
APPLE INC.,
Petitioner

v.

THL HOLDING COMPANY, LLC,
Patent Owner

Case No. IPR2024-00398
Patent No. 11,265,680

Patent Owner's Demonstratives

Claim Summary

- **Petition**

- Challenged Claims
 - 1-9
 - 10-12, 15-20

- **Institution Decision**

- ***Independent Claim 1:*** “there is no explanation as to why the presentation of menu options on the display in Vauclair, with selection by user input, teaches that it is the *graphical user interface* that *generates the* [pairing] *signal.*” (DI, 47)
- ***Independent claim 10:*** “Petitioner has demonstrated a reasonable likelihood that it would prevail in its challenge to at least claim 10 as unpatentable[.]” (DI, 43)

- **Patent Owner’s Disclaimer**

- Disclaimed claims 10-12, 15-20 (Ex. 2001)

- **Remaining Claims**

- 1-9

Petitioner Alleges The Board Made “two errors”

I. INTRODUCTION

The Board made two errors in its Institution Decision (“ID”) (Paper 6). First, the Board failed to consider whether the **combination** of Kalliola-Vauclair taught “the pairing signal generated by the graphical user interface” requirement of limitation 1(d)(v) as mapped in the Petition. Paper 1 (*Petition*), 33-36; Ex. 1003 (*Buehrer Dec.*), ¶¶ 168-176. Instead, the Board considered whether Vauclair alone taught limitation 1(d)(v) without considering the entirety of Claim 1’s mapping. Second, the Board overlooked that Vauclair’s “user input 28” is an input element, not an action of a user. See Paper 6, 47 (“It is the *action* of user input that selects and sends a signal”) (emphasis added). THL’s Response simply repeats the Board’s analysis. Paper 12, 14-19.

(Petitioner’s Reply, 1.)

• Response to Petitioner's First Alleged Board Error:

- **The Board fully considered the Petitioner's combination of Kalliola & Vauclair**
 - DI, 45
- **The Petition (and Declaration) Misread Vauclair**
 - “Vauclair teaches . . . a signal is generated by the graphical user interface and sent to the control circuitry to perform the pairing process sequence”
 - Pet., 33-34, Ex. 1003, ¶¶168, 170
- **The Petitioner's Reply improperly presents a new Vauclair position and new combination**
 - Vauclair change: “user input 28 that is a keypad or scroll button that generates a pairing signal”
 - Reply, 1-2
 - Combination change: Combines Vauclair's “user input 28” with Kalliola's “touchscreen”
- **The Petitioner's new Vauclair position/combination fails on the merits**
 - Conclusory (no expert support)
 - Kalliola, like Vauclair, teaches “keypad” input
 - “user input 360” in the form of “keypads” (Ex. 1004, [0051])
 - The combination of Kalliola and Vauclair's keypad for pairing would not modify Kalliola's “touch screen.”
 - Sur Reply, 10

• Response to Petitioner's Second Alleged Board Error:

- **The Board expressly considered “user input 28” as an input element**
 - “Vauclair discloses that it is ‘user input 28’ that allows the user ‘to select from available menu options, to send a signal to the control circuitry 22.’”
 - DI, 46

Petition Erroneously Alleged Vauclair Taught “*pairing signal generated by the graphical user interface*”

Vauclair further teaches generat[ing] a pairing signal, where the pairing signal [is] generated by the graphical user interface (as recited in Claim 1(d)(v)).

First, Vauclair teaches the user's selection of the pairing option from the menu, thus teaching a first indication...to pair. Vauclair, [0036]; Dec., ¶168.

Second, Vauclair teaches that the selection of a menu option sends a signal to control circuitry: “user input 28...allow[s] the user **to select from available menu options, to send a signal to the control circuitry.**” Vauclair, [0030]. Vauclair thus teaches generate a...signal (i.e., the signal sent to the control circuitry responsive to the user selection of a menu option), where the signal [is] generated by the graphical user interface (i.e., the signal is generated at the GUI because the signal is responsive to user selection of the pairing option). Dec., ¶168.

Third, Vauclair teaches the control circuitry is “in the form of a suitably programmed **processor**” and has features “required for the primary function of the device 20,” including “the establishment of device pairing.” Vauclair, [0028]. Therefore, the signal sent to the control circuitry is a “processor signal,” applying PO's construction. Dec., ¶169.

