

EXHIBIT A-1
Lohbihler alone and in view of Katabami, Cao and/or King-Smith
U.S. Patent No. 9,280,220

Upon information and belief, U.S. Patent Publication No. 20040056849 to Lohbihler et al. (“Lohbihler”) (published March 25, 2004) either expressly, implicitly, or inherently anticipates the asserted claims of U.S. Patent No. 9,280,220 (“’220 Patent”) under 35 U.S.C. § 102 and/or renders those claims obvious under 35 U.S.C. § 103 alternatively in view of U.S. Patent No. 5,528,002 to Katabami (“Katabami”) (issued June 18, 1996), U.S. Patent No. 8,988,398 to Cao et al. (“Cao”) (issued March 24, 2015), and/or U.S. Patent Publication No. 20100085325 to King-Smith et al. (“King-Smith”) (published April 8, 2010) as set forth in the chart below.

A person of ordinary skill in the art would have been motivated to modify the technology of Lohbihler based on Katabami for the obvious benefit of providing additional status information related to the stylus. Katabami, 16:34-42.

A person of ordinary skill in the art would have been motivated to modify the technology Lohbihler based on Cao for the obvious benefit of capturing richer sensor data, which can be used to determine orientation of the stylus to enable different functions of the stylus. *See, e.g.*, Cao, 1:20-51.

A person of ordinary skill in the art would have been motivated to modify the technology of Lohbihler based on King-Smith for the obvious benefit of improved communication of data using different kinds of modulation of the signal. King-Smith, ¶ [0010].

The following contentions are subject to revision and amendment pursuant to Federal Rule of Civil Procedure 26(e) and the Court Orders in this matter subject to further investigation and discovery regarding the references.

Claim 1 1[pre] A stylus comprising:	Example Disclosures in Prior Art To the extent the preamble is considered limiting, Lohbihler discloses touch screen input devices including “a pen/stylus 2.” Lohbihler, ¶ [0036]. FIG. 1 of Lohbihler
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1[a] one or more sensors;

Lohbihler discloses that an input device (e.g., the pen/stylus 2) includes a switch 31, which is used to convey “switch event data.” Lohbihler, ¶ [0054]. A person of ordinary skill would appreciate that a switch is a kind of a sensor, which can output a value such as a binary value. For example, Lohbihler describes that a binary switch event can be “like a right or left mouse click.” *Id.* In this example, the switch functions as a sensor to detect when a force or pressure applied to the switch exceeds a threshold amount, thereby registering a “click.” Indeed, interpreting a switch as a sensor is consistent with claim 4 of the ’220 Patent because claim 4 recites that the one or more sensors may comprise “a button.” A person of ordinary skill would understand, therefore, that a switch could be, for example, a button, which the ’220 Patent defines as a kind of sensor. Accordingly, Lohbihler discloses limitation 1[a].

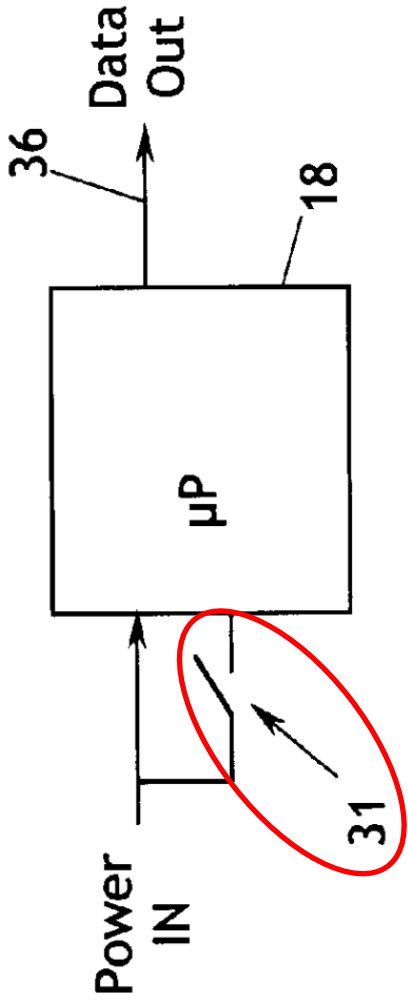


FIG. 8A of Lohbihler

To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation 1[a], a person of ordinary skill would understand how to modify Lohbihler to meet this limitation based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao to meet this limitation.

For example, Cao discloses an input device 102 (i.e., a stylus) that includes an inertial measurement unit 114, which may comprise a compass, a gyroscope, and one or more accelerometers, which are sensors. Cao, 3:59-4:35.

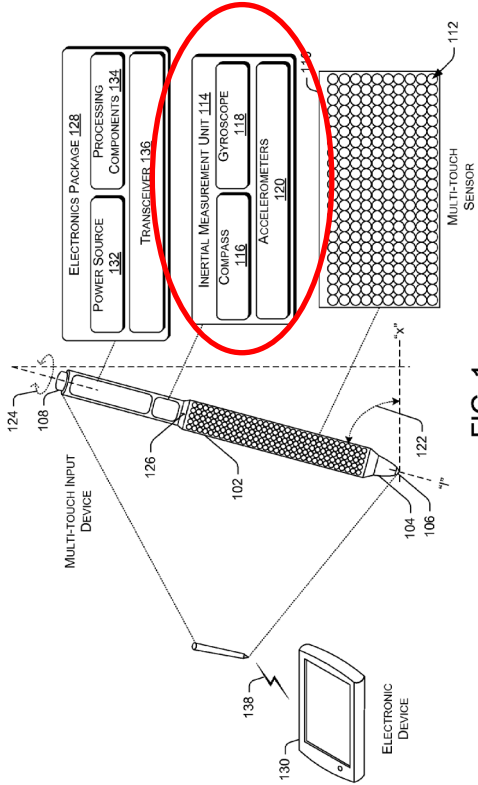
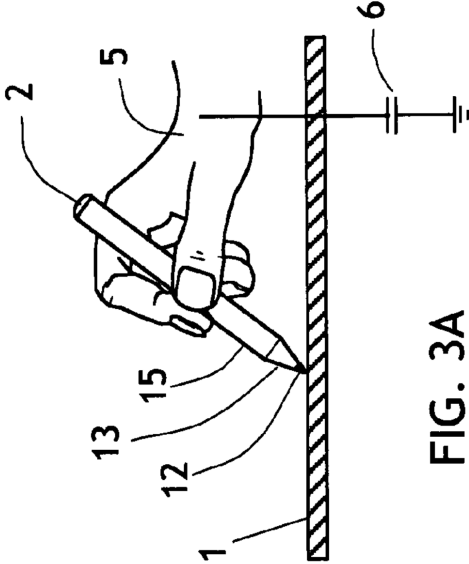


FIG. 1

FIG. 1 of Cao

It would have been obvious to modify the stylus of Lohbihler to include the sensors of Cao, and a person of ordinary skill would have been motivated to so modify the stylus of Lohbihler for the obvious benefit of capturing richer sensor data, which can be used to determine orientation of the stylus to enable different functions of the stylus. *See, e.g.,* Cao, 1:20-51.

