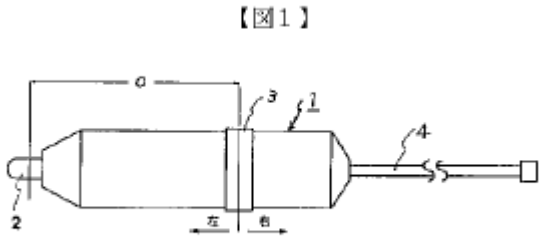
EXHIBIT E-4
IKEDA in view of IGUCHI and/or WARD
U.S. Patent No. 10,108,277

As demonstrated in the claim chart below, asserted claims 1, 2, 5, 8, 14, 15, 18, and 21 of U.S. Patent No. 7,277,277 ("'277 patent") are invalid under 35 U.S.C. § 103 as obvious in view of Japanese Patent No. JPH1011206A to IKEDA ("IKEDA") [MAXEYE_00000987 - MAXEYE_00001009] combined with the knowledge of a person of ordinary skill in the art ("POSITA") and the secondary references identified in the claim chart below, namely, U.S. Patent No. 5,736,980 to IGUCHI ("IGUCHI") [MAXEYE_00001908 - MAXEYE_00001967] and U.S. Patent No. 6,184,873 to WARD ("WARD") [MAXEYE_00002077 - MAXEYE_00002084].

One of ordinary skill in the art, as of the effective filing date of the '277 patent claims, would have known to combine the prior art elements disclosed by these references using known methods, and to use these elements according to their established functions in order to achieve a known and predictable result. Because these prior art references are within a common field of endeavor, and/or are directed to a related set of problems, it would have been obvious for one of ordinary skill in the art to look from one of the identified references to another in order to find any missing functionality.

As discussed below, a POSITA would have recognized that combining IKEDA (capacitive-based tilt detection), IGUCHI (time-differentiated signals and phase-based angular detection), and WARD (signal production details, multi-output differentiation, and phase-shifted signal detection) provides a well-known and predictable improvement in stylus-based input systems. Given the widespread use of capacitive styluses, a POSITA would have found it obvious to incorporate these elements to enhance detection accuracy, signal differentiation, and tilt compensation.

The chart below is based on Defendant's current understanding of Plaintiff's positions concerning the scope and construction of the claims of the asserted patents, and is not, and should in no way be seen as, adoption or admission of any particular claim scope or construction for any term or limitation. Defendant reserves the right to provide additional theories, disclosures, and analysis, particularly in light of the fact that discovery in this case has just begun, Plaintiff has not completed its document production regarding prior art, and portions of Plaintiff's infringement contentions are vague, imprecise, and otherwise deficient.

Claim 1	Disclosure
1[pre] A pen-shaped position indicator configured to capacitively couple with a sensor surface, the pen-shaped position indicator comprising:	IKEDA discloses a coordinate detection pen that capacitively couples with a sensor surface. IKEDA, [0005], Figs. 1, 5. Specifically, IKEDA discloses a coordinate input device comprising a coordinate detection pen by capacitance coupling, with a detection unit for detecting a coordinate in a coordinate indicating unit of the pen and a detection unit for detecting an angle in a pen body unit of the pen: "[A] coordinate input device comprising a tablet with multiple electrode lines in the X and Y axis directions and a coordinate detection pen utilizing capacitive coupling with the tablet's electrode lines. The device includes a detection unit for detecting coordinates at the coordinate indicating part of the coordinate detection pen and two detection electrode units: one for detecting coordinates and another for detecting angles at the pen body of the aforementioned coordinate detection pen, enabling the detection of the tilt angle of the aforementioned coordinate detection pen itself and the direction of the pen on the coordinate input device." IKEDA, [0005], Figs. 1, 5).  IKEDA Fig. 1

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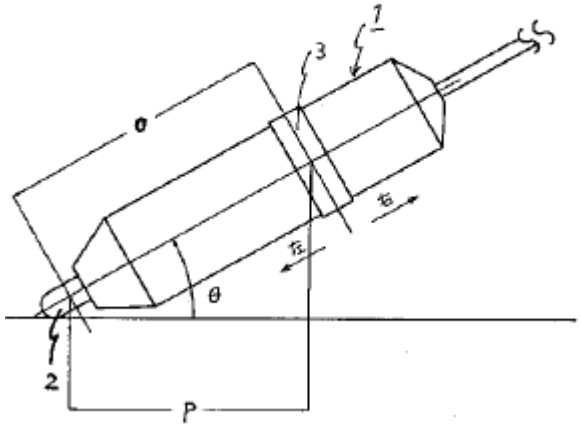
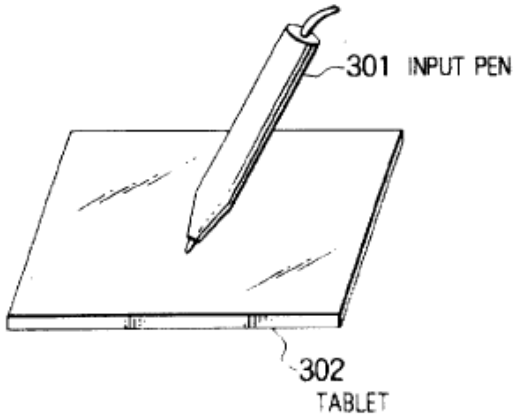
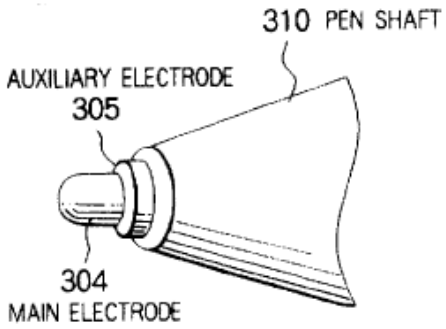


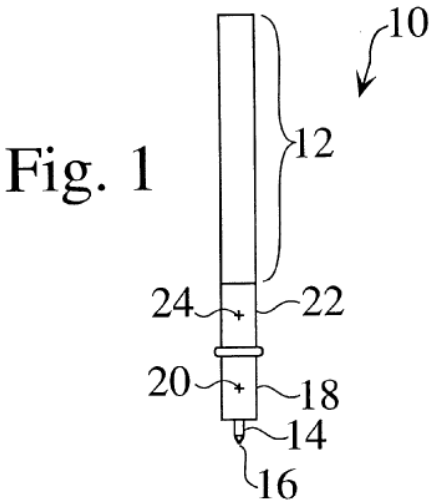
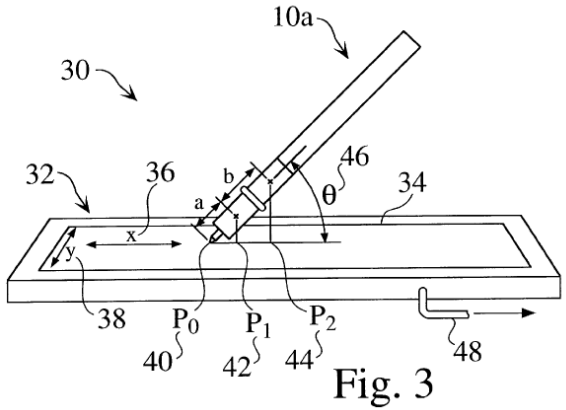
IKEDA Fig. 5 discloses capacitive coupling through multiple detection electrodes. IKDEA, Fig. 5.

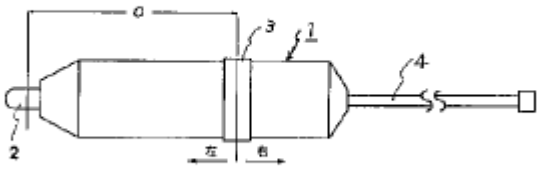
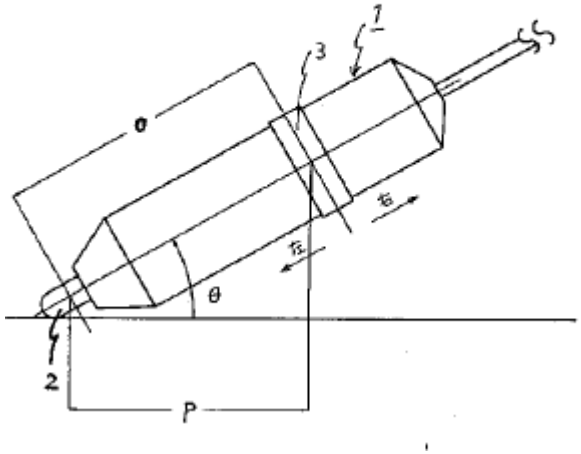
To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose capacitive coupling of a pen-shaped position indicator, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation.

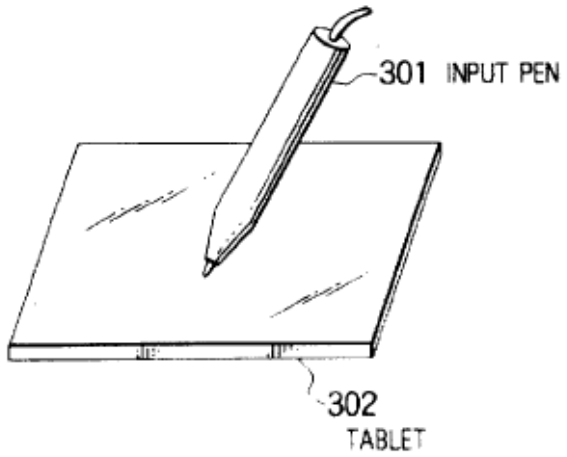
Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

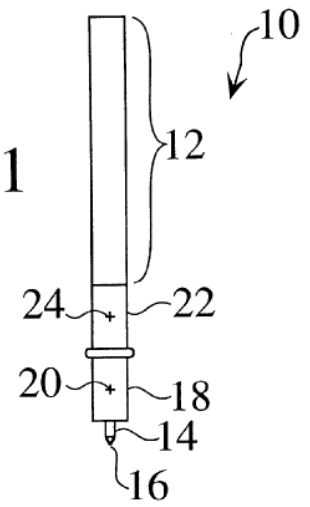
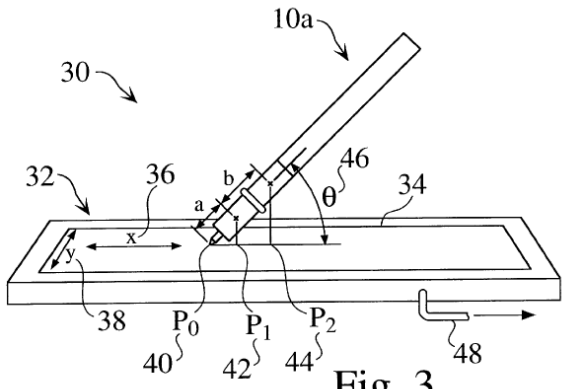
IGUCHI discloses a capacitive pen system in which multiple electrodes interact with a sensor surface, forming capacitive relationships. Specifically, IGUCHI discloses that an electric field is generated from the stylus electrodes and capacitively coupled with the sensor surface to provide positional data. IGUCHI, Fig. 26a, Fig. 26b, 30:25-29 ("[t]he main electrode 304 covered with resin is arranged at an end tip of

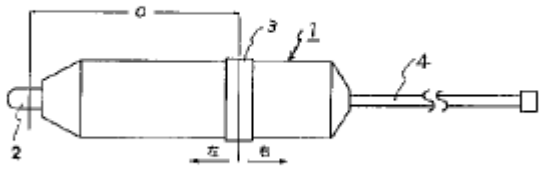
	the pen shaft 310" and "[t]he auxiliary electrode 305 is arranged around this main electrode 304"). FIG. 26a  FIG. 26b  A POSITA would have recognized that capacitive styluses commonly employ coordinate detection via capacitive coupling to a sensor surface. IGUCHI confirms that such systems were well known and predictable for stylus-based input devices. Given that IKEDA describes a coordinate detection pen by capacitance coupling, incorporating IGUCHI's explicit disclosure of capacitive detection techniques into IKEDA's system would have been an obvious and predictable enhancement to refine signal accuracy and improve coordinate tracking. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a pen positioning system with multiple output elements to determine the location of its pointing tip in relation to an electronic tablet: "An

	improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet." WARD, 1:65-2:1, Figs. 1, 3.  Fig. 1  Fig. 3 A POSITA would have recognized that capacitive stylus-based input devices commonly employ structured signal detection to track coordinate locations on a sensor surface. WARD explicitly discloses a multi-output element pen positioning system that determines the pen's pointing tip location relative to a surface, reinforcing that capacitive interaction between a stylus and a sensor surface was a well-known and predictable mechanism for input devices. Given that IKEDA discloses a coordinate detection pen by capacitance coupling, a POSITA would have found it obvious to incorporate WARD's structured multi-output pen positioning method into IKEDA's stylus framework to enhance signal accuracy and refine coordinate tracking.
1[a] a pen-shaped body having a pen-tip portion;	IKEDA discloses a coordinate detection pen with a pen tip portion ("detection unit 2"): "Fig. 1 is a configuration diagram of the coordinate detection pen of this invention, where an axis-shaped detection unit 2 is positioned at the tip of the coordinate detection pen 1 to read the coordinates of the indicated point, and a ring-

	shaped detection unit 3 for indicating the angle is positioned on the body of the coordinate detection pen." IKEDA, [0008], Figs. 1 (block diagram of the coordinate detection pen showing key components), 5 (shows coordinate detection pen with tilt detection). 【図1】  IKEDA Fig. 1 【図5】  IKEDA Fig. 5

