

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**UNIVERSAL ELECTRONICS, INC.,**  
*Appellant*

v.

**ROKU, INC.,**  
*Appellee*

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2021-2128, 2021-2129

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Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2019-01620, IPR2019-01621.

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Decided: August 28, 2023

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MICHAEL ANTHONY NICODEMA, Greenberg Traurig LLP, West Palm Beach, FL, argued for appellant. Also represented by BENJAMIN GILFORD, JAMES J. LUKAS, JR., Chicago, IL.

DEBRA JANECE MCCOMAS, Haynes & Boone, LLP, Dallas, TX, argued for appellee. Also represented by RAGHAV BAJAJ, DAVID W. O'BRIEN, Austin, TX; JONATHAN R. BOWSER, ANGELA M. OLIVER, Washington, DC.

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Before NEWMAN, REYNA, and STOLL, *Circuit Judges*.

NEWMAN, *Circuit Judge*.

This is a consolidated appeal of two *inter partes* review (IPR) decisions, on petitions filed by Roku, Inc. seeking invalidation of certain claims of U.S. Patent No. 7,821,504 (“’504 patent”) and U.S. Patent No. 7,821,505 (“’505 patent”), owned by Universal Electronics, Inc. (“UEI”). The Patent Trial and Appeal Board (“PTAB” or “Board”) held all the challenged claims invalid on the ground of obviousness; *viz.*, claims 1 and 5 of the ’504 patent and claims 5–7, 9, 10, 12, 49, and 51 of the ’505 patent. We affirm the Board’s decisions.<sup>1</sup>

## BACKGROUND

### The Patented Inventions

The ’504 and ’505 patents are continuations of U.S. Patent No. 7,782,309, which in turn is a continuation of U.S. Patent No. 7,432,916. The patents are titled “Controlling Device with Dual-Mode, Touch-Sensitive Display” and have substantially the same specifications. The patents state that they are directed to improvements in “remote, cursor control functionality,” ’504 patent, col. 2, ll. 3–8, as “may be utilized to command functional operations of multiple appliances such as those typically found in a home entertainment center,” for example televisions, VCRs, and DVD players. *Id.*, col. 4, ll. 15–17. The Abstract summarizes:

A processing device of a universal controlling device is programmed to distinguish between a first

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<sup>1</sup> *Roku, Inc. v. Universal Elecs., Inc.*, No. IPR2019-01621, 2021 WL 1920983 (P.T.A.B. May 12, 2021) (“Board ’504 Op.”); No. IPR2019-01620, 2021 WL 1923108 (P.T.A.B. May 12, 2021) (“Board ’505 Op.”).

input type provided to a touch-sensitive surface and a second input type provided to the touch-sensitive surface. In response to the touch-sensitive surface being provided the first input type which is indicative of a static touch made upon the touch-sensitive surface the processing device causes a transmitter to transmit first data representative of the static touch made upon the touch-sensitive surface. In response to the touch-sensitive surface being provided the second input type which is indicative of a moving touch made across the touch-sensitive surface, the processing device causes the transmitter to transmit second data being representative of the moving touch made across the touch-sensitive surface.

'504 patent, p. 1.

Roku requested IPR of claims 1 and 5 of the '504 patent and claims 5–7, 9, 10, 12, 49, and 51 of the '505 patent, stating that these claims are unpatentable on the ground of obviousness in view of references authored by Herz, Zetts, and Finkelstein. Patentability of the challenged claims had previously been confirmed on *inter partes* reexamination. Board '505 Op. at \*1, Board '504 Op. at \*1.

The following claims of the '504 patent and the '505 patent are the focus of this appeal:

The '504 patent

1. A method for using a universal controlling device comprised of a touch-sensitive surface to command functional operations of one or more appliances located remotely from the controlling device, comprising:

accepting via the touch-sensitive surface of the universal controlling device a first input type indicative of a static touch made upon the touch-sensitive surface;

causing the universal controlling device to transmit first data used to command at least a first functional operation of the one or more appliances, the first data being representative of the static touch made upon the touch-sensitive surface;

accepting via the touch-sensitive surface of the universal controlling device a second input type indicative of a moving touch made across the touch-sensitive surface;

causing the universal controlling device to transmit second data used to command at least a second functional operation of the one or more appliances, the second data being representative of the moving touch made across the touch-sensitive surface;

and

causing the universal controlling device to distinguish the first input type received via the touch-sensitive surface from the second input type received via the touch-sensitive surface.

Claim 5 of the '504 patent elaborates the second data movement of the cursor:

5. The method as recited in claim 1, wherein the second data comprises data for commanding movement of a displayed cursor associated with the one or more appliances.