Claim 1 1[b] one or more electrodes configured to communicate with a device by receiving signals from and transmitting signals to a touch sensor of the device; and	Example Disclosures in Prior Art The stylus 2 of Lohbihler includes a tip 12 that receives an electromagnetic (EM) powering signal via a conductive surface 1 of a touch screen assembly. Lohbihler, ¶ [0036]-[0037] & [0041]. A person of ordinary skill would appreciate that the tip 12 is or includes at least one electrode that receives signals from a touch sensor of a device.  FIG. 3A FIG. 3A of Lohbihler In addition to being used to power touch screen input devices (such as the stylus 2), an EM standing wave is used as a signaling medium to provide signals from the input devices to sensors of the device to detect and locate the input devices. Lohbihler, ¶ [0025]. For example, a return signal is sent from the input device through the conductive surface 1. Lohbihler, ¶ [0044]. Accordingly, a person of ordinary skill would appreciate that the stylus 2 of Lohbihler includes limitation 1[b].
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Example Disclosures in Prior Art

Claim 1
1[c] one or more computer-readable non-transitory storage media embodying logic that is operable when executed to:

The stylus 2 of Lohbihler includes a microprocessor (μP) 18 used to perform operations to send device signals from the stylus 2 to the conductive surface 1 of the device. Lohbihler, ¶ [0041]. A person of ordinary skill would appreciate that the stylus 2 includes at least one computer-readable non-transitory storage medium (e.g., a memory) containing logic to control operations of the microprocessor.

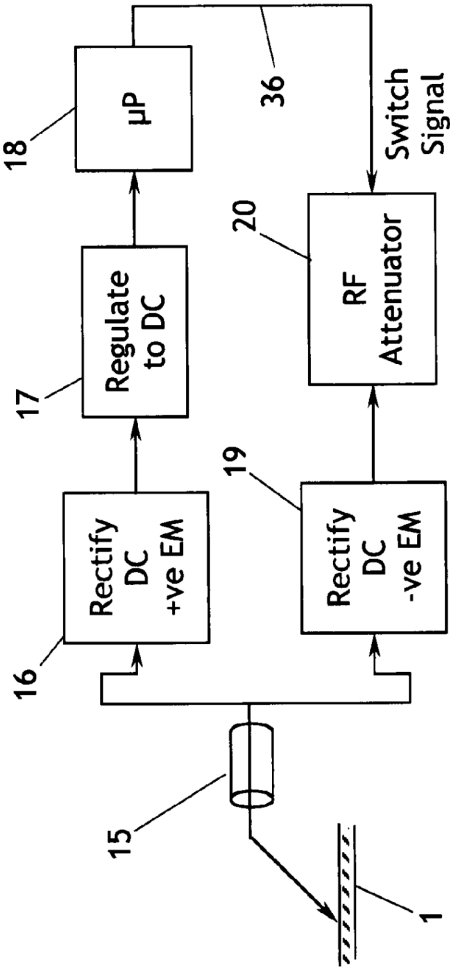


FIG. 4 of Lohbihler

To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation 1[c], a person of ordinary skill would understand how to modify Lohbihler to meet this limitation based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao to meet this limitation. For example, Cao discloses that software included in processing components 134 of an input device may be stored in a memory, which may comprise computer-readable media. Cao, 5:12-15.

Example Disclosures in Prior Art

Claim 1

1[c1] receive sensor data from the one or more sensors;

The switch 31 of Lohbihler is used to convey “switch event data” (i.e., sensor data), such as data related to binary switch events conveyed in a Code-Division Multiple-Access (CDMA) signal. Lohbihler, ¶ [0054]. Accordingly, Lohbihler discloses limitation 1[c1].

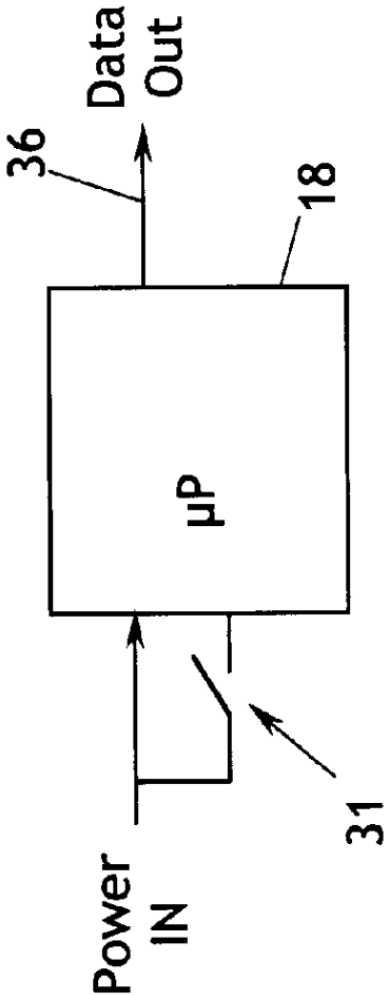


FIG. 8A of Lohbihler

Claim 1

1[c2] receive a first signal generated by the device;

Example Disclosures in Prior Art

Lohbihler discloses that the EM powering signal 11 (also described as an EM standing wave 11) is received by the stylus 2 via the tip 12. Lohbihler, ¶ [0041]. The EM powering signal/standing wave is provided via the conductive surface 1 of the device. Lohbihler, ¶ [0038]. Therefore, Lohbihler discloses limitation 1[c2].

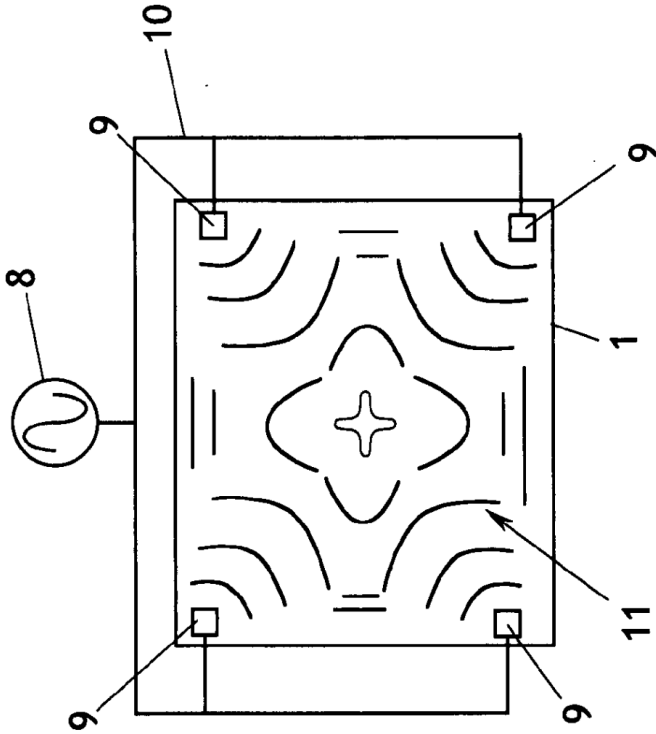


FIG. 2 of Lohbihler

Example Disclosures in Prior Art

Claim 1

1[c3] generate a second signal by modulating a carrier signal based on the sensor data; and

Lohbihler discloses a return signal provided by an input device. Lohbihler, ¶ [0042]. For example, the input device may alter the negative amplitude of the EM standing wave to provide a code segment/code return signal 50. Lohbihler, ¶ [0044]. Additionally, Lohbihler describes using a CDMA signal to convey switch event data, such as binary switch events (e.g., like a right or left mouse click) using a switch, which is a sensor. Lohbihler, ¶ [0054]. Accordingly, the stylus of Lohbihler generates a second signal by modulating a carrier signal (i.e., the EM standing wave provided by the device) based on sensor data.