	A POSITA would have recognized that electronic styluses commonly employ a pen-shaped body with a pen-tip portion to facilitate user interaction with a sensor surface. Given that IKEDA already discloses a pen-like coordinate detection device with a tip portion, a POSITA would have found it obvious to implement such a structure as it is a well-established and predictable design choice for capacitive input devices. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI discloses a capacitive pen system that includes a pen-shaped structure with a main electrode at the tip. IGUCHI, Fig. 26a, 30:25-29 ("The main electrode 304 covered with resin is arranged at an end tip of the pen shaft 310."). FIG. 26a  A POSITA would have recognized that capacitive input devices commonly use a pen-shaped structure with a distinct tip portion to improve precision in coordinate tracking. IKEDA discloses a capacitive detection pen, while IGUCHI explicitly reinforces the concept by describing a pen-like input device with a defined pen-tip

	portion for positional detection. A POSITA would have found it obvious to integrate IGUCHI's structured pen-tip electrode design into IKEDA's capacitive stylus system, ensuring enhanced signal accuracy and touch responsiveness. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a pen positioning system where the pen has a pointing tip portion for interacting with a surface: "The pointing end (14) of the pen (10) has a pointing tip (16), with which a user points to or draws upon the surface (34) of an electronic tablet (32)." WARD, 2:45-48, Figs. 1, 3. Fig. 1   Fig. 3 A POSITA would have recognized that electronic input devices commonly use a pen-shaped structure with a tip portion to facilitate precise interaction with a sensor surface. IKEDA already describes a capacitive detection pen, and WARD further confirms the well-established concept of a structured pen-tip portion designed for input accuracy. A POSITA would have found it obvious to integrate WARD's

	disclosure of a defined tip interaction point into IKEDA's stylus system as a predictable improvement to enhance detection accuracy.
1[b] a first electrode arranged at a first position of the pen-tip portion;	IKEDA discloses a first electrode on a coordinate detection pen tip: "[A] coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Figs. 1, 5. 【図1】  IKEDA Fig. 1

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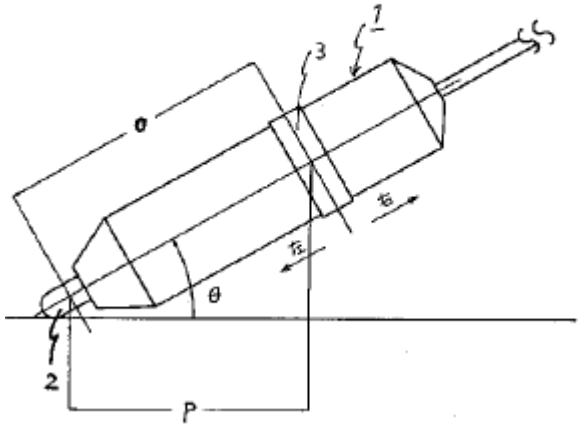


IKEDA Fig. 5

To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose a second electrode at a second position off-axis, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation.

Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses a main electrode 304 at the end tip of the pen shaft, which is positioned to interact capacitively with the sensor surface. IGUCHI, Fig. 26a, Fig. 26b, 30:25-29 ("[t]he main electrode 304 covered with resin is arranged at an end tip of the pen shaft 310" and "[t]he auxiliary electrode 305 is arranged around this main electrode 304.").

FIG. 26a

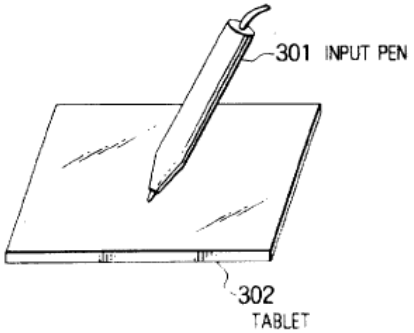
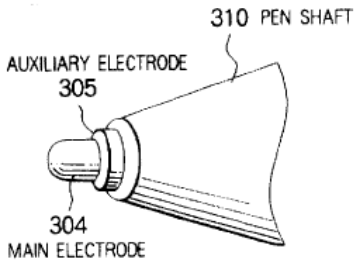


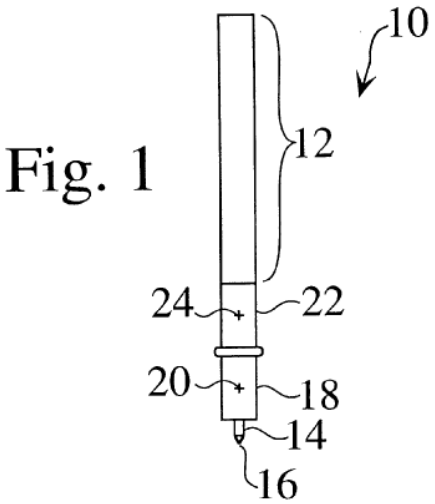
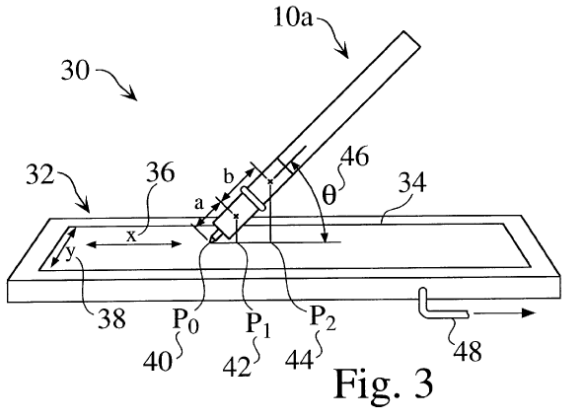
FIG. 26b

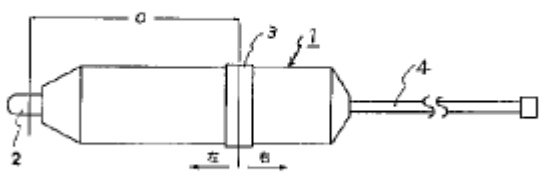
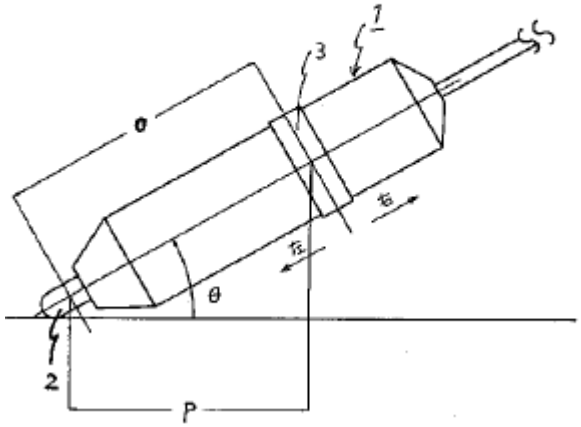


A POSITA would have recognized that placing a first electrode at the pen tip is a routine and well-known design choice in capacitive styluses. IKEDA already teaches a coordinate detection pen with a first electrode at the tip, and IGUCHI reinforces this by describing an electrode precisely positioned at the pen's end tip for interaction with a sensor surface. A POSITA would have found it obvious to integrate IGUCHI's explicit first electrode positioning into IKEDA's stylus system, ensuring optimized signal transmission and detection accuracy.

Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below.

WARD discloses a stylus with a first output element positioned at the pen-tip portion for detecting positional information: "A first output element (18) is located on the pen (10), and has a first point source (20) for a first output signal." WARD, 2:51-53. WARD further discloses: "The pointing end (14) of the pen (10) has a pointing tip (16), with which a user points to or draws upon the surface (34) of an electronic tablet (32)." WARD, 2:45-48.

	Figures 1 and 3 of WARD also illustrate the pen (10) with an output element positioned at the tip, confirming that the first electrode is arranged at the first position of the pen-tip portion.  Fig. 1  Fig. 3 A POSITA would have recognized that stylus-based input devices commonly include a first electrode at the tip to facilitate signal detection and coordinate tracking. WARD explicitly discloses a pen positioning system where a first output element (18) is positioned at the tip of the pen (10) to enable accurate interaction with an electronic tablet. Given that IKEDA already discloses a first electrode positioned at the tip, a POSITA would have found it obvious to incorporate WARD's explicit positioning of an output element at the pen tip into IKEDA's stylus system as a predictable design choice to enhance capacitive interaction and tracking precision.
1[c] a second electrode arranged at a second position of the pen-tip portion different from the first position, the second position being	IKEDA discloses a ring-shaped coordinate detection electrode for angle reading positioned differently from the first electrode: "[A] ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Figs. 1, 5.

off an axis of the pen-shaped position indicator;	【図１】  IKEDA Fig. 1 【図５】  IKEDA Fig. 5 IKEDA discloses a ring-shaped detection electrode positioned away from the tip electrode, which forms a capacitive relationship at a different position along the stylus body. IKEDA, Fig. 5, [0006]. This configuration inherently creates an off-axis capacitive field, which a POSITA would recognize as enabling tilt detection.

To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose a second electrode at a second position off-axis, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation.

Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses an auxiliary electrode 305 arranged around the main electrode 304, forming an off-axis capacitive interaction with the sensor surface. IGUCHI, Figs. 26a, 26b, 30:25-29.

FIG. 26a

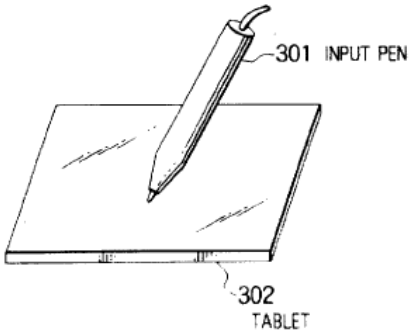
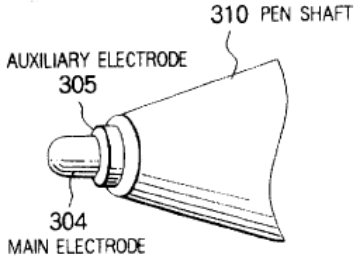
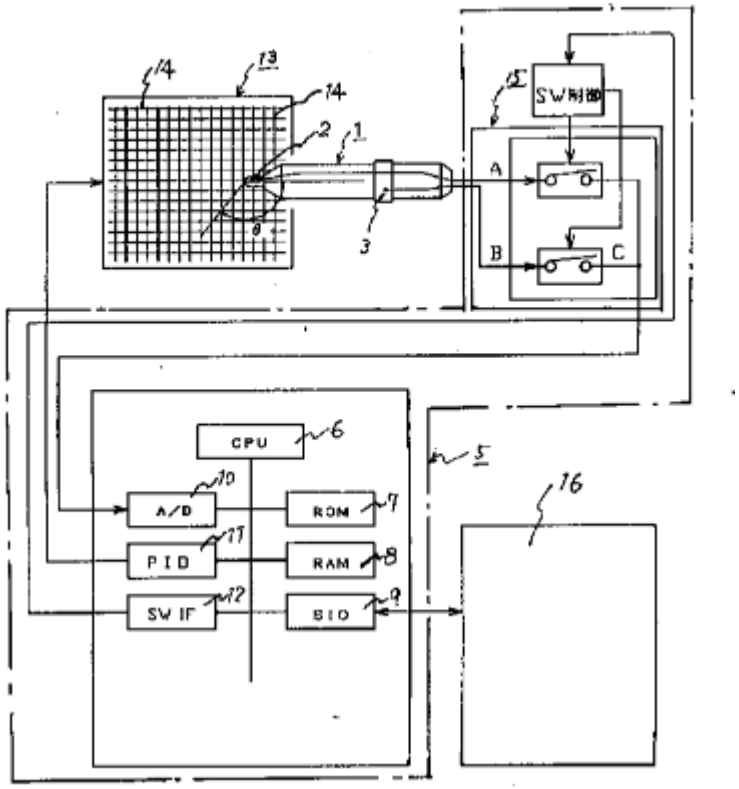


FIG. 26b

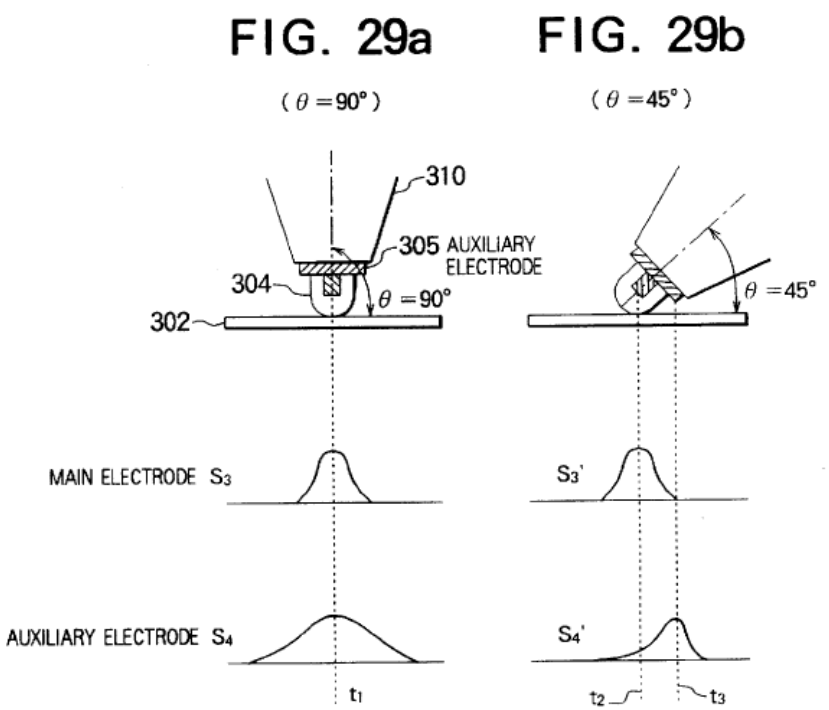


A POSITA would have recognized that multiple detection electrodes positioned at different locations inherently improve tilt measurement and capacitive signal differentiation. IKEDA discloses a ring-shaped second electrode arranged off-axis from the first electrode, while IGUCHI confirms that an auxiliary electrode can be positioned around the primary electrode to enhance detection capabilities. Given these well-established design principles, a POSITA would have found it obvious to

	integrate IGUCHI's structured auxiliary electrode placement into IKEDA's capacitive stylus system to enhance tilt tracking and capacitive signal differentiation in a predictable manner. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a pen positioning system where multiple output elements are spatially separated to enhance position and angle detection: "The geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 2:4-8. WARD further discloses: "A second output element (22) is located on the pen (10), and has a second point source (24) for a second output signal." WARD, 2:50-52. A POSITA would have recognized that stylus-based input devices commonly use multiple electrodes or output elements positioned at different locations to refine signal differentiation and enhance tilt detection. WARD explicitly discloses a second output element (22) located at a different position on the pen than the first output element, reinforcing the concept that multiple spatially separated detection points improve tracking accuracy. Given that IKEDA already discloses a ring-shaped second electrode positioned off-axis relative to the first electrode, a POSITA would have found it obvious to integrate WARD's explicit disclosure of spatially separated output elements into IKEDA's stylus system as a predictable design enhancement to optimize angular detection and capacitive interaction.
1[d] a signal production circuit configured to generate first and second signals that are distinguishable from each other; and	IKEDA describes two detection units for coordinate and angle determination, indicating that its system produces separate signals for positional tracking and angular displacement. IKDEA, Fig. 3, [0008] ("[C]oordinate detection is performed using the two detection units 2 and 3, and the coordinate data detected via electrostatic capacitance coupling with the tablet's electrodes . . . is applied to the main body 5 of the coordinate input device . . . ."). Additionally, the electrical block diagram (Fig. 3) illustrates how signals are processed: "The main body 5 of the coordinate input device includes a CPU 6 for performing coordinate control, a ROM