The '504 patent claims are directed to the method, and the '505 patent claims are for the device.

#### The '505 patent

For the '505 patent, UEI focuses on the cursor limitation in dependent claim 10, which depends from claim 5 (and intervening claims) as follows:

5. A non-transitory computer-readable media embodied in a physical memory device having stored thereon instructions for causing a universal controlling device comprised of a display having a touch-sensitive surface and adapted to transmit data to one or more appliances located remotely from the controlling device to perform steps comprising:

displaying in the display of the universal controlling device one or more graphical user interfaces comprised of graphical user interface icons;

accepting via the touch-sensitive surface of the universal controlling device a first input type indicative of a selection of a displayed graphical user interface icon;

initiating a transmission by the universal controlling device to the one or more appliances first data representative of the displayed graphical user interface icon selected by the first input type;

accepting via the touch-sensitive surface of the universal controlling device a second input type indicative of a motion made across the touch-sensitive surface;

initiating a transmission by the universal controlling device to the one or more appliances second data representative of the motion made across the touch-sensitive surface provided by the second input type; and

allowing the universal controlling device to distinguish the first input type received via the touch-sensitive surface from the second input type received via the touch-sensitive surface.

Claim 10 recites the displayed cursor commanded by the second data:

10. The non-transitory computer-readable media as recited in claim 9, wherein the second data comprises data for commanding movement of a displayed cursor associated with the one or more appliances.

UEI states that the second data and cursor limitations in claim 10 are principal distinctions from the prior art.

### **The Cited References**

#### U.S. Patent No. 6,407,779 B1 (“Herz”)

The Herz reference teaches “a remote control system for remotely controlling various electronic devices such as television and audio visual systems using a single remote control.” *Id.*, col. 1, ll. 6–9. Herz Figure 5 shows a remote control system that “comprises a display screen for interfacing with the user; a plurality of buttons . . . for issuing commands and/or entering data into the remote control; [and] a stylus for writing onto the screen.” *Id.*, col. 4, ll. 49–54. Herz also shows a touch-screen display “provided with pressure sensing ability for sensing different handwriting stroke pressures exerted on the screen.” *Id.*, col. 5, ll. 8–10. A user interface is shown for the remote control, having a “soft graphical user interface [which] can provide maximum flexibility for the user to interface with the remote control.” *Id.*, col. 9, ll. 49–54.

The Board applied Herz to all of the challenged claims of both the ’504 and ’505 patents, finding obviousness based on Herz in combination with other references.

#### Eur. Pat. Appl. Pub. No. 0536554 A1 (“Zetts”)

The Zetts reference teaches a “method and apparatus for efficiently distinguishing between different types of input signals simulated by a pointing device coupled to a multi-tasking computer system. The pointing device may be a stylus, finger or other device that moves across the surface of a touch screen or the like to generate positional

information.” *Id.*, p. 1 (Abstract). Zetts describes a “touch input device (*e.g.*, a touch workpad) for a data processing system, where a touch sensor is disposed over a viewing surface of a display, input signals generated from a pointing device, such as a stylus or finger, can be categorized either as a mouse input signal or as a gesture or handwriting input signal.” *Id.*, p. 2, ll. 28–31.

The Board applied Zetts in combination with Herz and Finkelstein as grounds for obviousness of claims in both the ’504 and ’505 patents.

U.S. Patent No. 6,025,841 A1 (“Finkelstein”)

Finkelstein describes use of a cursor for managing the display of multiple windows in a graphical user interface, and states:

Specific types of user interaction events, often involving the cursor, comprise triggering events in the invention. Those skilled in the art will understand that operations with the cursor include creation of a selection rectangle, clicking on objects, activating menus and/or control objects in menus, double clicking on objects to activate them, clicking and holding an object to “drag” the object or selection to a different location, etc. These and other types of user interactions can be triggering events.

*Id.*, col. 7, ll. 27–35.

The Board found that Finkelstein is “analogous art” to Herz and Zetts, providing motivation for combination with Herz and Zetts.

### **The Board Decisions**

The Board’s findings as to the ’504 and ’505 patents are substantially the same as to all aspects presented on appeal. The Board held all of the challenged claims of the ’504 and ’505 patents invalid on the ground of obviousness. The Board held that the combination of Herz and Zetts

renders obvious the '504 patent's claim 1 limitations "second input type indicative of a moving touch made across the touch-sensitive surface" and "second data being representative of the moving touch made across the touch-sensitive surface." Board '504 Op. at \*17, \*21. The Board found that Zetts and Finkelstein are analogous art in that they are in the same field of endeavor or reasonably pertinent to one or more of the same problems as are subject of the challenged patents. Board '504 Op. at \*13, \*26.