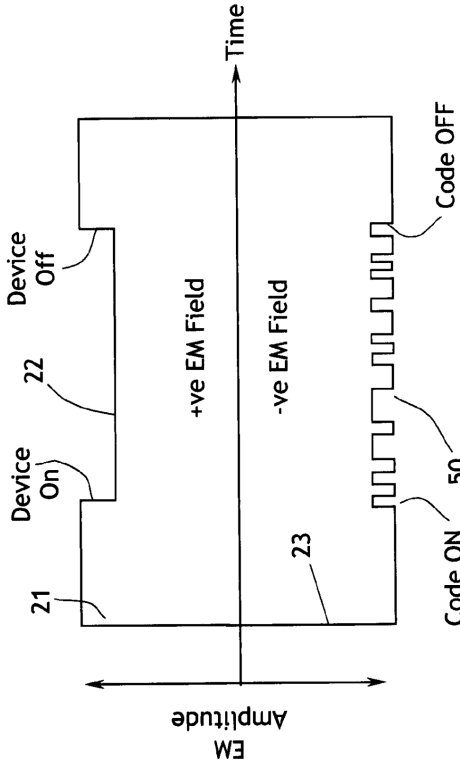


FIG. 5 of Lohbihler

Example Disclosures in Prior Art

Claim 1

1[c4] transmit to the device, in response to the first signal, the second signal, the sensor data being obtainable by demodulating the second signal.

Lohbihler describes that the signal from the input device (i.e., the modified EM standing wave) is provided to the device to perform various operations, such as device detection, identification, and calculation of positioning coordinates. Lohbihler, ¶¶ [0045] & [0054]. The switch event data (i.e., sensor data) is received at a CDMA detector 28, which recognizes modulation of the signal as an inversion of a correlation peak, allowing the CDMA detector to convey the event data as a sign change in the value of a pulse. Lohbihler, ¶ [0054]. Accordingly, Lohbihler discloses that the second signal is transmitted to the device responsive to the first signal, and that the sensor data (i.e., the switch event data) is obtainable by demodulating the second signal (i.e., using the CDMA detector 28).

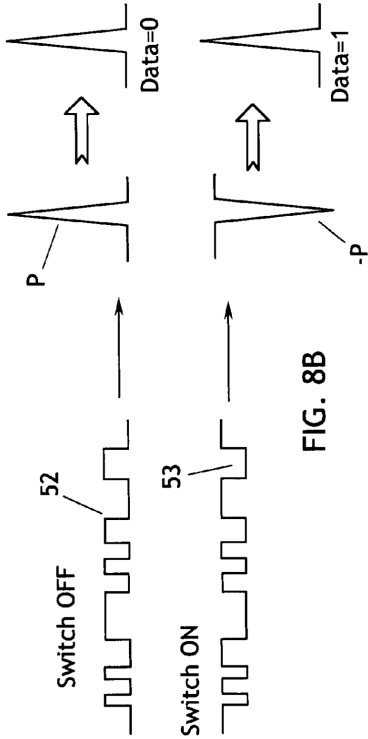


FIG. 8B

FIG. 8B of Lohbihler

Claim 3	Example Disclosures in Prior Art
3. The stylus of claim 1, wherein the second signal is generated using one of: amplitude modulation; frequency modulation; and phase modulation.	Lohbihler discloses that the stylus alters the negative amplitude of the EM standing wave to provide a return signal. Lohbihler, ¶ [0044]. Accordingly, Lohbihler discloses that the second signal is generated using amplitude modulation. To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation the limitations of claim 3, a person of ordinary skill would understand how to modify Lohbihler to meet these limitations based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Katabami and/or King-Smith to meet these limitations. Katabami discloses a cordless pen that includes switches, such as a side switch 72 that can be pressed by a finger of a user and a pressure sensitive switch 73 that can be turned on when a user presses the tip of the pen against the plate surface of a tablet. Katabami, 16:34-42. These switches are used to provide a pen status. <i>Id.</i> Each switch is coupled to a respective capacitor, which cause an oscillation frequency to be lowered when the respective switch is turned on. Katabami, 16:36-48. A frequency shift can be decoded to determine status information of the switches. Katabami, 15:51-57 & 16:48-50. Accordingly, Katabami discloses frequency modulation. It would have been obvious to modify the stylus of Lohbihler to use the switches of Katabami using frequency modulation, and a person of ordinary skill would have been motivated to so modify the stylus of Lohbihler for the obvious benefit of providing additional status information related to the stylus. Moreover, King-Smith discloses a transducer, which may be a stylus, configured to selectively generate an electric field at multiple frequencies and to encode digital data in frequency shifts of the electric field. King-Smith, ¶ [0010]. King-Smith further describes that “any other digital modulation technique may be used to encode digital data, including Amplitude-Shift Keying (ASK) technique, Phase-Shift Keying (PSK) technique, and Quadrature Amplitude Modulation (QAM) technique.” <i>Id.</i> Therefore, King-Smith discloses generating a signal using amplitude modulation, frequency modulation, and phase modulation. It would have been obvious to modify the technology of Lohbihler to implement one or more other kinds of modulation, as in King-Smith, and a person of ordinary skill would have been motivated to so modify the technology of King-Smith for the obvious benefit of improved communication of data using different kinds of modulation of the signal. <i>See id.</i>

Claim 4	Example Disclosures in Prior Art
4. The stylus of claim 1, wherein: the one or more sensors comprise a pressure sensor and a button; and the sensor data comprises pressure data and button state data.	As discussed above, the switch 31 of Lohbihler is a sensor, which is used to convey “switch event data.” Lohbihler, ¶ [0054]. Lohbihler describes that a binary switch event can be “like a right or left mouse click.” <i>Id.</i> The switch, therefore, functions as a sensor to detect when a force or pressure applied to the switch exceeds a threshold amount, thereby registering a “click.” Accordingly, the switch 31 of Lohbihler can be a button used to sense a pressure, and the sensor data received from the switch can comprise pressure data (i.e., whether pressure applied to the switch is sufficient to register a click) and button state data (i.e., whether the switch is on or off). <pre> graph LR PowerIN[Power IN] --> Switch31[31] Switch31 --> DataOut[Data Out 36] Switch31 --> MicroP[μP 18] </pre> FIG. 8A of Lohbihler To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation the limitations of claim 4, a person of ordinary skill would understand how to modify Lohbihler to meet these limitations based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao and/or Katabami to meet these limitations. For example, Cao discloses that the input device may include a retractable tip that activates a pressure switch housed in the input device. Cao, 3:64-66. The pressure switch outputs a signal when sufficient pressure actuates the switch. Cao, 3:66-67. Cao further discloses that the body of the input device can have at least one button, which may be a clickable button to activate a pressure switch. Cao, 4:1-4. Accordingly, Cao discloses a pressure sensor and a button, as well as sensor data comprising pressure data and button state data. Additionally, Katabami discloses a cordless pen that includes switches, such as a side switch 72 that can be pressed by a finger of a user and a pressure sensitive switch 73 that can be turned on when a user presses the tip of the pen against the plate surface of a tablet. Katabami, 16:34-42. These switches are used to provide a pen status. <i>Id.</i> Accordingly, Katabami also discloses a pressure sensor and a button, as well as sensor data comprising pressure data and button state data.