Fourth, after receiving this signal, the control circuitry/processor initiates the wireless device pairing sequence depicted in Figs. 2-3. Vauclair, [0037]-[0057], pinpoint at [0049], [0051], [0028] (describing control circuitry 22 connected to transceiver circuitry 24), Figs. 2-3; Dec., ¶167 (opining a POSITA would understand

that the pairing process sequence is performed responsive to the user selecting a pairing option from the menu, per Vauclair, [0036]). Thus, Vauclair teaches “to initiate a wireless device pairing sequence,” applying PO's construction. Dec., ¶169.

Thus, reading Vauclair's teachings collectively, Vauclair teaches (1) a pairing option is presented on a menu [0036]; (2) user selects pairing option [0036]; and (3) in response to the user selection of a menu option (i.e., the pairing option), a signal is generated by the graphical user interface and sent to the control circuitry to perform the pairing process sequence [0030], [0037]-[0049]. Dec., ¶170. Because a signal is sent to control circuitry to initiate the pairing process, and further because the signal is sent in response to the user selection (a first indication from a user) of the menu option (where the menu option is to pair the mobile communication device to at least one remote device), the signal sent to the control circuitry is the pairing signal generated by the graphical user interface.

(c) Motivation to Combine

A POSITA would have found it obvious and been motivated to configure Kalliola to execute, via processor 300, a GUI presenting a pairing menu to enable a user to initiate a Bluetooth pairing process between the WCD and the signal emitter by selecting a pairing option via the WCD's touchscreen. Dec., ¶172. A POSITA would have understood that Bluetooth pairing allows two Bluetooth devices to recognize each other on subsequent connections. *Id.* Thus, a POSITA would have

Petition Cites the Declaration, Which Also Erroneously Describes Vauclair

168. Vauclair also teaches generat[ing] a pairing signal, where the pairing signal [is] generated by the graphical user interface (as recited in Claim 1(d)(v)). As discussed above, Vauclair teaches the user's selection of the pairing option from the menu via user input 28, thus teaching a first indication...to pair. Vauclair at [0036]. Vauclair further teaches that "user input 28...allow[s] the user to select from available menu options, to send a signal to the control circuitry." *Id.* at [0030] (emphasis added). Therefore, Vauclair teaches generat[ing] a...signal (i.e., the signal sent to the control circuitry responsive to the user selection of a menu option), where the signal [is] generated by the graphical user interface (i.e., the signal is generated at the GUI because the signal is responsive to user selection of the pairing option).

170. To summarize, Vauclair teaches (1) a pairing option is presented on a menu displayed on a graphical user interface [0036]; (2) user selects pairing option from the menu via user input 28 [0036]; and (3) in response to the user selection of a menu option, a signal is generated by the graphical user interface and sent to the control circuitry to perform the pairing process sequence [0030], [0037]-[0049]. Because a signal is sent to control circuitry to initiate the pairing process, and further because the signal is sent in response to the user selection (a first indication from a user) of the menu option (where the menu option is to pair the mobile communication device to at least one remote device), the signal sent to the control circuitry is the pairing signal generated by the graphical user interface.

(Ex. 1003)

Petition and Declaration Proposed Combining Vauclair's (Non-Existent) Graphical User Interface Generating Pairing Signals With Kalliola's Touchscreen

Additionally, it would have been obvious to a POSITA to configure Kalliola's WCD to generate a processor signal in response to the user selecting a pairing option from the menu, per Vauclair. *Id.*, ¶173. A POSITA would have found it obvious that the GUI presented on Kalliola WCD's touchscreen, like Vauclair's user interface, would have generated signals corresponding to the user's inputs at least to carry out designated functions of the WCD, such as the initiation of a pairing process. *Id.*

(Pet., 35)

But neither Vauclair nor Kalliola teach a GUI generating a pairing signal as claimed.

(POR, 18; Sur Reply, 6)

173. Additionally, it would have been obvious to a POSITA to configure Kalliola's WCD to generate a processor signal in response to the user selecting, via the touch screen, a pairing option from the menu displayed on the graphical user interface as taught by Vauclair. A POSITA would have understood that a user input

(Ex. 1003)

Petitioner's Reply Admits: Vauclair Does Not Disclose a “graphical user interface” that generates a “pairing signal”

Vauclair's input-element form is user input 28 that is a keypad or scroll button that generates a pairing signal upon selection of a pairing menu item. *Vauclair*, (Ex. 1005), [0030], [0036]. *See also* Paper 6, 47 (Board agreeing); Paper 12, 16 (THL agreeing); Ex. 2002, ¶ 52 (THL's expert, Dr. Feuerstein, agreeing).