	7 storing the program for coordinate control, a RAM 8 for storing the detected coordinate data and the reference dimensions O corresponding to the two detection units 2 and 3 of the coordinate detection pen 1 . . . .” IKEDA, [0009], Fig. 3 (electrical block diagram). 【図３】  IKEDA Fig. 3 IKEDA further discloses multiple detection units that generate separate signals for coordinate and angle determination (*see* 1[g] *infra*). IKEDA discloses that signals from the detection units are used for angle determination: “Using the coordinate data

	from the two detection units 2 and 3 stored in the regions of RAM 8, the dimensional control program converts the dimensions between the detection unit for coordinate detection and the detection unit for angle detection, storing the angle dimension P where the coordinate detection pen 1 is located in RAM 8 of the coordinate input device." IKEDA, [0013], Fig. 5. To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose a signal production circuit configured to generate first and second distinguishable signals, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI discloses capacitive signal differentiation, where time-differentiated signals from capacitive electrodes encode positional information. IGUCHI, Fig. 29b.



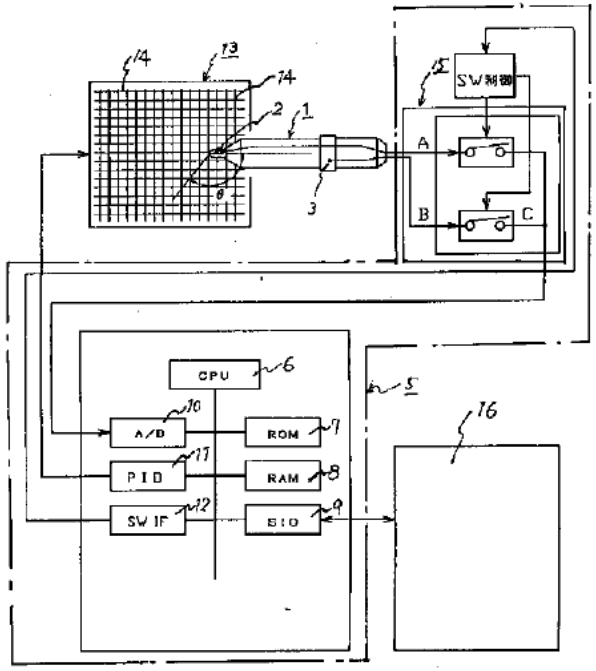
IGUCHI further discloses: "The main electrode 304 covered with resin is arranged at an end tip of the pen shaft 310. The auxiliary electrode 305 is arranged around this main electrode 304." IGUCHI, 30:25-29.

IGUCHI also discloses: "Since the auxiliary electrode is located in a position separated from the main electrode, coordinates of the main and auxiliary electrodes with respect to a tablet plate are separately detected when the pen shaft is inclined" and that "[i]nclination data of the pen shaft can be taken out by a difference between timing signals caused by a difference between these coordinates." IGUCHI, 15:6-12. This confirms that IGUCHI describes a system in which signals from different electrodes are separately detected, supporting the generation of distinguishable signals.

	A POSITA would have recognized that capacitive stylus systems commonly generate multiple signals that vary in response to positional and angular displacement. Given that IKEDA discloses a coordinate detection pen with separate detection units for position and angle tracking, and IGUCHI reinforces this by disclosing distinct coordinate signals for main and auxiliary electrodes, a POSITA would have found it obvious to integrate IGUCHI's structured signal differentiation method into IKEDA's capacitive stylus framework. This integration would have been a predictable improvement for enhancing coordinate tracking accuracy in stylus-based input systems. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a system where two output elements generate distinct signals that allow for accurate determination of the pen's position and tilt angle. WARD discloses: "The first output element (18) and the second output element (22) of the positioning pen (10a) are preferably ultrasonic transmitters. The first and second output elements (18, 22) transmit output signals of distinct frequencies, which allows the location of the pen tip (16) to be determined accurately." WARD, 2:61-65. WARD further discloses: "A first output element (18) is located on the pen (10), and has a first point source (20) for a first output signal. A second output element (22) is located on the pen (10), and has a second point source (24) for a second output signal." WARD, 2:48-52. These disclosures confirm that WARD describes a system where distinct signals from spatially separated output elements are used to refine positional accuracy and angular tracking. A POSITA would have recognized that stylus-based input devices commonly employ multiple output elements or electrodes generating distinguishable signals to enhance signal accuracy and coordinate tracking. Given that IKEDA already discloses a detection system where separate signals are generated for positional and angular tracking, and WARD explicitly describes a multi-signal generation system, a POSITA would have found it obvious to incorporate WARD's structured signal differentiation method into IKEDA's capacitive stylus framework. This integration

	represents a routine optimization of stylus input technology to refine tracking accuracy and improve signal resolution.
1[e] conductive lines extending between the signal production circuit and the first and second electrodes, respectively,	IKEDA discloses capacitive stylus systems where conductive pathways connect signal production circuits to electrodes. Specifically, IKEDA discloses: "[C]oordinate detection is performed using the two detection units 2 and 3, and the coordinate data detected via electrostatic capacitance coupling with the tablet's electrodes . . . is applied to the main body 5 of the coordinate input device through a cable 4 connected to the coordinate detection pen 1." IKEDA, [0008], Fig. 3. Further, IKEDA discloses, "The main body 5 of the coordinate input device includes a CPU 6 for performing coordinate control, a ROM 7 storing the program for coordinate control, a RAM 8 for storing the detected coordinate data and the reference dimensions O corresponding to the two detection units 2 and 3 of the coordinate detection pen 1 . . . ." IKEDA, [0009], Fig. 3. This confirms that IKEDA discloses a signal transmission structure using conductive connections from a detection unit to an external system. Additionally, IKEDA Figure 3 discloses an electrical block diagram showing the signal paths and interconnections of the stylus system, reinforcing that conductive pathways are used to transfer signals from the detection pen to processing electronics. IKEDA, Fig. 3.

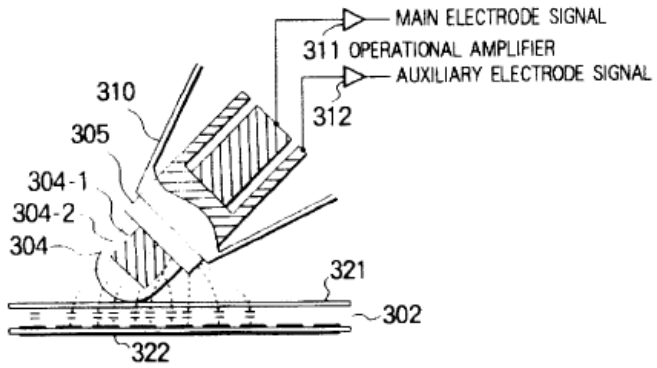
【図３】

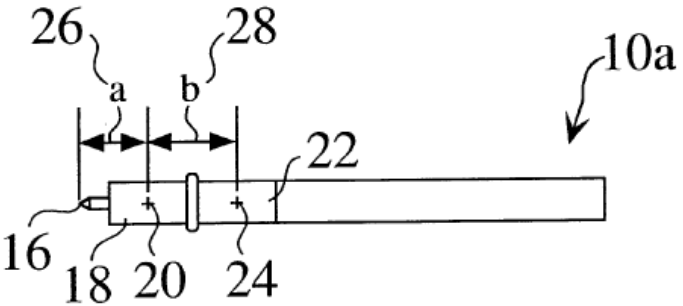


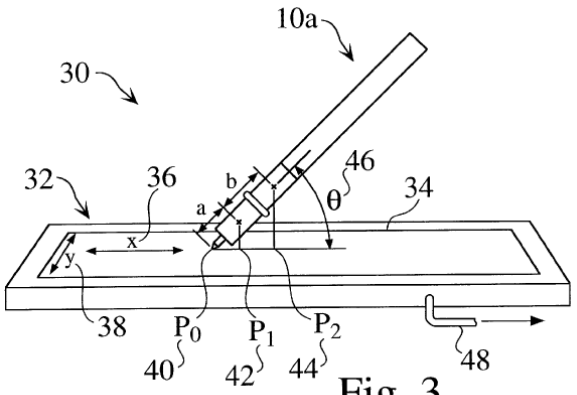
To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose conductive lines extending between a signal production circuit and first and second electrodes, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation.

Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses conductive connections between the main and auxiliary electrodes and associated circuits. Specifically, IGUCHI discloses: "Since the auxiliary electrode is located in a position separated from the main electrode, coordinates of

	the main and auxiliary electrodes with respect to a tablet plate are separately detected when the pen shaft is inclined." IGUCHI, 15:6-12. Further, IGUCHI's Figure 27c shows the arrangement of electrodes and connections, supporting that the capacitive signals are transmitted through conductive pathways. IGUCHI, 31:5-11, Fig. 27c. FIG. 27c  Additionally, IGUCHI discloses: "[T]he main electrode 304 covered with resin is arranged at an end tip of the pen shaft 310" and "[t]he auxiliary electrode 305 is arranged around this main electrode 304." IGUCHI, 30:25-29. This demonstrates the structured connectivity within IGUCHI's capacitive stylus system. A POSITA would have recognized that capacitive stylus systems commonly require conductive pathways to transmit signals between detection electrodes and signal processing units. Given that IKEDA already discloses a detection system where signals are generated at multiple electrodes and processed for coordinate detection, and IGUCHI explicitly describes a structured signal transmission mechanism, a POSITA would have found it obvious to integrate IGUCHI's structured conductive pathway system into IKEDA's capacitive stylus framework. This integration would have been a predictable improvement to ensure reliable signal transmission and processing in stylus-based input devices.

	Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a pen system with multiple output elements that transmit signals to an external system for processing. Specifically, WARD discloses: "A first output element (18) is located on the pen (10), and has a first point source (20) for a first output signal. A second output element (22) is located on the pen (10), and has a second point source (24) for a second output signal" (WARD, 2:48-52) and "[t]he first and second output elements transmit output signals of distinct frequencies, which allows the location of the pen tip (16) to be determined accurately." WARD, 2:63-65. Figures 2 and 3 of WARD also illustrate a structured signal transmission system, confirming that conductive pathways connect signal-producing components to external processing units.  Fig. 2

	 Fig. 3 WARD's disclosure of signal transmission circuits reinforces that conductive lines are essential components in stylus-based systems for accurate data processing and positional tracking. A POSITA would have recognized that stylus-based input systems require conductive pathways to transmit signals between a signal production circuit and detection electrodes. IKEDA discloses a detection system where signals are generated at multiple electrodes and processed for coordinate determination, while WARD describes a structured signal transmission system where multiple output elements transmit signals to an external processing unit for positional tracking. Given that IKEDA already details a capacitive stylus system in which signals are transmitted and processed, incorporating WARD's structured signal transmission mechanism into IKEDA's framework would have been an obvious enhancement. This integration would improve signal reliability, processing efficiency, and tracking accuracy in stylus-based input devices, aligning with well-established engineering principles in capacitive input technology.
1[f] wherein the first and second signals generated by the signal production circuit, in	IKEDA describes a coordinate detection pen where signals are transmitted to multiple detection electrodes via circuit pathways. Specifically, IKEDA discloses: "[C]oordinate detection is performed using the two detection units 2 and 3, and the coordinate data detected via electrostatic capacitance coupling with the tablet's

operation, are transmitted to the first and second electrodes via the conductive lines;	electrodes . . . is applied to the main body 5 of the coordinate input device through a cable 4 connected to the coordinate detection pen 1." IKEDA, [0008], Fig. 3. Further, IKEDA describes a structure where coordinate detection is performed by multiple detection units, connected to circuit pathways that process and transmit signals: "The main body 5 of the coordinate input device includes a CPU 6 for performing coordinate control, a ROM 7 storing the program for coordinate control, a RAM 8 for storing the detected coordinate data and the reference dimensions O corresponding to the two detection units 2 and 3 of the coordinate detection pen 1 . . . ." IKEDA, [0009], Fig. 3. This indicates an organized system of conductive pathways that allow for the transmission of capacitive detection signals. Additionally, IKEDA Figure 3 presents an electrical block diagram detailing the connections of signal paths between the capacitive detection units and signal processing circuits, reinforcing that conductive pathways transmit signals between the signal production circuit and detection electrodes. IKEDA, Fig. 3.