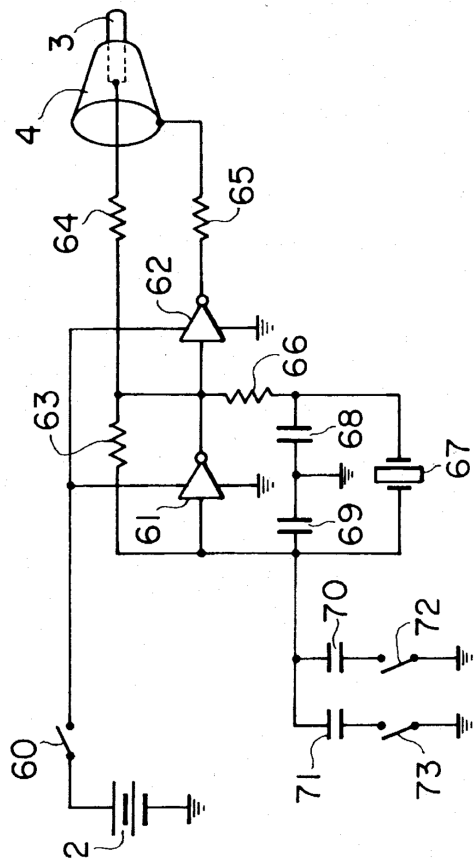
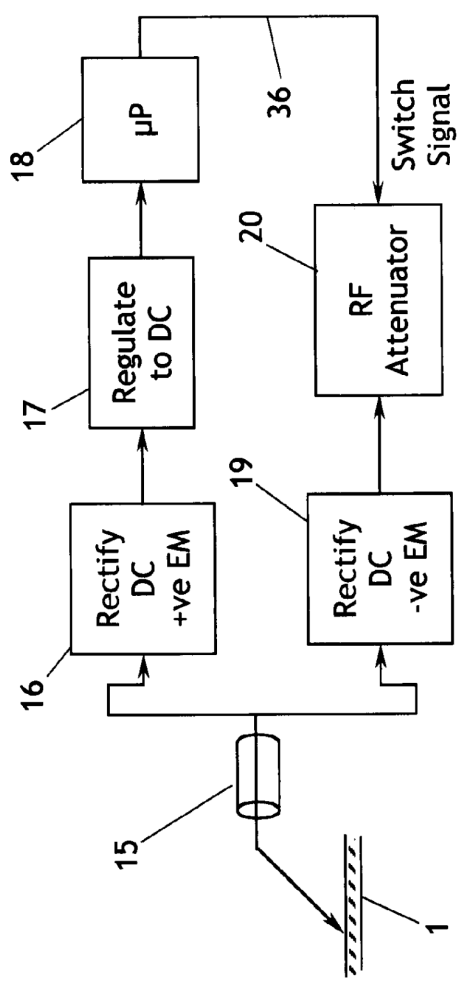


Fig. 2 of Katabami

Claim 5	Example Disclosures in Prior Art
5. The stylus of claim 1, wherein the sensor data is digital.	As discussed above, the sensor data of Lohbihler can include switch event data captured using the switch 31 included in the stylus. Lohbihler, ¶ [0054]. For example, binary switch events can be conveyed using pulses, such as P, corresponding to data=0 during a switch OFF condition and -P, corresponding to data=1 during a switch ON condition. <i>Id.</i> A person of ordinary skill would appreciate that the sensor data comprising either a “1” (switch ON condition) or a “0” (switch OFF condition) is digital data. FIG. 8B of Lohbihler To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation the limitations of claim 5, a person of ordinary skill would understand how to modify Lohbihler to meet these limitations based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao. For example, Cao discloses “digital data” in relation to data outputted by the inertial measurement unit. Cao, 5:1-9.

Claim 7 7[pre] One or more computer-readable non-transitory storage media embodying logic that is operable when executed to:	Example Disclosures in Prior Art To the extent the preamble is considered limiting, the stylus 2 of Lohbihler includes a microprocessor (μP) 18 used to perform operations to send device signals from the stylus 2 to the conductive surface 1 of the device. Lohbihler, ¶ [0041]. A person of ordinary skill would appreciate that the stylus 2 includes at least one computer-readable non-transitory storage medium (e.g., a memory) containing logic to control operations of the microprocessor.  FIG. 4 of Lohbihler To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation 7[pre], a person of ordinary skill would understand how to modify Lohbihler to meet this limitation based on such person's knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao to meet this limitation. For example, Cao discloses that software included in processing components 134 of an input device may be stored in a memory, which may comprise computer-readable media. Cao, 5:12-15.
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7[a] receive sensor data from one or more sensors in or on a stylus, the stylus comprising one or more electrodes configured to communicate with a device by receiving signal from and transmitting signals to a touch sensor of the device;

The stylus of Lohbihler includes a switch 31, which is used to convey “switch event data.” Lohbihler, ¶ [0054]. A person of ordinary skill would appreciate that a switch is a kind of a sensor, which can output a value such as a binary value. For example, Lohbihler describes that a binary switch event can be “like a right or left mouse click.” *Id.* In this example, the switch functions as a sensor to detect when a force or pressure applied to the switch exceeds a threshold amount, thereby registering a “click.” Indeed, interpreting a switch as a sensor is consistent with claim 4 of the ’220 Patent because claim 4 recites that the one or more sensors may comprise “a button.” A person of ordinary skill would understand, therefore, that a switch could be, for example, a button, which the ’220 Patent defines as a kind of sensor. Accordingly, Lohbihler discloses limitation 7[a].

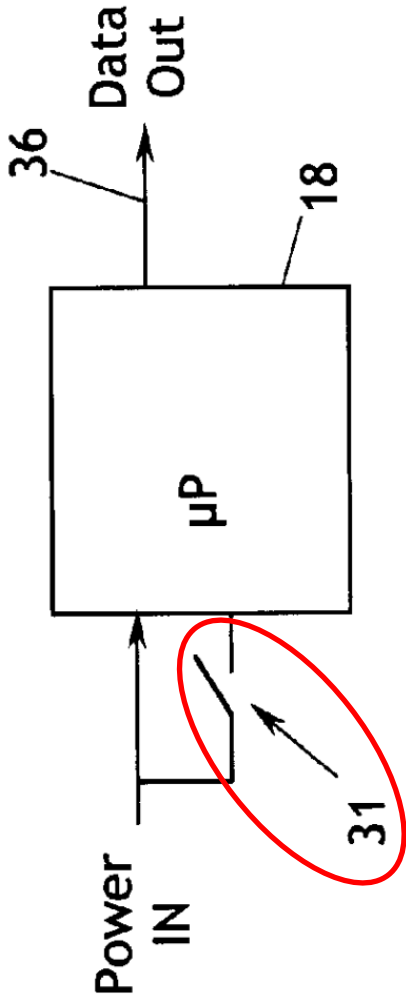


FIG. 8A of Lohbihler

The stylus of Lohbihler includes a tip 12 that receives an electromagnetic (EM) powering signal via a conductive surface 1 of a touch screen assembly. Lohbihler, ¶¶ [0036]-[0037] & [0041]. A person of ordinary skill would appreciate that the tip 12 is or includes at least one electrode that receives signals from a touch sensor of a device.