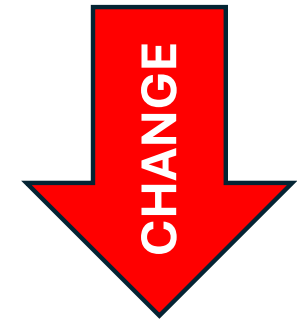
(Reply, 1-2)

Petitioner's Reply Interprets Vauclair Differently than the Petition

Petition, 33:

Second, Vauclair teaches that the selection of a menu option sends a signal to control circuitry: “user input 28...allow[s] the user to select from available menu options, to send a signal to the control circuitry.” *Vauclair*, [0030]. Vauclair thus teaches generate a...signal (i.e., the signal sent to the control circuitry responsive to the user selection of a menu option), where the signal [is] generated by the graphical user interface (i.e., the signal is generated at the GUI because the signal is responsive to user selection of the pairing option). *Dec.*, ¶168.

Asserts Vauclair’s
“**graphical user interface**”
generates the pairing signal.



Reply, 4:

Third, in Vauclair, the user interacts with the electronic device through “user input 28,” which may, for example, include a keypad and one or more scroll buttons. *Petition*, 31-34; *Vauclair*, [0030]. Through user input 28, the user can select a pairing option on a menu to generate a pairing signal. *Petition*, 31-34; *Vauclair*, [0030].

Asserts Vauclair’s “**user input 28**” generates the pairing signal.

Petitioner's Reply: Combine Kalliola's GUI with Vauclair's (non-GUI) "user input 28"

Fourth, in the combination, the user input is a GUI provided on a touchscreen and presenting a menu option, as otherwise taught by Kalliola. Per Vauclair, user input 28 generates a signal responsive to selection of the pairing menu option. Therefore, in the Kalliola-Vauclair combination, the Kalliola GUI—which is a form of a user input element—generates a pairing signal in response to user selection of a pairing menu option on the GUI. The combination applies Vauclair's teaching that a user input element, such as user input 28, generates a signal, to Kalliola's user input element that is a GUI. In the Kalliola-Vauclair combination, Kalliola's touchscreen displays a GUI including selectable menu options. *Petition*, 34-36; Ex. 1003, ¶¶ 171-176. The GUI's selectable menu options include (1) a pairing menu option as taught by Vauclair, where (2) upon selection of the pairing menu option, the GUI presenting the pairing menu option generates a pairing signal. *Id.* (Reply, 5)

Argument not presented in the petition. (Sur Reply, 9)

Conclusory, without declaration support. (Sur Reply, 5, 9-10)

Neither reference discloses a GUI generating a pairing signal as claimed. (POR, 18; Sur Reply, 6)

Petitioner's Reply: Combine Kalliola's GUI with Vauclair's (non-GUI) "user input 28" (cont'd)

C. A POSITA Would Have Found It Obvious to Modify Kalliola Based on Vauclair's Teachings

It would have been obvious to apply Vauclair's teaching that user input 28 generates a pairing signal in response to user selection of a pairing option to the user input of Kalliola's WCD. *Petition*, 23-25; Ex. 1003, ¶¶ 171-176. Kalliola's (Reply, 8)

Implementing Vauclair's teaching of pairing signal generation to Kalliola's touchscreen-based GUI would also have been obvious to a POSITA. *Petition*, 34-36; Ex. 1003, ¶¶ 171-176. A POSITA would have been motivated to retain the existing touchscreen-based GUI user input and would therefore have applied Vauclair's teachings to the existing touchscreen-based GUI of Kalliola's WCD. Ex. 1003, ¶ 68 (explaining prevalence of touch screens); ¶ 154 (identifying the advantages of using a touch screen).

(Reply, 9)

Argument not presented in the petition. (Sur Reply, 9)

Conclusory, without declaration support. (Sur Reply, 7, 9-10)

Neither reference discloses a GUI generating a pairing signal as claimed. (POR, 18; Sur Reply, 6)

Petitioner's Reply Cite Declaration ¶¶ 171-176: Vauclair's (Non-Existent) Graphical User Interface Generating Processor Signals

(c) Motivation to Combine

171. As discussed above, Kalliola teaches a WCD having a touch screen that receives user inputs and communicates with remote signal emitters via Bluetooth messages, while Vauclair teaches a graphical user interface that displays a pairing menu with selectable devices to pair the host device with. Thus, Kalliola modified by Vauclair teaches a mobile communication device (i.e., WCD) with a graphical user interface that displays a menu from which a user selects, via the touch screen, at least one remote device (i.e., signal emitter 500) to pair with.