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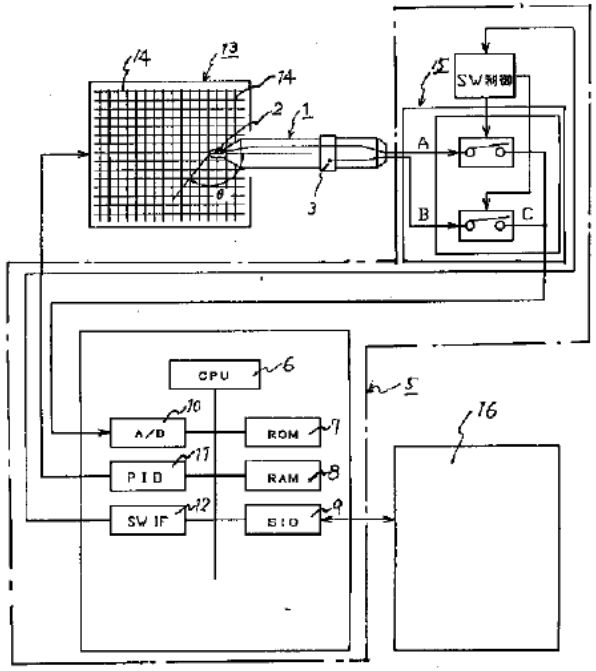

To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose the transmission of generated signals via conductive lines, a POSITA would have understood how to modify IKEDA to meet this limitation based on their knowledge and the disclosure of IKEDA.

Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses time-differentiated signals traveling through capacitive pathways, demonstrating that signal transmission via conductive lines is an inherent feature. Specifically, IGUCHI states: “A time difference is caused between timing t2 of a

	peak of an output signal S3' provided by the main electrode and timing t3 of a peak of an output signal S4' provided by the auxiliary electrode." IGUCHI, Fig. 29b, 31:37-41. Further, IGUCHI discloses that capacitive signals are detected by electrodes positioned at different locations, confirming the presence of transmission paths: "Since the auxiliary electrode is located in a position separated from the main electrode, coordinates of the main and auxiliary electrodes with respect to a tablet plate are separately detected when the pen shaft is inclined." IGUCHI, 15:6-9. Additionally, IGUCHI Figure 27c provides a schematic representation of capacitive signal transmission paths, demonstrating how signals generated at different electrode locations travel through conductive pathways before interacting with the sensor surface. IGUCHI, Fig. 27c, 31:5-11. A POSITA would have recognized that capacitive stylus systems require conductive pathways to maintain signal fidelity between the signal production circuit and the electrodes. Given that IKEDA already describes signal transmission within a detection system, incorporating IGUCHI's structured conductive pathway mechanism into IKEDA's capacitive stylus framework would have been a predictable enhancement to improve signal transmission and processing accuracy. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a pen positioning system where multiple output elements transmit signals through structured conductive pathways to an external processing unit. WARD, 2:48-52, 2:63-65, Figs. 2, 3.

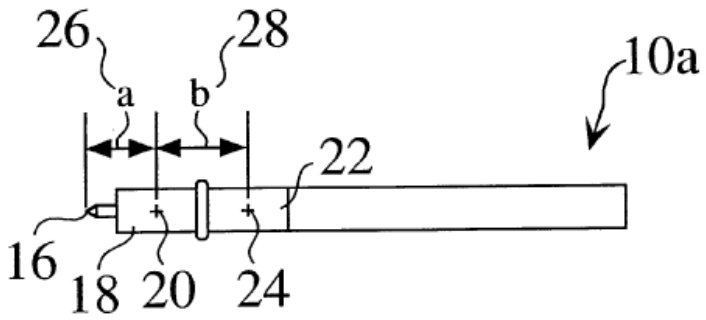

Fig. 2

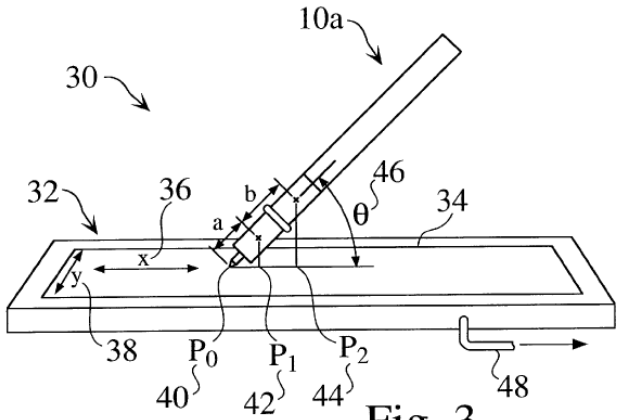

Fig. 3

Specifically, WARD discloses: "A first output element (18) is located on the pen (10), and has a first point source (20) for a first output signal. A second output element (22) is located on the pen (10), and has a second point source (24) for a second output signal" (WARD, 2:48-52) and "[t]he first and second output elements

	transmit output signals of distinct frequencies, which allows the location of the pen tip (16) to be determined accurately." WARD, 2:63-65. This disclosure confirms that structured signal transmission mechanisms were a well-known feature in electronic input devices, ensuring that generated signals are properly routed through designated conductive pathways for processing. A POSITA would have recognized that structured conductive pathways were a fundamental component of stylus-based input devices, ensuring reliable transmission of generated signals. Given that IKEDA already details a capacitive stylus system with signal transmission, integrating WARD's structured signal transmission mechanism into IKEDA's framework would have been an obvious and logical refinement to improve processing accuracy and signal differentiation.
1[g] wherein the first and second electrodes are configured to form first and second capacitive relationships with the sensor surface, respectively, to generate detection signals in the sensor surface based on which angle information of the pen-shaped position indicator is obtainable.	IKEDA discloses a capacitive stylus that detects tilt angle using multiple electrodes positioned along the stylus body. Specifically, IKEDA states: "A coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Fig. 5 (illustrating angle detection using capacitive coupling). Additionally, IKEDA discloses how these electrodes form capacitive relationships that allow tilt detection: "Using the coordinate data from the two detection units 2 and 3 stored in the regions of RAM 8, the dimensional control program converts the dimensions between the detection unit for coordinate detection and the detection unit for angle detection, storing the angle dimension P where the coordinate detection pen 1 is located in RAM 8 of the coordinate input device." IKEDA, [0013], Fig. 5. Further, IKEDA confirms that capacitive stylus systems inherently generate multiple capacitive relationships for tilt detection: "By detecting each coordinate using the detection unit 2 for coordinate detection and the detection unit 3 for angle detection of the coordinate detection pen 1, control over the angle of the coordinate detection pen 1 can be achieved." IKEDA, [0015], Fig. 5.

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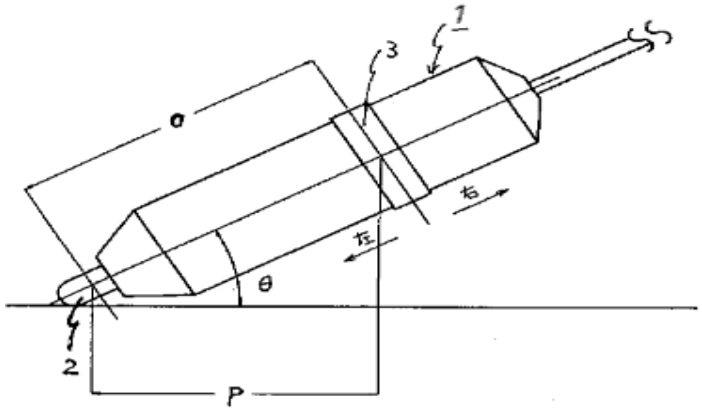


IKEDA Fig. 5

Figure 5 of IKEDA discloses how the first detection unit is positioned at the pen tip, and the second detection unit is ring-shaped and positioned along the pen body, allowing the system to measure tilt by analyzing changes in capacitive coupling at different locations along the pen axis.

To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose the use of capacitive relationships to generate detection signals for angle determination, a POSITA would have understood how to modify IKEDA to meet this limitation based on their knowledge and the disclosure of IKEDA.

Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses an apparatus for inputting coordinates. As shown in FIG. 26a and FIG. 26b, “[t]he main electrode 304 covered with resin is arranged at an end tip of

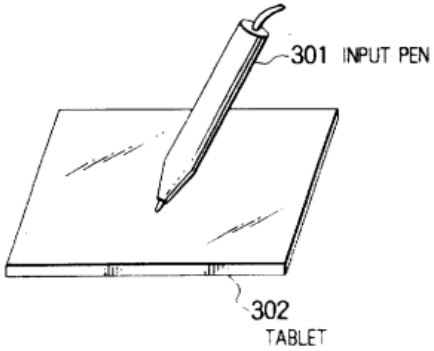
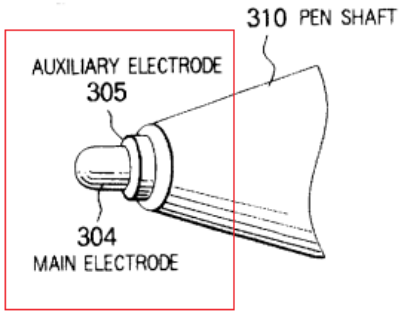
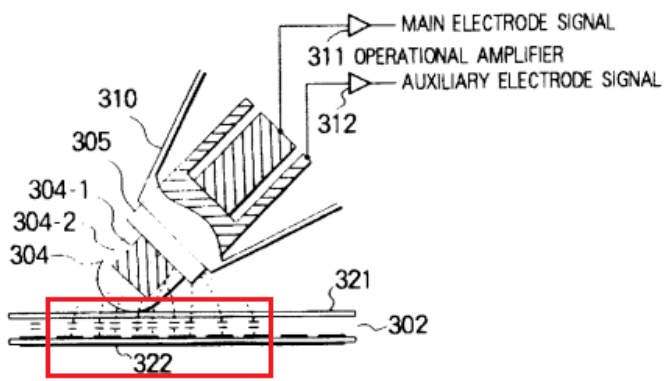
	the pen shaft 310" and "[t]he auxiliary electrode 305 is arranged around this main electrode 304". IGUCHI, 30:25-29, FIG. 26a & 26b. FIG. 26a  FIG. 26b  IGUCHI also discloses how capacitive signals interact to determine pen inclination: "No shape of the electrostatic capacity is formed with right and left symmetry with respect to the main electrode. This is because no peak of the electrostatic capacity provided by the main electrode 304 is in conformity with a peak of the electrostatic capacity provided by the auxiliary electrode 305 by inclining the pen shaft." IGUCHI, 31:5-11, Fig. 27c.

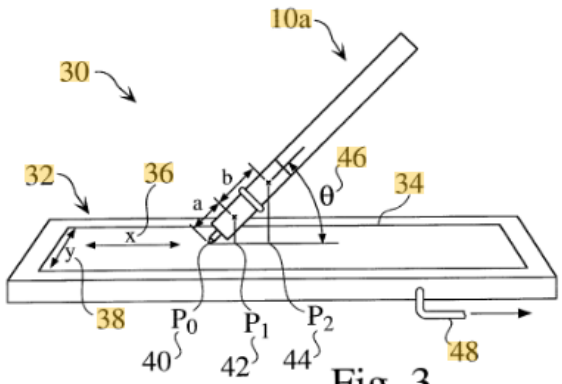
FIG. 27c



IGUCHI's Figure 27c presents an analysis of how capacitive relationships between multiple electrodes on a pen allow for angle detection. The capacitive signals generated by the electrodes interact with the sensor surface, producing detection signals that reveal tilt and angular movement of the pen. As shown in Figure 27c, variations in detected capacitance between electrodes allow for the calculation of angular displacement, supporting the claim that the generated detection signals provide angle information.

IGUCHI also discloses "[s]ince the auxiliary electrode is located in a position separated from the main electrode, coordinates of the main and auxiliary electrodes with respect to a tablet plate are separately detected when the pen shaft is inclined" and that "[i]nclination data of the pen shaft can be taken out by a difference between timing signals caused by a difference between these coordinates". IGUCHI, 15: 6-12.

A POSITA would have recognized that capacitive stylus systems routinely employ multiple electrodes to form distinct capacitive relationships, allowing for accurate position and tilt determination. Given that IKEDA already discloses a system where electrodes interact with a tablet surface to determine position and inclination, incorporating IGUCHI's structured capacitive detection method into IKEDA's stylus framework would have been an expected and predictable enhancement to refine angle detection accuracy.

	Alternatively, one of ordinary skill could modify **IKEDA in view of WARD** to meet this limitation, as shown below. WARD discloses a pen positioning system (10) with multiple output elements (18, 22) that are used to determine the location and orientation of the pen tip relative to an electronic tablet (32). WARD, Figs. 3, 4.  Fig. 3 Fig. 3: Shows the pen (10a) positioned at an inclined angle (46) relative to the electronic tablet (32), indicating angle detection.

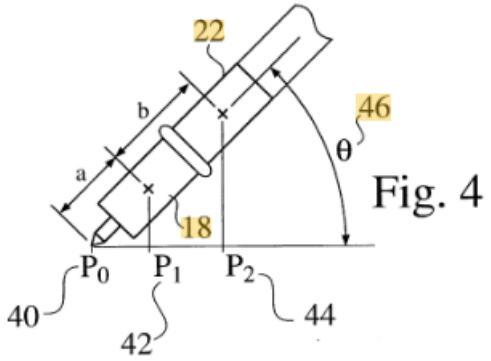


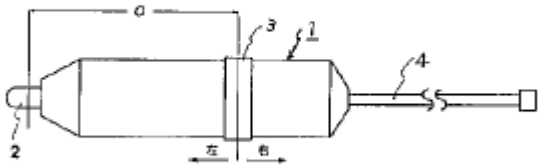
Fig. 4

Fig. 4: Depicts how the geometric relationships between the pointing tip (16) and output elements (18, 22) provide angular information.