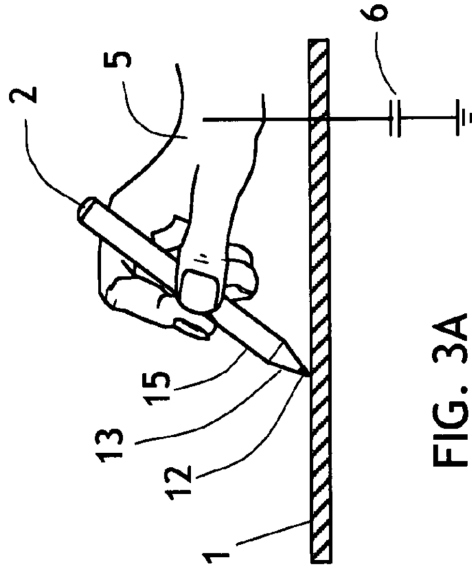


FIG. 3A

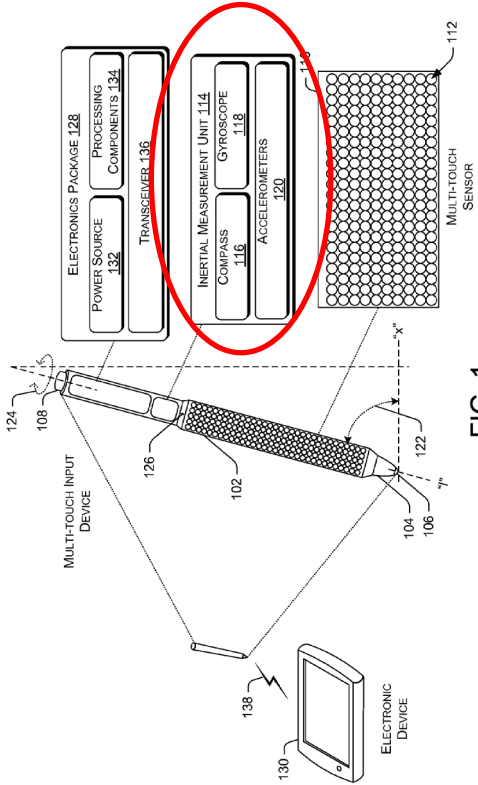
FIG. 3A of Lohbihler

In addition to being used to power touch screen input devices (such as the stylus 2), an EM standing wave is used as a signaling medium to provide signals from the input devices to sensors of the device to detect and locate the input devices. Lohbihler, ¶ [0025]. For example, a return signal is sent from the input device through the conductive surface 1. Lohbihler, ¶ [0044].

Accordingly, a person of ordinary skill would appreciate that the stylus 2 of Lohbihler includes one or more electrodes configured to receive signals from and transmit signals to a touch sensor of a device.

To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation 7[a], a person of ordinary skill would understand how to modify Lohbihler to meet this limitation based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao to meet this limitation.

For example, Cao discloses an input device 102 (i.e., a stylus) that includes an inertial measurement unit 114, which may comprise a compass, a gyroscope, and one or more accelerometers, which are sensors. Cao, 3:59-4:35. It would have been obvious to modify the stylus of Lohbihler to include the sensors of Cao, and a person of ordinary skill would have been motivated to so modify the stylus of Lohbihler for the obvious benefit of capturing richer sensor data, which can be used to determine orientation of the stylus to enable different functions of the stylus. *See, e.g.*, Cao, 1:20-51.



Claim 7

7[b] receive a first signal generated by the device;

Example Disclosures in Prior Art

Lohbihler discloses that the EM powering signal 11 (also described as an EM standing wave 11) is received by the stylus 2 via the tip 12. Lohbihler, ¶ [0041]. The EM powering signal/standing wave is provided via the conductive surface 1 of the device. Lohbihler, ¶ [0038]. Therefore, Lohbihler discloses limitation 7[b].

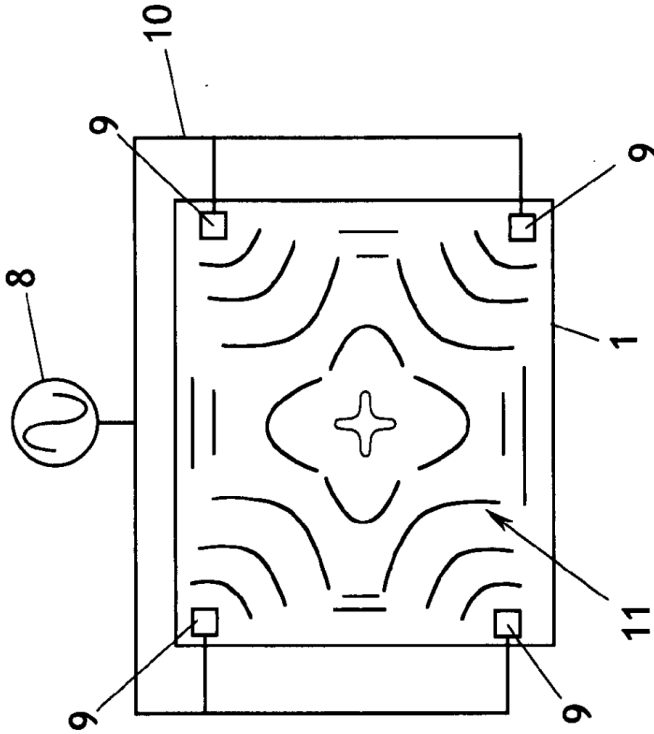


FIG. 2 of Lohbihler

Claim 7

7[c] generate a second signal by modulating a carrier signal based on the sensor data; and

Example Disclosures in Prior Art

Lohbihler discloses a return signal provided by an input device. Lohbihler, ¶ [0042]. For example, the input device may alter the negative amplitude of the EM standing wave to provide a code segment/code return signal 50. Lohbihler, ¶ [0044]. Additionally, Lohbihler describes using a CDMA signal to convey switch event data, such as binary switch events (e.g., like a right or left mouse click) using a switch, which is a sensor. Lohbihler, ¶ [0054]. Accordingly, the stylus of Lohbihler generates a second signal by modulating a carrier signal (i.e., the EM standing wave provided by the device) based on sensor data.

