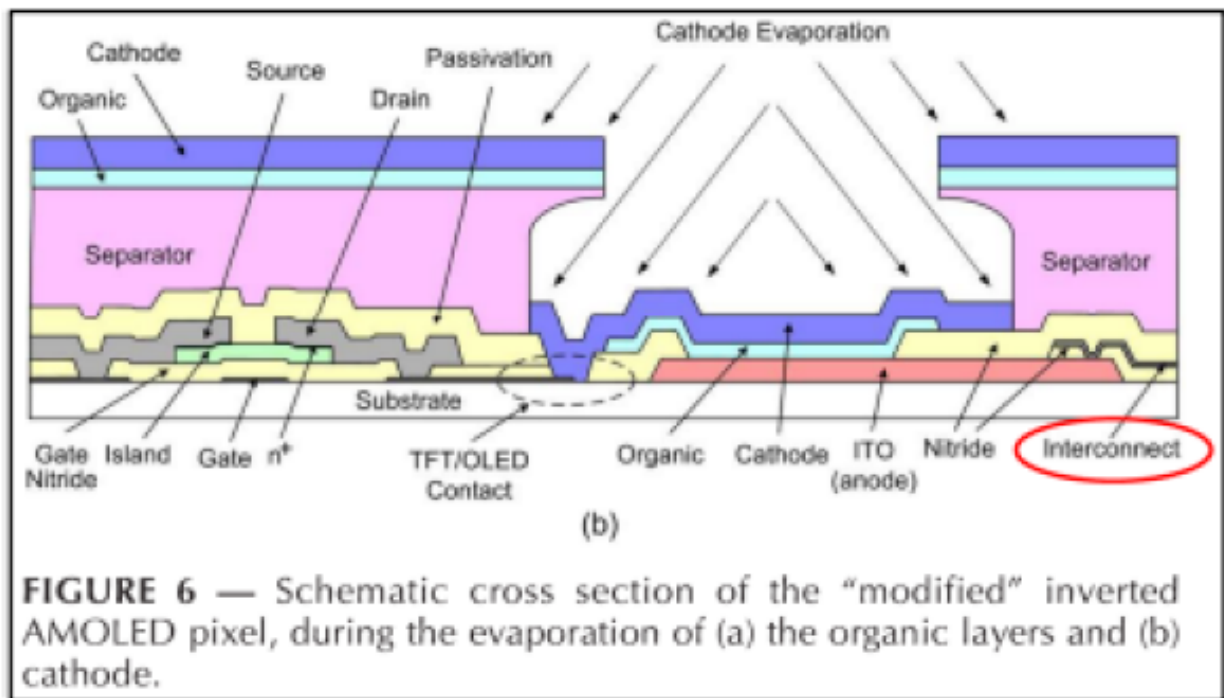
Ex. 1001 at Figs. 1, 6 (annotations by both Patent Owner and by Petitioner, *see* Petition at 2).

C. The Institution Decision Made Errors

Because Patent Owner did not provide all the arguments, evidence, or a rebuttal expert at the preliminary stage, the Institution Decision made several errors in finding a likelihood of success on Petitioner's invalidity theories.

The Institution Decision found that “nothing in the Specification clearly limits ‘auxiliary electrode’ to preclude a wire or bus line.” Paper 14 at 9. This did not address Patent Owner's complete claim construction arguments for two reasons.

First, a wire, interconnect, or bus line that is providing non-auxiliary power cannot be an “auxiliary” electrode. If a wire, interconnect, or bus line is the sole or primary source of power, it is not auxiliary under the plain and ordinary meaning of “auxiliary.” This means that because Hekmatshoar's interconnect is providing the sole or primary electrical connection to the power supply, it is not an “auxiliary” connection. The Institution Decision's finding that Hekmatshoar's interconnect is an “auxiliary electrode” was wrong:



Paper 14 at 19 (showing the *sole, primary* interconnect to power, not an “auxiliary” connection.)

Second, Hekmatshoar’s “interconnect” represents what is the Power Line “PL” in Figure 1 of the ’733 Patent. This is inherent in the name “interconnect”: it forms an *interconnection* from the diode to the power supply (and/or to other pixels). But the ’733 Patent made distinctions between an “electrode” and lines (or interconnects): the electrodes are the structures at the end of the power line for making contact with the diode 130. Interconnects, wires, and power lines are *omitted* from Figures 2–6 of the ’733 patent; such conductors connect to the electrodes, but they are not themselves the electrodes. Ex. 1001 at 3:37–42; *see* Section III(A) above, showing picture of wires that *connect to, but are not themselves*, electrodes.