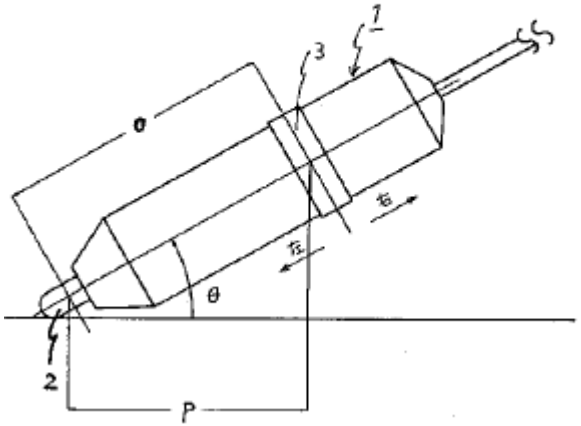
The system depicted in Figs. 3, 4 *supra* accounts for the angular displacement (θ) of the pen to accurately determine its position. Specifically, WARD discloses: "An improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet." WARD, 1:65-2:1. WARD further discloses: "The geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 2:4-8. WARD also explains, "FIG. 3 is a perspective view of the positioning pen system (30), in which a dual output element pen (10a) is shown at an inclined angle (46) in relation to an electronic tablet (32), indicated as θ." WARD, 3:1-4.

A POSITA would have recognized that using multiple capacitive detection electrodes to track angular displacement was a well-established principle in stylus input technology. Given that IKEDA already discloses capacitive electrodes forming distinct relationships with a sensor surface, incorporating WARD's geometric

	tracking methodology into IKEDA's capacitive stylus framework would have been an obvious and logical refinement to improve tilt detection accuracy.

Claim 2	Disclosure
The pen-shaped position indicator according to claim 1, wherein the first and second electrodes are arranged at the first and second positions that are different along the axis of the pen-shaped position indicator.	IKEDA discloses that the first electrode (on the pen tip) and the second electrode (on the pen body) are at different positions along the axis of the coordinate detection pen: "In this invention, the operator can control coordinate detection without considering the angle of the coordinate detection pen. To achieve this, a coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Figs. 1, 5. 【図1】  IKEDA Fig. 1

【図5】



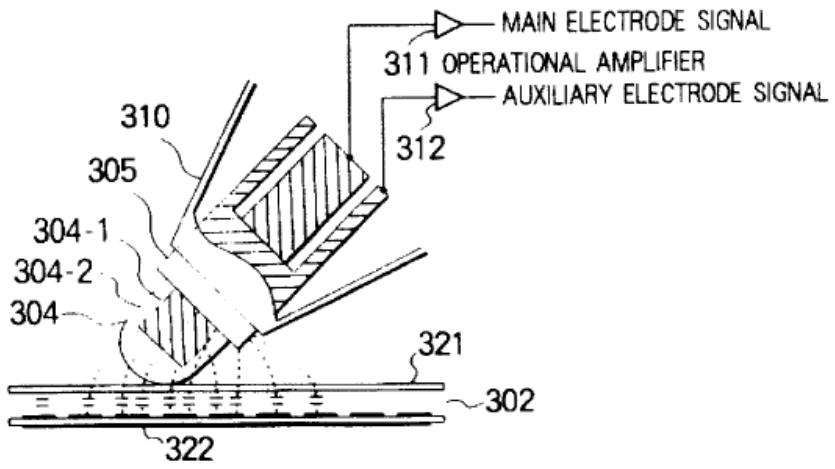
IKEDA Fig. 5

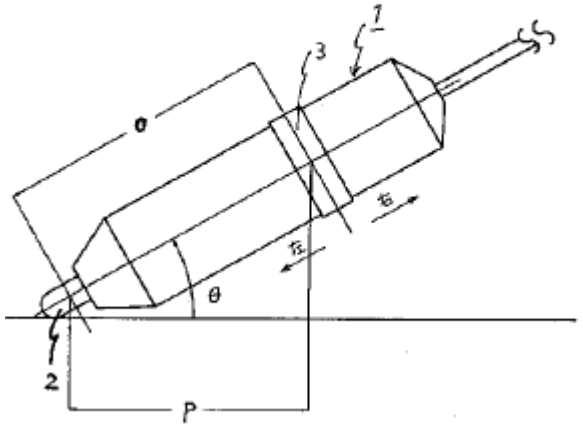
Figures 1 and 5 of IKEDA disclose a coordinate detection pen with multiple detection electrodes positioned at different locations along the stylus axis, confirming a design where electrodes are spaced along the longitudinal direction of the pen body.

To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose that the first and second electrodes are positioned at different locations along the axis of the pen-shaped position indicator, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation.

Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses a pen system in which multiple electrodes are arranged along different positions of the pen shaft to facilitate tilt detection. IGUCHI describes how the main and

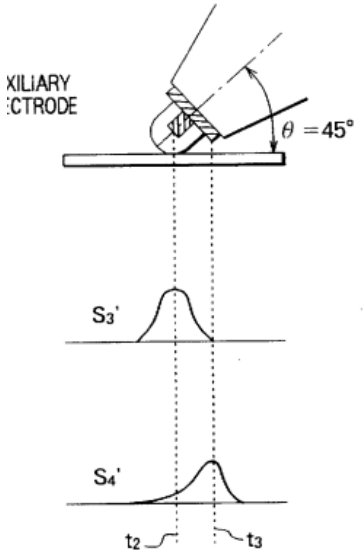
	auxiliary electrodes are physically separated to ensure accurate inclination detection by capturing coordinate changes at different points along the pen. IGUCHI, 15:6-12, Fig. 27c. This separation of electrodes along the stylus body confirms that different electrode placements along the pen shaft contribute to improving angular accuracy. FIG. 27c  A POSITA would have recognized that capacitive stylus designs routinely place detection electrodes at different locations along the pen body to capture changes in angle and position. Given that IKEDA already discloses a system in which multiple electrodes interact with a sensor surface, incorporating IGUCHI's structured electrode placement into IKEDA's stylus system would have been an obvious and expected refinement to enhance accuracy in detecting the pen's orientation

Claim 5	Disclosure
The pen-shaped position indicator according to claim 1, wherein the angle information is a tilt angle of the pen-shaped position indicator relative to the sensor surface.	*See supra* regarding Claim 1. IKEDA discloses a coordinate detection pen that measures the inclination angle relative to the sensor surface: "By detecting each coordinate using the detection unit 2 for coordinate detection and the detection unit 3 for angle detection of the coordinate detection pen 1, control over the angle of the coordinate detection pen 1 can be achieved." IKEDA, [0015], Fig. 5 (shows pen angle detection). 【図5】  IKEDA Fig. 5 IKEDA's system includes a first detection unit at the pen tip and a second, ring-shaped detection unit on the pen body, allowing capacitive measurements at different positions to determine the pen's tilt angle relative to the surface. To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose determining the tilt angle of the pen relative to the sensor

	surface, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify **IKEDA in view of IGUCHI** to meet this limitation, as shown below. IGUCHI discloses tilt detection by describing how capacitive signal variations can be used to measure angular displacement over time. IGUCHI, Fig. 29b, 31:37-41. Specifically, IGUCHI states: "A time difference is caused between timing t2 of a peak of an output signal S3' provided by the main electrode and timing t3 of a peak of an output signal S4' provided by the auxiliary electrode." IGUCHI, Fig.29b, 31:37-41.

FIG. 29b

(θ =45°)



A POSITA would have recognized that capacitive stylus systems rely on multiple electrode placements to improve tilt detection. Given that IKEDA already describes a system for detecting angular displacement using capacitive coupling, incorporating IGUCHI's structured electrode positioning for enhanced tilt measurement would have been an obvious and expected refinement to improve the accuracy of inclination detection.

Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below.

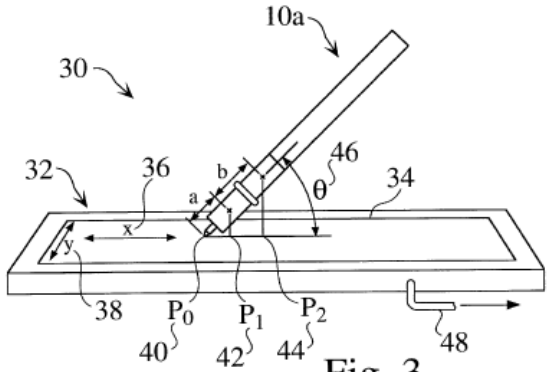
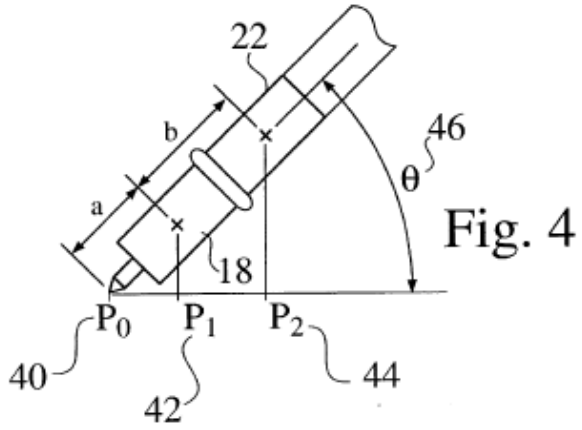
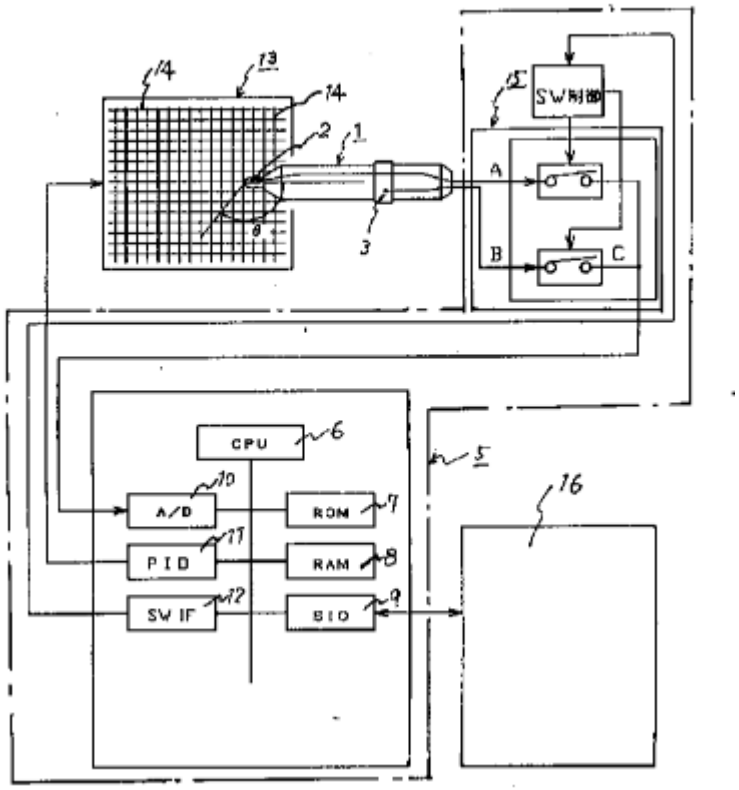
	WARD further refines tilt detection by disclosing a pen positioning system that compensates for angular displacement using multiple output elements: "An improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet" (WARD, 1:65-2:1) and "[t]he geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 2:4-8. This confirms that WARD's system inherently accounts for angular displacement and compensates for changes in inclination. Additionally, WARD describes the use of spatially separated output elements to track tilt: "A second output element (22) is located on the pen (10), and has a second point source (24) for a second output signal." WARD, 2:50-52. This disclosure reinforces that multiple interaction points provide structured signal differentiation, ensuring accurate tracking of angular displacement. WARD also discloses a dual-output element stylus, where the spacing between two output elements enables determination of tilt. WARD, Figs. 3, 4.  Fig. 3

	Fig. 3: Depicts the stylus at an inclined angle 46, demonstrating tilt detection.  Fig. 4 Fig. 4: Illustrates how spatial relationships between output elements 18, 22 determine angular displacement. A POSITA would have recognized that precise tilt detection requires both capacitive sensing and structured tracking of angular displacement. Given that IKEDA already discloses a capacitive detection system, incorporating WARD's structured multi-output tracking method into IKEDA's stylus framework would have been an obvious and expected improvement to enhance tilt angle detection.

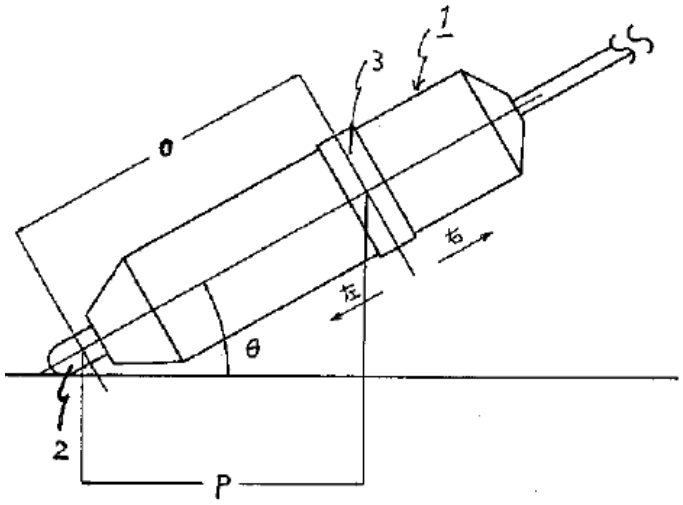
Claim 8	Disclosure
The pen-shaped position indicator according to claim 1, wherein the first and second signals are of the same type but have a time difference from each other.	IKEDA discloses the concept of multiple capacitive detection units transmitting independent signals that vary based on position and tilt: "The coordinate detection is performed using the two detection units 2 and 3, and the coordinate data detected via electrostatic capacitance coupling with the tablet's electrodes . . . is applied to the main body 5 of the coordinate input device through a cable 4 connected to the coordinate detection pen 1." IKEDA, [0008], Fig. 3. This disclosure reinforces that capacitive signal processing inherently involves timing differences. The signals from these detection units also inherently vary due to differences in their capacitive coupling relationships with the sensor surface. IKEDA further confirms that these signals are processed separately to determine position and tilt: "The main body 5 of the coordinate input device includes a CPU 6 for performing coordinate control, a ROM 7 storing the program for coordinate control, a RAM 8 for storing the detected coordinate data and the reference dimensions O corresponding to the two detection units 2 and 3 of the coordinate detection pen 1 . . . ." IKEDA, [0009], Fig. 3.