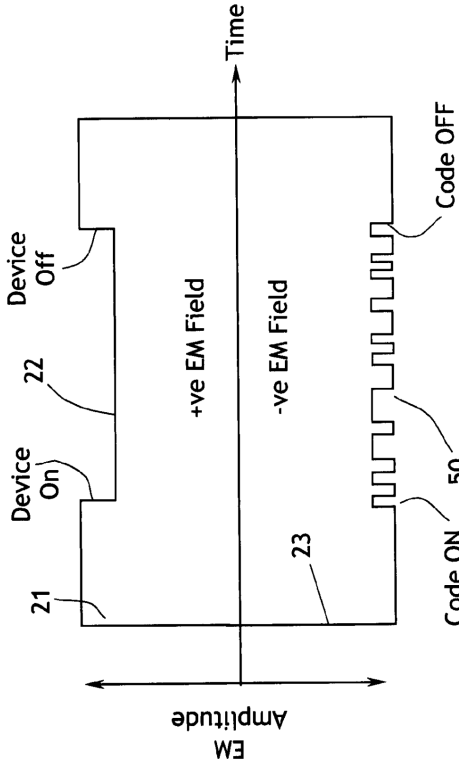
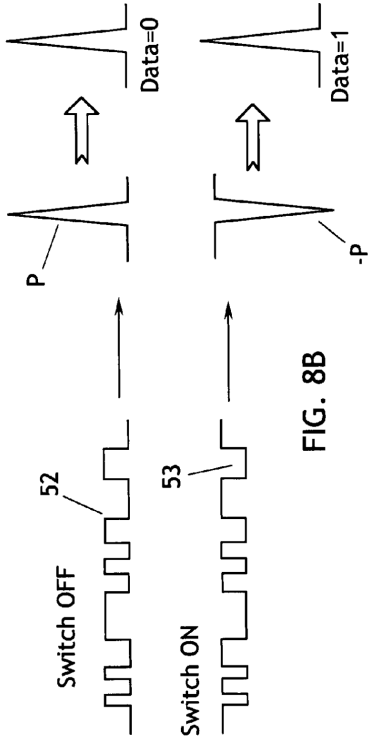


FIG. 5 of Lohbihler

Claim 7	Lohbihler describes that the signal from the input device (i.e., the modified EM standing wave) is provided to the device to perform various operations, such as device detection, identification, and calculation of positioning coordinates. Lohbihler, ¶¶ [0045] & [0054]. The switch event data (i.e., sensor data) is received at a CDMA detector 28, which recognizes modulation of the signal as an inversion of a correlation peak, allowing the CDMA detector to convey the event data as a sign change in the value of a pulse. Lohbihler, ¶ [0054]. Accordingly, Lohbihler discloses that the second signal is transmitted to the device responsive to the first signal, and that the sensor data (i.e., the switch event data) is obtainable by demodulating the second signal (i.e., using the CDMA detector 28).	Example Disclosures in Prior Art
Claim 9	9. The media of claim 7, wherein the second signal is generated using one of: amplitude modulation; frequency modulation; and phase modulation.	Example Disclosures in Prior Art
Claim 10	10. The media of claim 7, wherein: the one or more sensors comprise a pressure sensor and a button; and the sensor data comprises pressure data and button state data.	Example Disclosures in Prior Art
Claim 11	11. The media of claim 7, wherein the sensor data is digital.	Example Disclosures in Prior Art



Claim 13	Example Disclosures in Prior Art
13[pre] A system comprising:	To the extent the preamble is considered limiting, Lohbihler discloses multiple input devices, including a pen/stylus 2, coupled to a touch screen assembly 40 of a device. Lohbihler, ¶¶ [0007]-[0008] & [0036]. A person of ordinary skill would appreciate that these components function as a system.
13[a] a device comprising a touch sensor; and	As shown in FIG. 1 above, the device of the system of Lohbihler includes a touch screen assembly, which includes a touch sensor. Lohbihler, ¶ [0036].
13[b] a stylus comprising:	The system of Lohbihler includes a pen/stylus 2. Lohbihler, ¶ [0036].
13[b1] one or more sensors;	The stylus of Lohbihler includes a switch 31, which is used to convey “switch event data.” Lohbihler, ¶ [0054]. A person of ordinary skill would appreciate that a switch is a kind of a sensor, which can output a value such as a binary value. For example, Lohbihler describes that a binary switch event can be “like a right or left mouse click.” Id. In this example, the switch functions as a sensor to detect when a force or pressure applied to the switch exceeds a threshold amount, thereby registering a “click.” Indeed, interpreting a switch as a sensor is consistent with claim 4 of the ’220 Patent because claim 4 recites that the one or more sensors may comprise “a button.” A person of ordinary skill would understand, therefore, that a switch could be, for example, a button, which the ’220 Patent defines as a kind of sensor. Accordingly, Lohbihler discloses one or more sensors.

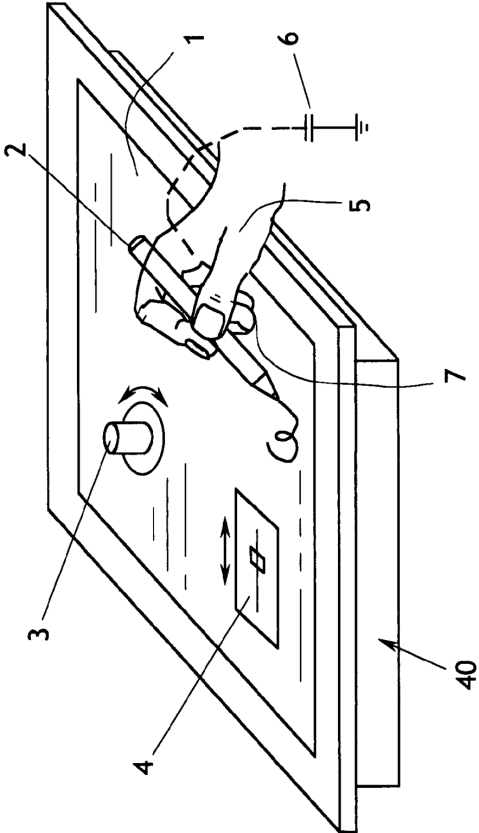


FIG. 1 of Lohbihler

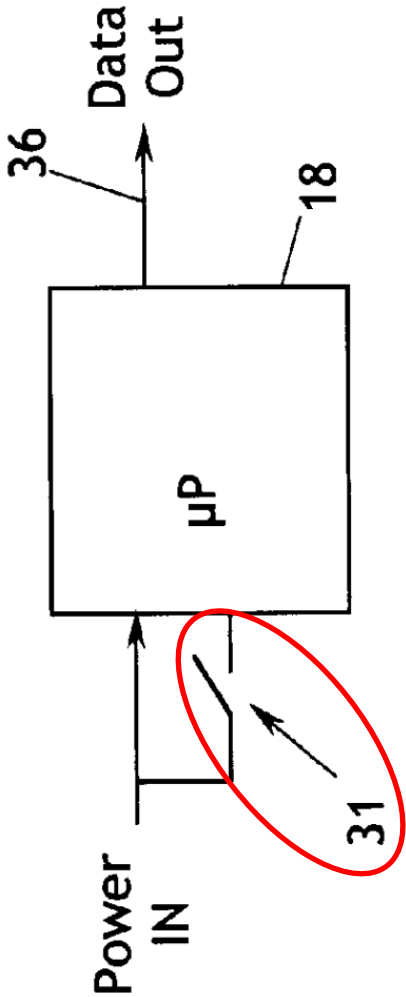


FIG. 8A of Lohbihler

To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation **13[b]1**, a person of ordinary skill would understand how to modify Lohbihler to meet this limitation based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao to meet this limitation.