*Same misread
of Vauclair*

175. For these reasons, a POSITA would have been motivated to combine the prior art elements of Kalliola's WCD communicating with a signal emitter via Bluetooth with Vauclair's pairing menu and processor signals to yield the predictable result of a pairing signal in response to a first indication from a user to pair the WCD to the signal emitter. Both Vauclair and Kalliola are directed to

*Relies on Vauclair's
"processor signals"
which are NOT
generated "a
graphical user
interface"*

Petitioner's New Reply Argument Is Improper

- 37 C.F.R. § 42.23(b) (“A reply may only respond to arguments raised in the corresponding opposition, ... [or] patent owner response[.]”)
- *Intelligent Bio-Systems Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016) (affirming Board’s refusal to address petitioner’s proposed modification of the prior art raised for the first time in its Reply).

Petitioner's New Reply Argument Is Unfounded

- Kalliola, like Vauclair, teaches a “keypad” input
- So the combination of Kalliola and Vauclair would not modify Kalliola’s “touch screen”

[0051] As further shown in FIG. 3, user interface 350 is also coupled to processor 300. User interface 350 facilitates the exchange of information with a user. FIG. 3 shows that user interface 350 includes a user input 360 and a user output 370. User input 360 may include one or more components that allow a user to input information. Examples of such components include keypads, touch screens, and microphones. User output 370 allows a user to receive information from the device. Thus, user output portion 370 may include various components, such as a display, light emitting diodes (LED), tactile emitters and one or more audio speakers. Exemplary displays include liquid crystal displays (LCDs), and other video displays.

(Ex. 1004, Kalliola)

+

[0030] Since the second electronic device is much more complex than the first, it is provided with a more complex user interface. In this illustrated example, it is provided with a display 26, which operates under the control of the control circuitry 22, and can for example display detailed messages, or menu options, to the user. The second electronic device is also provided with user input 28, which may for example include a keypad, and one or more scroll buttons, allowing the user to select from available menu options, to send a signal to the control circuitry 22.

[0036] When the user wishes to establish an ad hoc wireless network between the first and second electronic devices 10, 20, for example in order to be able to transfer data between the two devices, he operates the host device 20 as required in order to control this process. For example, to initiate the process, the user may select a pairing option from a menu, using the user input 28.

(Ex. 1005, Vauclair)

= keypad

No reason (other than hindsight) to instead use Kalliola’s touch screen for pairing.

Vauclair Teaches that User Input 28 Provides the Pairing Signal to the Control Circuitry

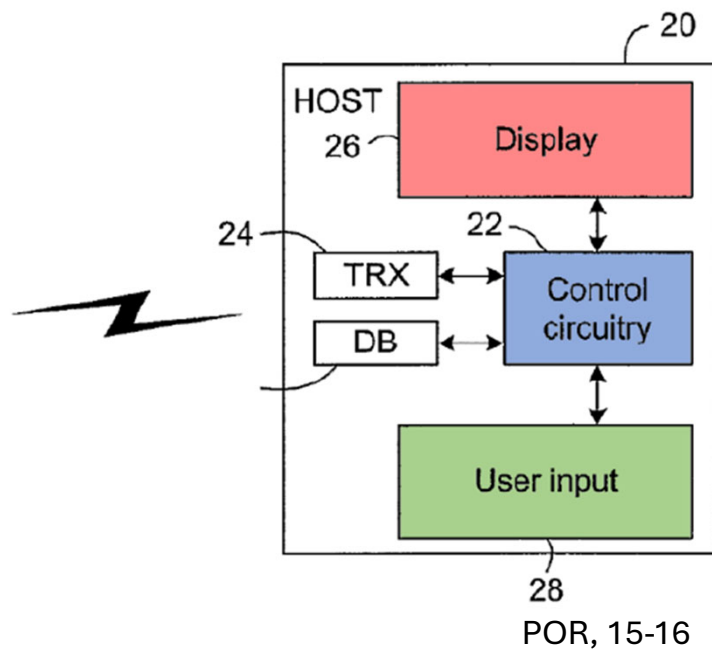


FIG. 1

Ex. 1005

[0030] Since the second electronic device is much more complex than the first, it is provided with a more complex user interface. In this illustrated example, it is provided with a *display 26*, which operates under the control of the *control circuitry 22*, and can for example display detailed messages, or menu options, to the user. The second electronic device is also provided with *user input 28, which may for example include a keypad, and one or more scroll buttons, allowing the user to select from available menu options, to send a signal to the control circuitry 22.*