For these reasons, all of Petitioner’s Hekmatshoar-based theories are fundamentally flawed and cannot support invalidity. This affects every ground of invalidity. Paper 2 at 7–8 (using Hekmatshoar in every ground, whether as a primary reference or in a combination).

IV. MOOTING THIS CASE AVOIDS UNJUST GAMESMANSHIP

Petitioner’s request for adverse judgement is not rooted in justice. As evident from Petitioner’s Reply, Petitioner’s underlying motivation is to create some sort of preclusion or estoppel to affect other patents such as U.S. Patent 5,263,509 in IPR2024-01133. Paper 27 at 2–3. Petitioner’s strategy is unjust and unfair because preclusion or estoppel usually requires that the issue be *actually litigated* before affecting other cases. As Petitioner admits, adverse judgement is rooted in the principles of “res judicata and collateral estoppel.” Paper 27 at 4 (citing *In re Deckler*, 977 F.2d 1449, 1452 (Fed. Cir. 1992)).

Res judicata (or claim preclusion) applies only when (1) there is identity of parties (or their privies); (2) there has been an earlier final judgment on the merits of a claim; and (3) the second claim is based on the same set of transactional facts as the first. *Jet, Inc. v. Sewage Aeration Systems*, 223 F.3d 1360, 1362 (Fed. Cir. 2000). Collateral estoppel applies when (1) the identical issue was previously adjudicated; (2) the issue was actually litigated in the prior action; (3) the issue was necessary to the judgment in the prior action; and (4) the party against whom estoppel is asserted

was fully represented in the prior action. *Kroy IP Holdings, LLC v. Groupon, Inc.*, 127 F.4th 1376, 1379 (Fed. Cir. 2025).¹

These requirements stem from the basic, fair rule that an argument that has been actually litigated should not be re-litigated later. In this IPR, the parties have not *actually litigated on the merits* whether the '733 is invalid because this case became moot as soon as the '733 Patent was disclaimed. Petitioner is trying to circumvent the underlying fundamental rule of fairness.

Petitioner is trying to circumvent requirements (2) and (3) of res judicata. Namely, there should not be any final judgement *on the merits* here; at best Petitioner has won judgement *through procedure*. Also, the '509 Patent has a patentably distinct set of claims (the electrodes are in different positions), and so IPR2024-01133 cannot be said to be based on the same set of facts as the '733 patent. No backdoor res judicata should apply to the '509 Patent proceeding.

Petitioner is trying to circumvent requirements (1), (2), and (3) of collateral estoppel. As to (1), the '509 Patent is not identical to the '733 Patent (again the electrodes are in different positions), so identical issues are not being resolved here. For (2), the issues relating to the validity of the '733 Patent are not being *actually litigated* here because the '733 Patent was disclaimed: Patent Owner did not file a

¹ There is slight variation between different Circuits.

substantive Reply or retain an expert. For (3) none of the substantive issues on the merits are necessary for resolution because this case is moot.

Thus, neither the requirements of traditional res judicata nor collateral estoppel are met. The Board should not create opportunities for backdoor estoppel arguments that affect the '509 Patent by entering final judgement.

If the Board decides to enter adverse judgement by invalidating the '733 Patent, then to prevent potentially unjust collateral estoppel to other cases, the Board should make clear that its ruling is based on procedure and not merits such that collateral estoppel cannot attach from this case because the parties did not actually litigate the issues here.

It remains unclear what the full scope of “action inconsistent with adverse judgement” Petitioner believes might be taken in the IPR2024-01133 regarding the '509 Patent. The Board has not issued final claim construction orders or made any final rulings on specific grounds of invalidity. The Board has not ruled on the claim construction arguments presented in this Sur-Reply, so no claim construction estoppel should carry over. The Board has not yet applied the correct claim construction to Petitioner’s Hekmatshoar theories.

The Board should not waste its time deciding these issues. The most efficient thing for the Board to do, rather than diving into the effort of claim construction and technical details that may affect multiple IPRs, is to simply terminate this IPR as

moot. The parties should be free to fully litigate those issues in IPR proceedings without backdoor estoppel that Petitioner unjustly seeks.

V. CONCLUSION

The Board should not exercise its discretion to enter adverse judgement. Instead, the Board should simply terminate this proceeding as moot. This is the best course of action. It will save everyone's resources, and the Board will not need to resolve moot questions of claim construction or invalidity. Mooting this proceeding will also prevent Petitioner's attempt to create backdoor estoppel. Most importantly, the '733 Patent is not invalid, so no judgement should be made that the '733 Patent is invalid.

Date: August 27, 2025

Respectfully submitted,

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CERTIFICATION REGARDING WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner certifies that there are 2172 words in the paper excluding the portions exempted under 37 C.F.R. §42.24(a)(1).

Date: August 27, 2025

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on August 27, 2025, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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