For example, Cao discloses an input device 102 (i.e., a stylus) that includes an inertial measurement unit 114, which may comprise a compass, a gyroscope, and one or more accelerometers, which are sensors. Cao, 3:59-4:35.

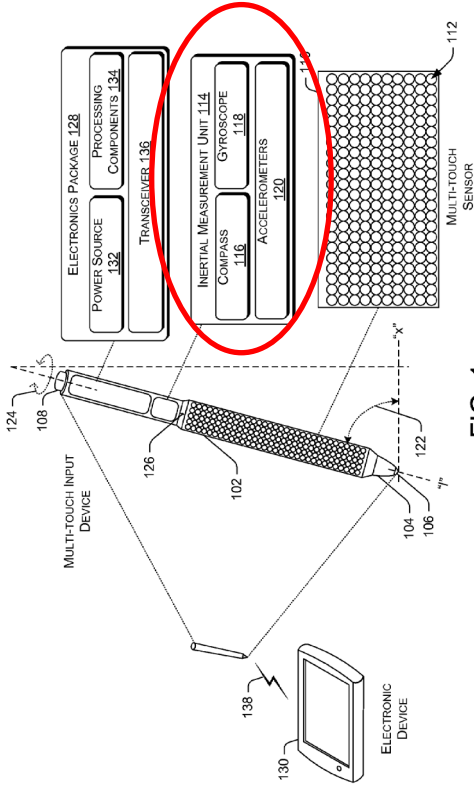
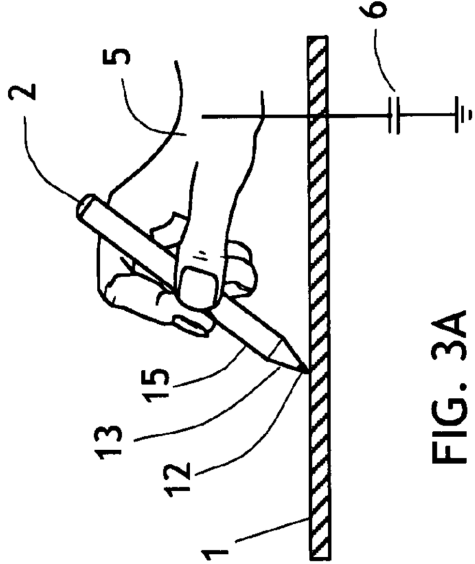


FIG. 1

FIG. 1 of Cao

Example Disclosures in Prior Art	
Claim 13	It would have been obvious to modify the stylus of Lohbihler to include the sensors of Cao, and a person of ordinary skill would have been motivated to so modify the stylus of Lohbihler for the obvious benefit of capturing richer sensor data, which can be used to determine orientation of the stylus to enable different functions of the stylus. See, e.g., Cao, 1:20-51. The stylus 2 of Lohbihler includes a tip 12 that receives an electromagnetic (EM) powering signal via a conductive surface 1 of a touch screen assembly. Lohbihler, ¶¶ [0036]-[0037] & [0041]. A person of ordinary skill would appreciate that the tip 12 is or includes at least one electrode that receives signals from a touch sensor of a device.  FIG. 3A FIG. 3A of Lohbihler In addition to being used to power touch screen input devices (such as the stylus 2), an EM standing wave is used as a signaling medium to provide signals from the input devices to sensors of the device to detect and locate the input devices. Lohbihler, ¶ [0025]. For example, a return signal is sent from the input device through the conductive surface 1. Lohbihler, ¶ [0044]. Accordingly, a person of ordinary skill would appreciate that the stylus 2 of Lohbihler includes one or more electrodes configured to receive signals from and transmit signals to a touch sensor of a device.

Claim 13

13[b3] one or more computer-readable non-transitory storage media embodying logic that is operable when executed to:

Example Disclosures in Prior Art

The stylus 2 of Lohbihler includes a microprocessor (μP) 18 used to perform operations to send device signals from the stylus 2 to the conductive surface 1 of the device. Lohbihler, ¶ [0041]. A person of ordinary skill would appreciate that the stylus 2 includes at least one computer-readable non-transitory storage medium (e.g., a memory) containing logic to control operations of the microprocessor.

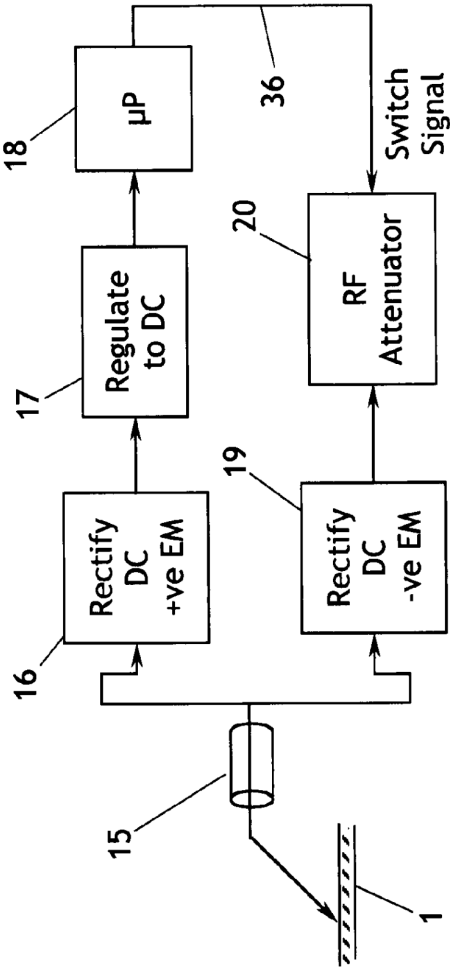


FIG. 4 of Lohbihler

To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation 13[b3], a person of ordinary skill would understand how to modify Lohbihler to meet this limitation based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao to meet this limitation. For example, Cao discloses that software included in processing components 134 of an input device may be stored in a memory, which may comprise computer-readable media. Cao, 5:12-15.

Example Disclosures in Prior Art

Claim 13

13[b3A] receive sensor data from the one or more sensors;

The switch 31 of Lohbihler is used to convey “switch event data” (i.e., sensor data), such as data related to binary switch events conveyed in a Code-Division Multiple-Access (CDMA) signal. Lohbihler, ¶ [0054]. Accordingly, Lohbihler discloses receiving sensor data from the one or more sensors.

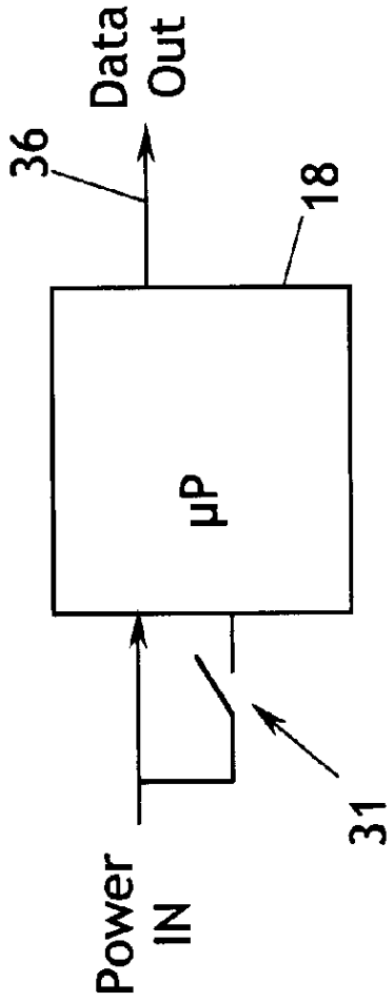


FIG. 8A of Lohbihler

To the extent Plaintiff contends that Lohbihler does not expressly, implicitly, or inherently disclose limitation 13[b3A], a person of ordinary skill would understand how to modify Lohbihler to meet this limitation based on such person’s knowledge and Lohbihler. Alternatively, a person of ordinary skill could modify Lohbihler in view of Cao to meet this limitation. For example, Cao discloses detecting orientation and movement of the input device using the inertial measurement unit 114 (e.g., containing a compass, gyroscope, and accelerometers). Cao, 4:30-35. Accordingly, Cao also discloses receiving sensor data from the one or more sensors.