【図３】



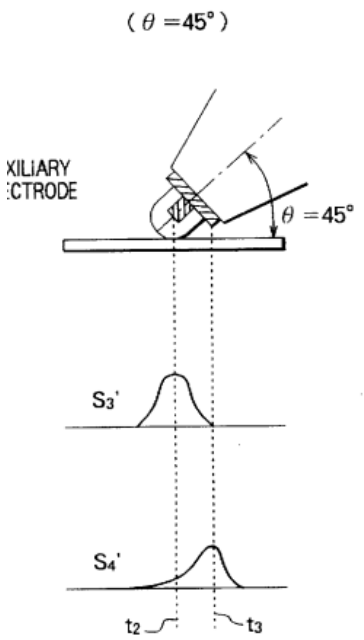
IKEDA, Fig. 3.

IKEDA also discloses how the system calculates tilt using the independent signals from both detection units: “Using the coordinate data from the two detection units 2 and 3 stored in the regions of RAM 8, the dimensional control program converts the dimensions between the detection unit for coordinate detection and the detection unit for angle detection, storing the angle dimension P where the

	coordinate detection pen 1 is located in RAM 8 of the coordinate input device." IKEDA, [0013], Fig. 5. 【図５】  IKEDA, Fig. 5. Given the teachings of IKEDA on capacitive tilt detection, a POSITA would recognize that the signals from different capacitive detection points in a stylus system could inherently have time shifts due to variations in capacitive coupling as the pen moves. To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose that the first and second signals are of the same type but have a time difference from each other, one of ordinary skill in the art would, based on

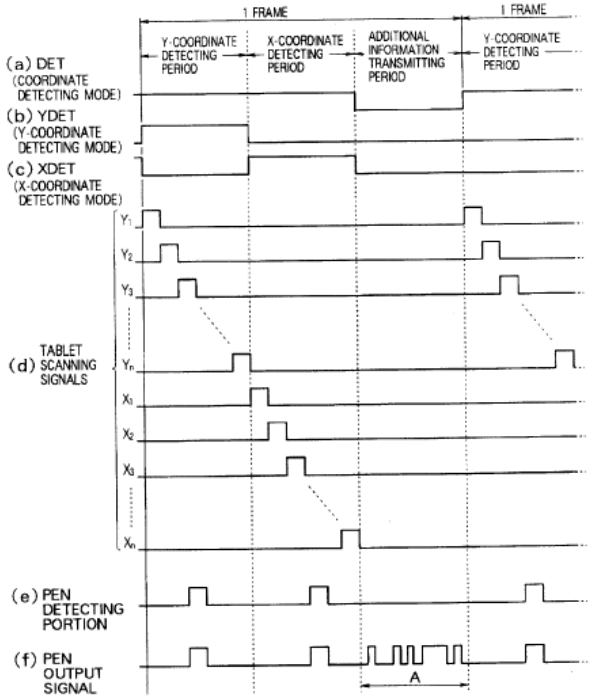
	one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI discloses a capacitive pen system where the signals from the first and second electrodes are of the same type but have a measurable time difference. Specifically, IGUCHI discloses "a time difference is caused between timing t2 of a peak of an output signal S3' provided by the main electrode and timing t3 of a peak of an output signal S4' provided by the auxiliary electrode." IGUCHI, Fig.29b, 31:37-41.

FIG. 29b

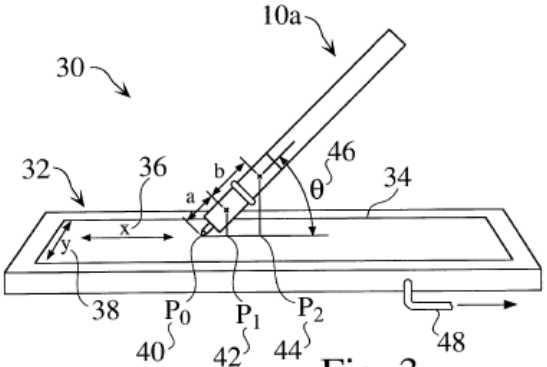
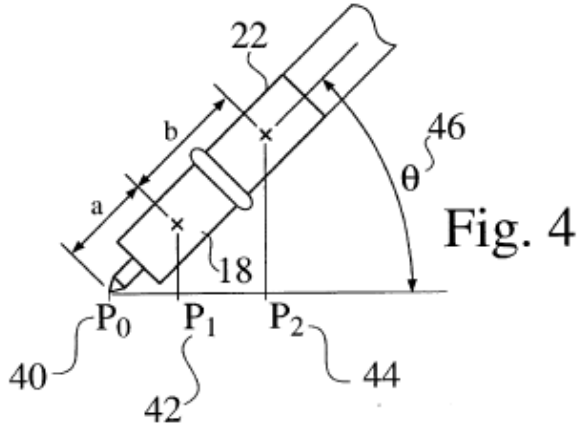


In Figure 29b of IGUCHI, the output signals S3’ and S4’ from the main and auxiliary electrodes are plotted over time. The graph demonstrates that while both signals are of the same type (e.g., voltage signals), there is a measurable time difference between them, which is utilized to determine the pen’s tilt or angle. The figure presents a waveform diagram illustrating the time difference between output signals S3’ and S4’. The figure visually demonstrates how these signals shift over time, supporting the argument that signals from different electrodes have a detectable phase difference. This timing offset allows for accurate angular detection of the pen’s tilt relative to the sensor surface.

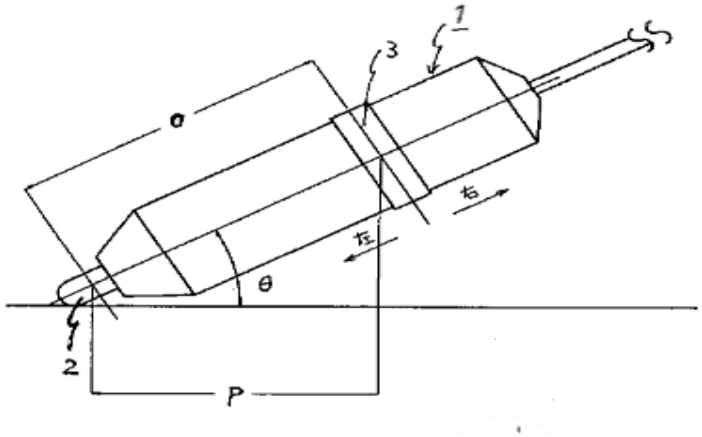
Additionally, IGUCHI describes a systematic operation cycle where the capacitive pen interacts with a grid of electrodes in an X-Y coordinate system. Specifically,

	IGUCHI also discloses that: "[o]ne cycle of a systematic operation of the coordinate inputting apparatus is shown as one frame in FIG. 31 and is constructed by three periods composed of a Y-coordinate detecting period, an X-coordinate detecting period and an additional information transmitting period"; "the electrodes Y1 to Ym at Y-coordinates are sequentially turned on in the Y-coordinate detecting period, and the electrodes Xl to Xn at X-coordinates are sequentially turned on in the X-coordinate detecting period"; "a detecting portion of the detecting pen outputs a signal when an electrode closest to a pen tip is turned on"; and "it is possible to discriminate a position of the pen tip on the tablet by timing of the signal from the detecting pen." IGUCHI, 32:64-67, 33:1, 33:8-16, Fig. 31. FIG. 31 

	A POSITA would also have recognized or found obvious that the signals from the two sets of electrodes X1-Xn and Y1-Ym are of the same type but have a time difference from each other. IGUCHI explicitly discloses that a time difference exists between signals detected from different electrodes positioned at separate locations along the stylus body. IGUCHI, Fig. 29b, 31:37-41. A POSITA would have recognized that capacitive stylus systems inherently generate signals with time differences due to variations in capacitive coupling strength across detection electrodes. Given that IKEDA already describes a system where signals are generated at multiple detection electrodes, incorporating IGUCHI's time-based differentiation method would have been an obvious and expected refinement to improve stylus-based input accuracy. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a system where multiple output elements generate signals that differ in time due to their spatial separation. discloses a pen positioning system that compensates for angular displacement using multiple output elements: "An improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet" (WARD, 1:65-2:1) and "[t]he geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 2:4-8. This method ensures that signals transmitted from different points on the stylus arrive at different times, enabling accurate detection of angular displacement. Additionally, WARD describes: "A first output element (18) is located on the pen (10), and has a first point source (20) for a first output signal. A second output element (22) is located on the pen (10), and has a second point source (24) for a second output signal." WARD, 2:48-52. This reinforces that multiple output elements produce distinct signals with inherent time differentiation.

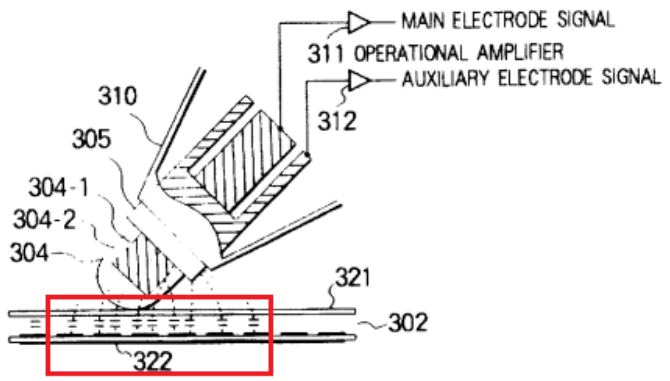
	WARD also discloses a dual-output element stylus, where the spacing between two output elements enables determination of tilt. WARD, Figs. 3, 4.  Fig. 3 Fig. 3: Depicts the stylus at an inclined angle 46, demonstrating tilt detection.  Fig. 4 Fig. 4: Illustrates how spatial relationships between output elements 18, 22 determine angular displacement.

	A POSITA would have recognized that signal timing differences are a natural consequence of capacitive interactions between stylus electrodes and a sensor surface. Given that IKEDA already describes a capacitive stylus system where multiple electrodes generate distinct signals, incorporating WARD's structured signal differentiation method would have been an obvious and expected refinement to improve angular tracking and position detection.

Claim 14	Disclosure
14[pre] A method of detecting angle information of a penshaped position indicator, the method comprising:	IKEDA discloses a coordinate detection pen that detects angle information through capacitive coupling: "A coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Fig. 5. 【図５】  IKEDA, Fig. 5 To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose detecting angle information of a pen-shaped position indicator, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses capacitive electrodes that detect angular displacement through time-differentiated signal variations. IGUCHI, Fig. 27c, 31:5-11 ("no shape of the electrostatic capacity is formed with right and left symmetry with respect to the main electrode. This is because no peak of the electrostatic capacity provided by the main electrode 304 is in conformity with a peak of the electrostatic capacity provided by the auxiliary electrode 305 by inclining the pen shaft.").

FIG. 27c



A POSITA would have recognized that capacitive stylus systems inherently generate multiple detection signals that can be analyzed for tilt and angular information. Given that IKEDA already describes a system for capacitive tilt detection, incorporating IGUCHI's method of analyzing signal differences to determine angular displacement would have been an obvious and expected refinement to enhance stylus input accuracy.

Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below.

WARD discloses a pen positioning system 10 with multiple output elements 18, 22 that are used to determine the location and orientation of the pen tip relative to an electronic tablet 32. WARD, Figs. 3, 4.

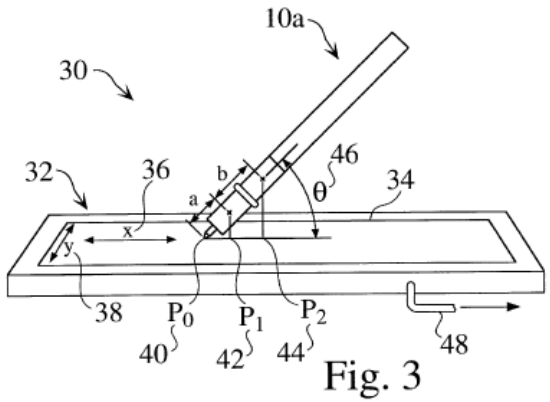


Fig. 3

Fig. 3: Shows the pen 10a positioned at an inclined angle 46 relative to the electronic tablet 32, indicating angle detection.