Applying the cited references to claim 5 of the '504 patent, the Board agreed with petitioner Roku that it would have been obvious to "combin[e] Finkelstein's teaching of using a cursor to perform windows management functions . . . with the teachings of Herz and Zetts regarding the control of the size and location of the PIP [picture-in-picture] window on the remote control and the television set." Board '504 Op. at \*24. The Board held: "In consideration of the foregoing and based on the complete record, we are persuaded by Petitioner's arguments and evidence, notwithstanding Patent Owner's arguments, addressed above. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 5 is unpatentable under 35 U.S.C. § 103(a) over the combination of Herz, Zetts, and Finkelstein." *Id.* at \*26.

For the '505 patent's claim 5, the Board held that the combination of Herz and Zetts renders obvious the clause "second input type indicative of a motion made across the touch-sensitive surface" and the clause "second data representative of the motion made across the touch-sensitive surface." Board '505 Op. at \*17, \*20–22, \*24. For claims 6, 7, 9, 12, and 51 of the '505 patent, the Board also held these claims obvious over the combination of Herz and Zetts. *Id.* at \*25.

For claim 10 of the '505 patent, the Board held this claim obvious over the combination of Herz, Zetts, and Finkelstein. *Id.* at \*28. The Board also held claim 49 of



the '505 patent obvious over the combination of Herz, Zetts, and a reference to Kushiro, but claim 49 is not presented for review. *Id.* at \*29.

UEI disputes the Board's findings and conclusions. UEI argues that the Board erred in finding that Herz teaches the "second data" limitation as used in the '504 and '505 patents, and argues that if "second data" were correctly construed, the '504 and '505 claims are not invalid for obviousness. UEI also argues that the Board erred in finding that Finkelstein is analogous art, and in finding that a person of ordinary skill would have been motivated to combine Herz with Finkelstein. Roku responds that substantial evidence and correct applications of law support the Board's determinations of unpatentability on the ground of obviousness.

## DISCUSSION

### I

#### Obviousness

"Obviousness 'is a question of law based on underlying findings of fact.'" *SIPCO, LLC v. Emerson Elec. Co.*, 980 F.3d 865, 870 (Fed. Cir. 2020) (quoting *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000)). The Board's factual findings are reviewed for support by substantial evidence, and its legal conclusions are reviewed *de novo*. *In re Van Os*, 844 F.3d 1359, 1360 (Fed. Cir. 2017). Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

Claim construction is a question of law and receives *de novo* review. *Trs. Of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1362 (Fed. Cir. 2016) ("The construction of claim terms based on the claim language, the specification, and the prosecution history are legal determinations."). The Board's factual findings relevant to claim construction are reviewed for support by substantial evidence. *Id.*

### ***Claim construction***

UEI states that the “second data” limitations distinguish the ’504 and ’505 patent claims from the prior art. The Board construed this term as it is used in both patents.

Claim 5 of the ’505 patent recites “second data representative of the motion made across the touch-sensitive surface.” The Board construed this to mean: “second data representative of the continuous contact from the first location to the second location on the touch-sensitive surface.” Board ’505 Op. at \*6. UEI agrees with this claim construction, but states that the Board “implicitly adopted a different construction” in its analysis. UEI Br. 26. UEI states that “in the Board’s analysis of the alleged obviousness of the Challenged Claims over Herz, the Board implicitly adopted a different construction of the Second Data Limitations where the ‘second data’ need only be data that is *‘transmitted in response to the continuous contact from the first location to the second location on the touch sensitive surface.’*” *Id.* (emphasis original).

UEI argues that “[t]he Board’s new construction of the Second Data Limitations is erroneous because it is inconsistent with the plain language of the claims and the Board’s express and proper construction of the Second Data Limitations.” *Id.* at \*27. UEI states that “there is no evidence that Herz teaches the Second Data Limitations under the proper construction of those terms (*i.e.*, that the claimed ‘second data’ must be ‘representative of the continuous contact from the first location to the second location on the touch sensitive surface’).” *Id.* at \*29. UEI further states that the Board’s explicit construction of “second data” does not refer merely to the data “*transmitted in response to the continuous contact from the first location to the second location on the touch sensitive surface,*” *id.* at \*26 (emphasis original), and that, according to the experts, “second data” means the data representative of continuous contact, not a “single, static location where the user

terminates his or her dragging gesture on Herz's touch screen display." *Id.* at \*18, 30.