[0036] When the user wishes to establish an ad hoc wireless network between the first and second electronic devices 10, 20, for example in order to be able to transfer data between the two devices, he operates the host device 20 as required in order to control this process. *For example, to initiate the process, the user may select a pairing option from a menu, using the user input 28.*

(Ex. 1005, Fig. 1, ¶¶ [0030], [0036].)

POR, 15-16

POR, 14-19

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Alleged Error #2

- “Second, ***the Board overlooked that Vauclair’s ‘user input 28’ is an input element***, not an action of a user. See Paper 6, 47 (‘It is the *action* of user input that selects and sends a signal’)” Reply, 1 (emphasis added).
- Incorrect:

Our emphasis above underscores that Vauclair discloses that it is “user input 28” that allows the user “to select from available menu options, to send a signal to the control circuitry 22.” Ex. 1005 ¶ 30 (emphasis added). It is thus the “user input 28” that “send[s] a signal to the control circuitry 22.” *Id.* While Vauclair discloses that display 26 can present menu options, *id.*, it does not disclose anything more than that it is the action of user input that selects and sends a signal. *See id.* While the Buehrer Declaration states that “the signal [is] generated by the graphical user interface (i.e., the signal is generated at the GUI *because the signal is responsive to user selection* of the pairing option),” Ex. 1003 ¶ 168 (emphasis added) (alteration in original), we preliminarily find that this testimony is conclusory because there is no explanation as to why the presentation of menu options on the display in Vauclair, with selection by user input, teaches that it is the *graphical user interface* that *generates the signal*. Instead, as discussed above, Vauclair teaches that it is user input 28 that “send[s] a signal to the control circuitry 22.” Ex. 1005 ¶ 30.

(DI, 46-47)

Challenged Claims

1. A mobile communication device comprising:
a plurality of wireless transceivers;
a memory that stores operational instructions;
a touch screen; and
a processor coupled to the memory and to the touch screen, wherein the processor executes the operational instructions that cause the processor to present a graphical user interface via the touch screen and wherein the processor operates in association with the graphical user interface to:
generate a pairing signal in response to a first indication from a user to pair the mobile communication device to at least one remote device, the at least one remote device, wherein the at least one of the plurality of wireless transceivers, responds to the pairing signal generated by the graphical user interface by communicating RF signals to pair the mobile communication device to the at least one remote device;
generate a first location request signal in response to a second indication from the user to locate the at least one remote device, wherein at least one of the plurality of wireless transceivers transmits a first RF signal to the at least one remote device in response to the first location request signal; and
present a display that visually assists the user to determine a location of the at least one remote device, wherein at least one of the plurality of wireless transceivers receives a second RF signal from the at least one remote device that facilitates determining the location of the at least one remote device, wherein the display visually assists the user to determine the location of the at least one remote device via an arrow pointing in a direction to the at least one remote device.

Ex. 1001, Claims 1-9

2. The mobile communication device of claim 1 wherein the display visually assists the user further based on a signal strength of the second RF signal from the at least one remote device.

3. The mobile communication device of claim 1 wherein the display visually assists the user further by displaying an indication a distance to the at least one remote device.

4. The mobile communication device of claim 1 wherein the mobile communication device is a handheld wireless communication device.

5. The mobile communication device of claim 4 wherein the plurality of wireless transceivers includes a long range transceiver for sending and receiving telephone calls via a telephony network and further for communicating Internet data.

6. The mobile communication device of claim 1, wherein the at least one remote device emits a detectable alert signal in response to the first RF signal to further assist the user in determining the location of the at least one remote device.

7. The mobile communication device of claim 1 wherein the at least one remote device includes a plurality of remote devices and wherein the graphical user interface allows selection of a particular one of the plurality of remote devices to be located.

8. The mobile communication device of claim 7 wherein the display visually indicates the selection of the particular one of the plurality of remote devices to be located.

9. The mobile communication device of claim 7 wherein the plurality of remote devices comprise a first paging network wherein each of the plurality of remote devices emits corresponding detectable alert signals in response to the first RF signal to assist the user in determining the location of the plurality of remote devices.