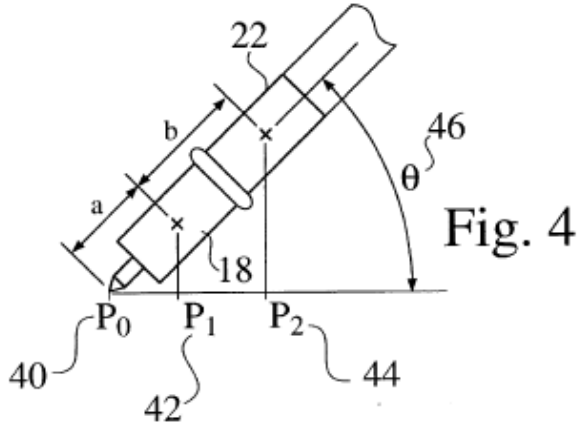
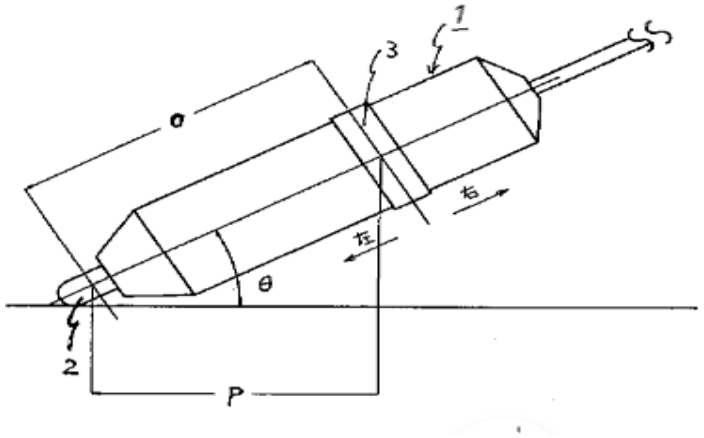


Fig. 4

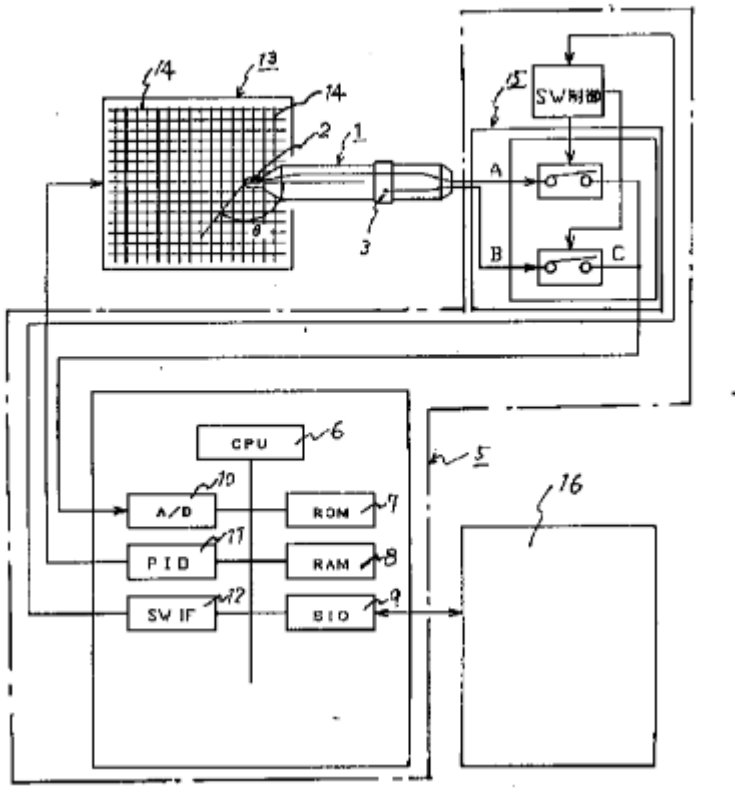
Fig. 4: Depicts how the geometric relationships between the pointing tip 16 and output elements 18, 22 provide angular information.

The system depicted in Figs. 3, 4 *supra* accounts for the angular displacement (θ) of the pen to accurately determine its position. Specifically, WARD discloses:

	"An improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet." WARD, 1:65-2:1. WARD further discloses: "The geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 2:4-8. WARD also explains, "FIG. 3 is a perspective view of the positioning pen system (30), in which a dual output element pen (10a) is shown at an inclined angle (46) in relation to an electronic tablet (32), indicated as θ." WARD, 3:1-4. A POSITA would have recognized that precise stylus tracking requires both capacitive sensing and structured tracking of angular displacement. Given that IKEDA already describes a capacitive detection system, incorporating WARD's multi-output method for determining tilt and angle would have been an obvious and predictable refinement to improve angular measurement accuracy.
14[a] forming a first capacitive relationship between a sensor surface and first electrode, which is arranged at a first position of a pen-tip portion of the pen-shaped position indicator and is supplied with a first signal generated by a signal production circuit and transmitted via a first conductive line in the pen-shaped position indicator;	IKEDA discloses forming a first capacitive relationship between a sensor surface and a first electrode, which is positioned at the pen tip and supplied with a signal from a signal production circuit via a conductive line: "[A]n axis-shaped detection unit 2 is positioned at the tip of the coordinate detection pen 1 to read the coordinates of the indicated point, and a ring-shaped detection unit 3 for indicating the angle is positioned on the body of the coordinate detection pen." IKEDA, [0008], Fig. 5.

	【図５】  IKEDA, Fig. 5 Additionally, IKEDA discloses that the first electrode is part of a capacitive system that transmits signals via a conductive pathway: “The coordinate detection is performed using the two detection units 2 and 3, and the coordinate data detected via electrostatic capacitance coupling with the tablet’s electrodes is applied to the main body 5 of the coordinate input device through a cable 4 connected to the coordinate detection pen 1.” IKEDA, [0008], Fig. 3.

【図３】



Further, IKEDA discloses how the signal is transmitted and processed in the main body via a signal production circuit: “The main body 5 of the coordinate input device includes a CPU 6 for performing coordinate control, a ROM 7 storing the program for coordinate control, a RAM 8 for storing the detected coordinate data and the reference dimensions O corresponding to the two detection units 2 and 3 of the coordinate detection pen 1 . . . .” IKEDA, [0009], Fig. 3

	Finally, IKEDA discloses how the signals are transmitted via conductive lines from the detection pen to the processing circuit: "The selection control of the switching switch 15 is set so that the detection unit 2 for coordinate detection of the coordinate detection pen 1 is selected (connecting A-C through the switching switch 15). The electrode lines 14, 14, 14, ... in the X and Y axis directions of the tablet 13 are driven by applying PIO 11 pulses, and the coordinate signal is sent to the connected A/D converter 10 through electrostatic capacitance coupling between each electrode line 14, 14, 14, ... and the detection unit 2 for coordinate detection." IKEDA, [0011], Fig. 3. To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose forming a first capacitive relationship between a sensor surface and a first electrode at the pen tip, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI discloses capacitive electrodes forming a capacitive relationship for stylus-based input detection. IGUCHI, Fig. 26a, Fig. 26b, 30:25-29 ("[t]he main electrode 304 covered with resin is arranged at an end tip of the pen shaft 310" and "[t]he auxiliary electrode 305 is arranged around this main electrode 304").

FIG. 26a

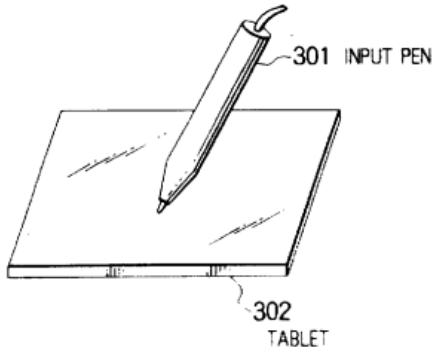
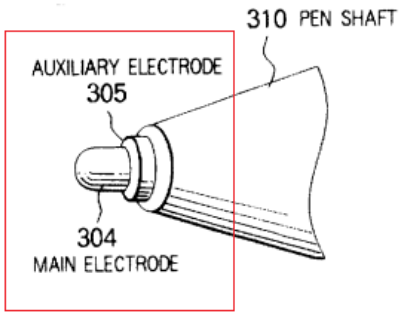


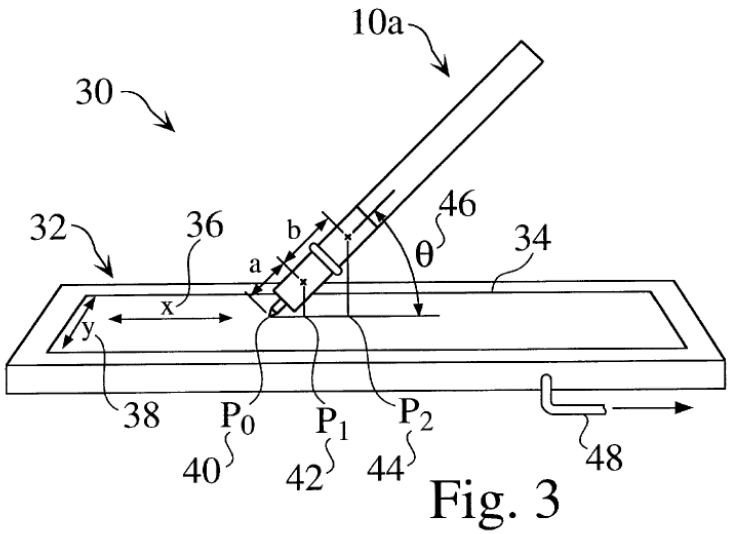
FIG. 26b

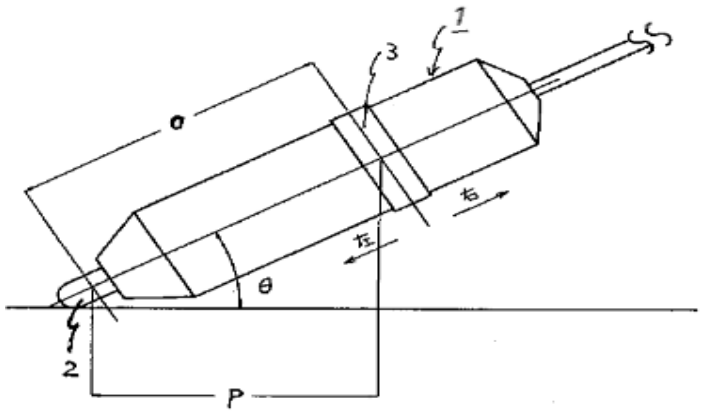


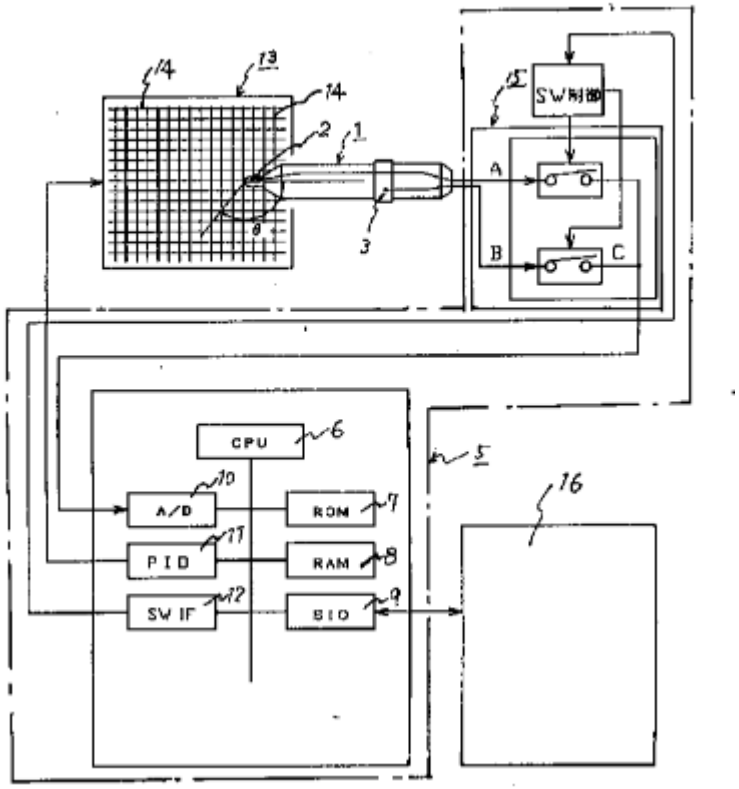
A POSITA would have recognized that capacitive styluses commonly utilize an electrode at the pen tip to form a capacitive relationship with the sensor surface for positional tracking. Given that IKEDA already describes a detection pen with capacitive interactions, incorporating IGUCHI's structured electrode placement at the pen tip to optimize capacitive coupling would have been an obvious and expected improvement to ensure stable signal transmission and coordinate tracking.

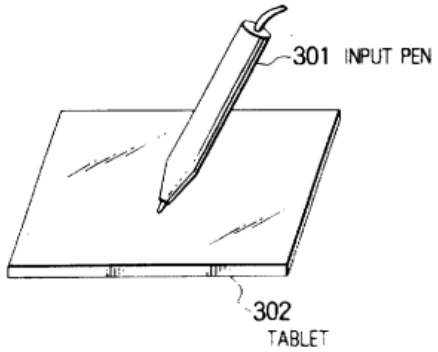
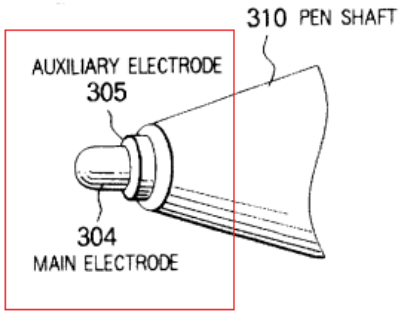
Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below.