Roku responds that "the Board did not implicitly adopt a further construction of the Second Data Limitations, much less one suggesting that being 'representative of' is 'independent of what is in the data.'" Roku Br. 46. Roku cites its expert Dr. Polish, who disagreed with UEI's expert, stating:

Mr. Bear appears to contend that the only data transmitted by Herz' remote control is "the data indicating the new location and/or size of the PIP [picture-in-picture] window." [Appx6733], ¶ 92. I do not agree with Mr. Bear's conclusion, because it omits what a POSITA would have understood Herz to teach. While the "data indicating the new location and/or size of the PIP window" is **part of** what is transmitted, a POSITA would have understood that Herz also transmits to the appliance (e.g., a television) an indication of **what** is to be moved or resized. In other words, if the only thing the remote control transmitted to the television was the new location and/or size of the PIP window, Herz would not function as it describes. Rather, a POSITA would have understood that, to implement movement or resizing of the PIP window as Herz describes, the remote control also transmits an indication to the appliance that the PIP window is to be moved or resized. . . . Thus, in response to the user's stylus movement, a POSITA would have understood the remote control to transmit at least an indication to the appliance (e.g., the television) to move the PIP window, and the position to which the PIP window is to be moved (e.g., an x/y coordinate).

Polish Reply Decl. ¶ 26 (emphases original). Dr. Polish explained that Zetts teaches that the motion or gesture

inputs on a touch screen are “representative of ‘continuous contact from a first location to a second location on the touch sensitive surface’ because [Zetts’ system] recognizes a gesture when the user makes a ‘touchdown’ at a first touch input point on the touch screen and continues to move through other points on the screen in a certain time frame without lifting off the screen.” Polish Decl. ¶ 108.

Roku further responds to UEI’s argument by pointing to Herz’ teaching that “[i]n response to the command to reposition the PIP window screen, the remote control issues the corresponding repositioning control signals to the television set by transmitting the new location and/or size of the PIP window as entered by the user.” Herz, col. 11, l. 64–col. 12, l. 1. Herz explains that “the PIP window on the television screen is positioned by the user to a new location when the emulated PIP window on the remote control is dragged to a different location.” *Id.*, col. 11, ll. 61–63. Herz illustrates that when a user touches a window on the remote control and drags the picture to another point on the screen, data representing that contact is transmitted to the television set.

In view of this evidence, the Board found that Herz teaches transmitting “second data representative of the continuous contact from the first location to the second location on the touch sensitive surface” in the form of the “repositioning control signals” issued by the remote control. There is substantial evidence, in the text of the references and as explained by the expert witnesses, supporting the Board’s findings that Herz in combination with Zetts teaches the “second data” limitation of the claims of the ’504 patent and ’505 patent. On review of UEI’s arguments, we discern no reversible error in the Board’s determination of the meaning and role of the “second data” limitations in the ’504 and ’505 patents.

### *Analogous art*

“A reference qualifies as prior art for an obviousness determination only when it is analogous to the claimed invention.” *Airbus S.A.S. v. Firepass Corp.*, 941 F.3d 1374, 1379 (Fed. Cir. 2019). “Whether a reference qualifies as analogous prior art is a question of fact that we review for substantial evidence.” *Id.* “Prior art is analogous if it is from the same field of endeavor or if it is reasonably pertinent to the particular problem the inventor is trying to solve.” *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d 1331, 1335 (Fed. Cir. 2015). “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (quoting *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992)).

The Board first considered whether Finkelstein is in the same field of endeavor, and concluded that it is not. The Board found that “the field of endeavor of the ’505 patent is a ‘controlling device with a touch-sensitive display,’ notwithstanding the patent’s disclosure of narrower embodiments specific to universal remote control devices.” Board ’505 Op. at \*11. The Board concluded that “Finkelstein is not from the same field of endeavor because Finkelstein does not describe any device with a touch-sensitive display.” *Id.* at \*27. However, the Board found that “Finkelstein is reasonably pertinent to one or more of the problems of the ’505 patent” because it “describes using a cursor to perform various windows management functions[.]” *Id.* at \*28.

The Board reasoned that “one of the particular problems with which the ’505 patent’s inventor was involved is to provide remote, cursor control functionality because the ’505 patent describes a second operational mode of the controlling device, which is a pointer control mode.” Board ’505

Op. at \*28. The '505 patent states that all of the user interface functions typically associated with mousing are included through use of the pointer control mode of the universal controlling device, such as: double-tapping to stick the pointer to a window bar, dragging the window across the desktop, and single tapping to release; double-tapping to open a window or start an application; etc. '505 patent, col. 6, ll. 3–9.