Claim 13

13[b3B] receive a first signal generated by the device;

Example Disclosures in Prior Art

Lohbihler discloses that the EM powering signal 11 (also described as an EM standing wave 11) is received by the stylus 2 via the tip 12. Lohbihler, ¶ [0041]. The EM powering signal/standing wave is provided via the conductive surface 1 of the device. Lohbihler, ¶ [0038]. Therefore, Lohbihler discloses receiving a first signal generated by the device.

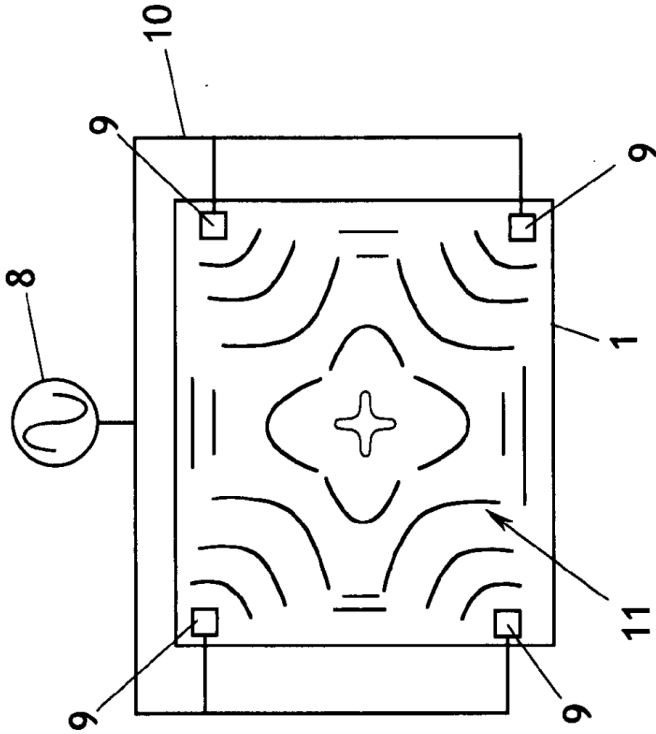


FIG. 2 of Lohbihler

Claim 13

Example Disclosures in Prior Art

13[b3C] generate a second signal by modulating a carrier signal based on the sensor data; and

Lohbihler discloses a return signal provided by an input device. Lohbihler, ¶ [0042]. For example, the input device may alter the negative amplitude of the EM standing wave to provide a code segment/code return signal 50. Lohbihler, ¶ [0044]. Additionally, Lohbihler describes using a CDMA signal to convey switch event data, such as binary switch events (e.g., like a right or left mouse click) using a switch, which is a sensor. Lohbihler, ¶ [0054]. Accordingly, the stylus of Lohbihler generates a second signal by modulating a carrier signal (i.e., the EM standing wave provided by the device) based on sensor data.

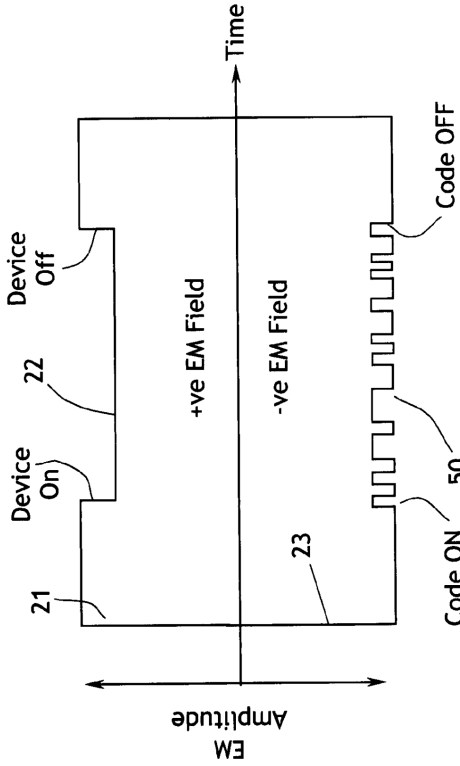


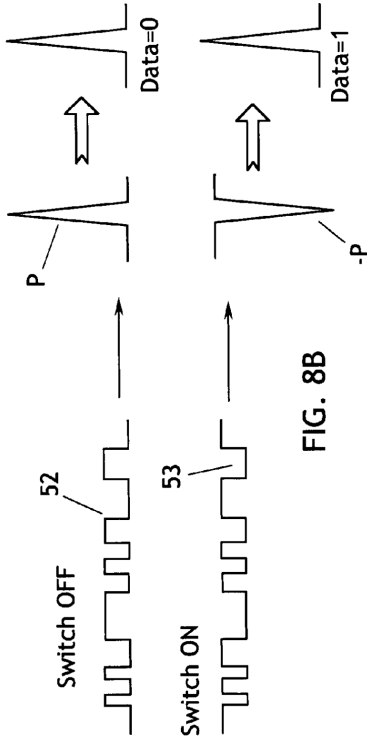
FIG. 5 of Lohbihler

Example Disclosures in Prior Art

Claim 13

13[b3D] transmit to the device, in response to the first signal, the second signal, the device being operable to obtain the sensor data by demodulating the second signal.

Lohbihler describes that the signal from the input device (i.e., the modified EM standing wave) is provided to the device to perform various operations, such as device detection, identification, and calculation of positioning coordinates. Lohbihler, ¶¶ [0045] & [0054]. The switch event data (i.e., sensor data) is received at a CDMA detector 28, which recognizes modulation of the signal as an inversion of a correlation peak, allowing the CDMA detector to convey the event data as a sign change in the value of a pulse. Lohbihler, ¶ [0054]. Accordingly, Lohbihler discloses that the second signal is transmitted to the device responsive to the first signal, and that the device is operable to obtain the sensor data (i.e., the switch event data) by demodulating the second signal (i.e., using the CDMA detector 28).



Example Disclosures in Prior Art

Claim 15

15. The system of claim 13, wherein the second signal is generated using one of: amplitude modulation; frequency modulation; and phase modulation.

See claim 3 above.

Example Disclosures in Prior Art

Claim 16

16. The system of claim 13, wherein: the one or more sensors comprise a pressure sensor and a button; and the sensor data comprises pressure data and button state data.

See claim 4 above.

Claim 17		Example Disclosures in Prior Art
17. The system of claim 13, wherein the sensor data is digital.		See claim 5 above.