The Board reasoned that “Finkelstein describes using a cursor to perform various windows management functions” such as clicking on objects, double clicking on objects to activate them, and clicking and dragging, “Finkelstein logically would have commended itself to the '505 patent’s inventor dealing with the particular problem of creating a controlling device with a pointer control mode that includes various windows management functions.” Board '505 Op. at \*12; Board '504 Op. at \*26. The Board concluded: “Thus, we agree with Petitioner that Finkelstein is analogous art.” *Id.*

UEI argues that the Board erroneously “asserted that the Challenged Patents acknowledged a need for a universal controlling device that is adapted to provide remote, cursor control functionality” and erroneously “concluded that Finkelstein is reasonably pertinent to this alleged problem because Finkelstein describes using a cursor to perform various windows management functions.” UEI Br. 41 (citations omitted). UEI states that “Finkelstein indisputably has nothing to do with universal controlling devices, remote controls, or software for remote controls” and that “even under the Board’s characterization of the problem the inventor of the Challenged Patents was trying to solve, there is no evidence that Finkelstein is reasonably pertinent to this problem.” UEI Br. 41–42. Thus UEI argues that the Board erred in finding a motivation to combine Finkelstein with Herz and Zetts because Finkelstein is not analogous art.

UEI argues that, because “Herz does not disclose a ‘displayed cursor,’” the Board erred in finding a motivation to combine Herz’ remote control with Finkelstein’s cursor. UEI Br. 43–44. UEI argues that the Board based its conclusion solely on the fact that both Herz and Finkelstein disclose the use of Microsoft windows, but Herz “says nothing about a cursor.” *Id.* at \*45. UEI argues that “[t]he Board failed to explain (and could not explain) how a POSITA would reasonably have expected to solve the alleged problem of creating ‘a *universal controlling device* that is adapted to provide *remote*, cursor control functionality’ by considering a reference that indisputably has nothing to do with universal controlling devices or remote controls.” UEI Br. 42 (emphases original).

We conclude that there was substantial evidence supporting the Board’s finding that Finkelstein is analogous art. Roku’s expert Dr. Polish opined that “[a] POSITA, in order to implement the system of Herz and Zetts, would have looked to documentation in the field of GUI display technology to supplement its teachings for how to implement this windows-based resizing and repositioning in Herz. Finkelstein describes the technology for doing so.” Polish Decl. ¶ 117 (Appx2696). Finkelstein uses a cursor, and the ’504 and ’505 patents sought to add cursor functionality to universal remote controls. Thus Finkelstein is reasonably pertinent to cursor functionality, and in combination with the analogous art of Herz and Zetts, provides substantial evidence in support of the Board’s conclusion of obviousness of the challenged claims.

## II

### **New argument in Roku’s Replies**

UEI argues that “the Board’s finding that Finkelstein is analogous art was improperly based on an argument that was raised for the first time in Roku’s Replies.” UEI Br. 39. Roku responds that its Replies “responded to UEI’s

counterarguments regarding analogous art that UEI presented in its Patent Owner Responses.” Roku Br. 60.

UEI also argues that “the Board’s finding that Herz teaches the Second Data Limitations is based on an argument that was belatedly raised for the first time in Roku’s Replies, and thus the Board’s finding is legally erroneous.” UEI Br. 25. Roku responds:

The Board properly considered Roku’s arguments and evidence in reply because Roku had already raised those arguments in its Petitions, and Roku’s reply arguments were directly responsive to the claim-construction arguments raised in UEI’s Patent Owner Responses. In any event, UEI was allowed a Sur-reply in each case to substantively address the arguments and evidence in the replies, as well as supplemental briefing to raise its arguments that the arguments and evidence should not have been considered by the Board. Moreover, UEI declined the opportunity to take the deposition of Roku’s expert witness regarding those arguments and evidence in reply. UEI had every opportunity to respond to any allegedly “new” arguments.

Roku Br. 33.

A party to litigation is not precluded from responding with new arguments relevant to arguments made by the opponent, provided that there is opportunity for additional relevant response. *See Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1023 (Fed. Cir. 2017) (reply arguments not improper where patent owner had an opportunity to file a sur-reply and made no assertion that “it lacked notice and the ability to respond to any particular argument”). UEI does not contend that it had no opportunity to respond to Roku’s arguments presented in its replies. We discern no merit to UEI’s objections.



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### CONCLUSION

We affirm the Board's decisions that the challenged claims of the '504 and '505 patents are unpatentable for obviousness.

**AFFIRMED**