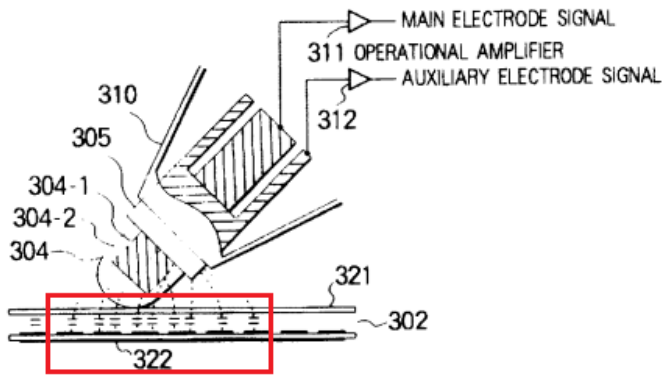
WARD discloses a pen positioning system that incorporates multiple output elements to determine the location of a pen relative to a sensor surface, reinforcing the concept of forming an interactive relationship between a stylus and an input surface. WARD discloses: "An improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet." WARD, 1:65-2:1. Additionally, WARD discloses: "A first output element (18) is located on the pen (10), and has a first point source (20)

	for a first output signal." WARD, 2:48-50; *see also* Figs. 3 (illustrates the first output element (18) at a distinct position on the pen for signal generation), 4 (demonstrates how the emitted signals interact with a sensor surface for positional detection).  Fig. 3 A POSITA would have recognized that structured placement of a first electrode at the pen tip was a well-known and predictable design for capacitive stylus-based input systems. Given that IKEDA already describes capacitive detection at the pen tip, incorporating WARD's explicit disclosure of a first signal source at the tip to improve detection precision would have been a routine and expected optimization to enhance stylus tracking accuracy.
14[b] forming a second capacitive relationship between the sensor surface and a second electrode, which is arranged at a second position of the pen-tip portion different from the first position and off an axis of the pen-shaped position indicator and	IKEDA discloses forming a second capacitive relationship between the sensor surface and a second electrode, which is arranged at a second position different from the first and off an axis of the pen-shaped position indicator: "A coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection

is supplied with a second signal generated by the signal production circuit and transmitted via a second conductive line in the pen-shaped position indicator, wherein the second signal is distinguishable from the first signal; and	unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Fig. 5. 【図５】  IKEDA, Fig. 5. This further supports 14[b] by reinforcing that multiple electrodes positioned at different locations along the pen's body can generate distinct capacitive signals. Additionally, IKEDA confirms that the second electrode is part of a signal transmission structure, connected via a conductive line to a signal production circuit: "The main body 5 of the coordinate input device includes a CPU 6 for performing coordinate control, a ROM 7 storing the program for coordinate control, a RAM 8 for storing the detected coordinate data and the reference dimensions O corresponding to the two detection units 2 and 3 of the coordinate detection pen 1 . . . ." IKEDA, [0009], Fig. 3. Further, IKEDA describes how the signals from the first and second electrodes are distinguishable and processed separately: "The selection control of the

	switching switch 15 is set so that the detection unit 2 for coordinate detection of the coordinate detection pen 1 is selected (connecting A-C through the switching switch 15). The electrode lines 14, 14, 14, ... in the X and Y axis directions of the tablet 13 are driven by applying PIO 11 pulses, and the coordinate signal is sent to the connected A/D converter 10 through electrostatic capacitance coupling between each electrode line 14, 14, 14, ... and the detection unit 2 for coordinate detection." IKEDA, [0011], Fig. 3. 【図3】 

	IKEDA, Fig. 3. To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose forming a second capacitive relationship between a second electrode at a position off-axis, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI discloses that a secondary electrode is positioned at a different location from the main electrode and contributes to capacitive interactions: "[T]he auxiliary electrode 305 is arranged around this main electrode 304." IGUCHI, Fig. 26a, Fig. 26b, 30:25-29. FIG. 26a  FIG. 26b  Furthermore, IGUCHI explicitly discloses that the secondary electrode contributes to detecting inclination by measuring capacitive differences: "[N]o shape of the electrostatic capacity is formed with right and left symmetry with respect to the main electrode. This is because no peak of the electrostatic capacity

	provided by the main electrode 304 is in conformity with a peak of the electrostatic capacity provided by the auxiliary electrode 305 by inclining the pen shaft." IGUCHI, 31:5-11, Fig. 27c. FIG. 27c  A POSITA would have recognized that placing a second electrode at a different position from the first electrode is a known method for enhancing capacitive detection and tilt measurement. Given that IKEDA already describes multiple detection units forming distinct capacitive relationships, incorporating IGUCHI's explicit disclosure of spatially separated capacitive electrodes for improved angular detection would have been an obvious and expected refinement to increase measurement precision. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a pen positioning system with multiple output elements used for determining location and angular displacement. Specifically, WARD states: "A second output element (22) is located on the pen (10), and has a second point source (24) for a second output signal." WARD, 2:50-52. As shown in Figs. 2 and 3, this second output element is positioned at a location different from the

first output element and is used to determine the tilt and orientation of the pen tip relative to the electronic tablet.

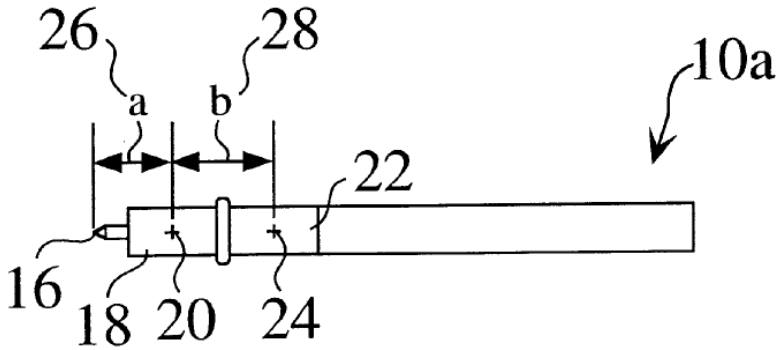


Fig. 2

Fig. 2: Illustrates the second output element (22) at a different position on the pen.

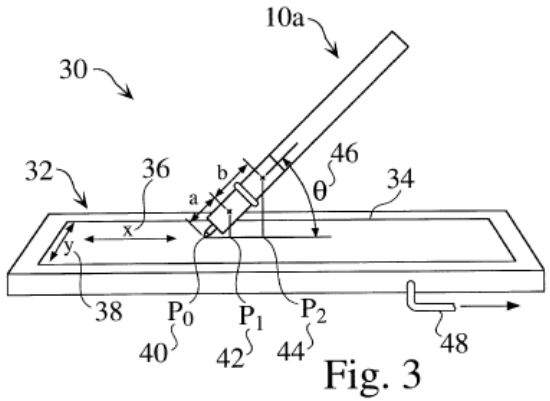


Fig. 3

	Fig. 3: Demonstrates how the spatial relationship between the first and second output elements contributes to angular detection. A POSITA would have recognized that capacitive stylus-based input devices commonly use multiple electrodes positioned at different locations to improve signal differentiation and enhance tilt detection. Given that IKEDA already discloses a detection system with spatially distinct electrodes, incorporating WARD's structured dual-output system would have been a predictable improvement to ensure reliable signal differentiation and enhanced tilt tracking.
14[c] detecting angular information of the pen-shaped position indicator based on the first and second capacitive relationships.	IKEDA discloses detecting angular information of the pen-shaped position indicator based on first and second capacitive relationships: "[A] coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Fig. 5. Additionally, IKEDA describes how the system uses these two capacitive relationships to calculate angular information: "Using the coordinate data from the two detection units 2 and 3 stored in the regions of RAM 8, the dimensional control program converts the dimensions between the detection unit for coordinate detection and the detection unit for angle detection, storing the angle dimension P where the coordinate detection pen 1 is located in RAM 8 of the coordinate input device." IKEDA, [0013], Fig. 5. Further, IKEDA confirms that the device detects the inclination angle using these capacitive relationships: "By detecting each coordinate using the detection unit 2 for coordinate detection and the detection unit 3 for angle detection of the coordinate detection pen 1, control over the angle of the coordinate detection pen 1 can be achieved . . . ." IKEDA, [0015], Fig. 5.

【図５】

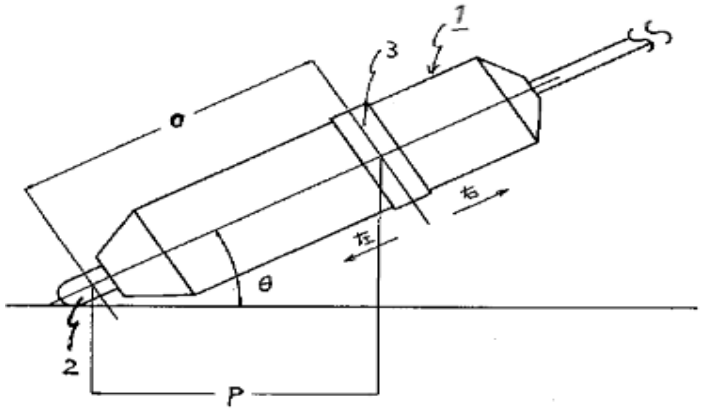
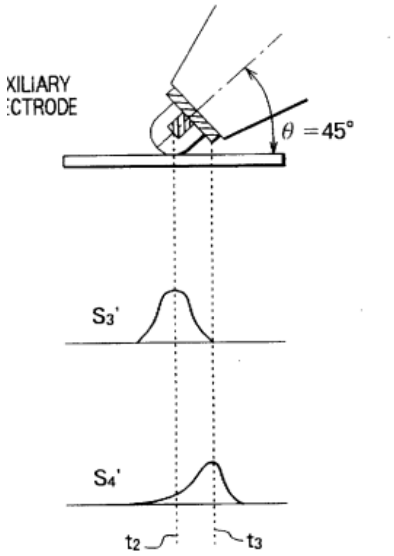


Figure 5 of IKEDA illustrates a ring-shaped coordinate detection electrode positioned along the pen body, forming a second capacitive interaction. This confirms that capacitive stylus systems inherently generate multiple capacitive relationships that allow for tilt detection.

To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose detecting angular information of a pen-shaped position indicator based on first and second capacitive relationships, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation.

Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below.

IGUCHI discloses a system where capacitive signals from multiple electrodes exhibit a measurable time difference, which is used to determine tilt: "A time difference is caused between timing t2 of a peak of an output signal S3' provided

	by the main electrode and timing t3 of a peak of an output signal S4' provided by the auxiliary electrode." IGUCHI, Fig. 29b, 31:37-41. FIG. 29b (θ =45°)  Figure 29b of IGUCHI illustrates phase-shifted capacitive signals, demonstrating how capacitive variations provide real-time tilt measurement. This disclosure directly supports the angular detection requirement of 14[c] by showing how a capacitive stylus system processes signal differentiation to determine inclination. IGUCHI further confirms that tilt detection is derived from capacitive differences: "Since the auxiliary electrode is located in a position separated from the main electrode, coordinates of the main and auxiliary electrodes with respect

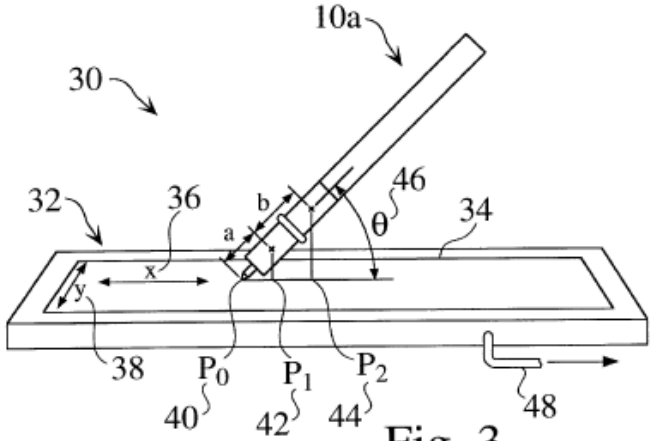
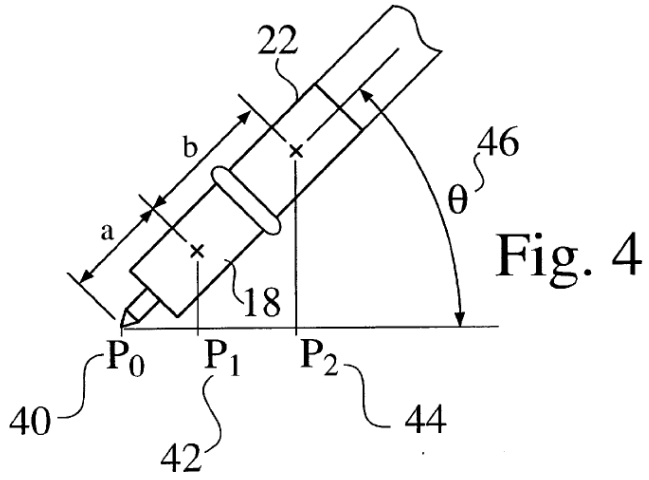
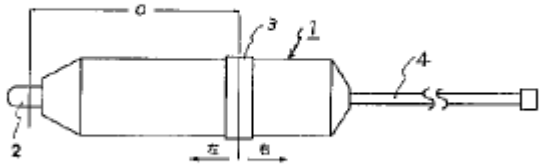
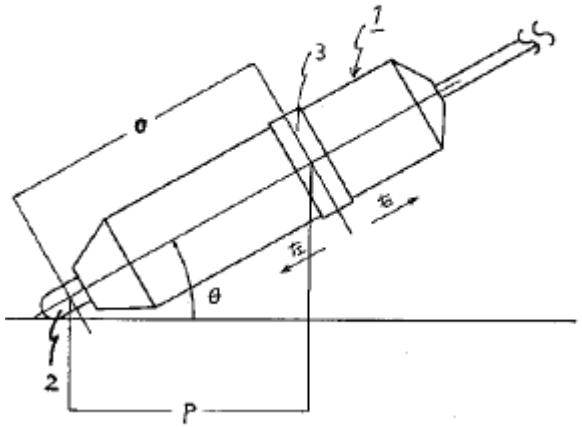
	to a tablet plate are separately detected when the pen shaft is inclined." IGUCHI, 15:6-9. A POSITA would have recognized that capacitive stylus-based systems commonly rely on multiple capacitive relationships to determine angular displacement. Given that IKEDA already describes capacitive inclination detection, incorporating IGUCHI's structured time-based displacement analysis would have been an obvious and expected enhancement to improve the accuracy of angle measurement. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a pen positioning system 10 with multiple output elements 18, 22 used to determine both the location and the tilt of the pen tip relative to an electronic tablet 32. WARD, Figs. 3, 4.  Fig. 3

	Figure 3 of WARD shows the pen 10a positioned at an inclined angle 46 relative to the electronic tablet 32, demonstrating angle detection.  Fig. 4 Figure 4 of WARD illustrates how the geometric relationships between the pointing tip (16) and output elements (18, 22) provide angular information. WARD further states: "An improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet." WARD, 1:65-68. WARD also discloses: "The geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 1:68-71. POSITA would have recognized that precise stylus tracking requires correlating capacitive detection data with structured angular displacement tracking. Given that IKEDA already discloses a capacitive-based inclination detection system,

	incorporating WARD's structured multi-output approach would have been a predictable enhancement to improve angular detection accuracy.

Claim 15	Disclosure
The method according to claim 14, wherein the first and second electrodes are arranged at the first and second positions that are different along the axis of the pen-shaped position indicator.	IKEDA discloses that the first electrode (on the pen tip) and the second electrode (on the pen body) are positioned at different locations along the pen's axis: "[A] coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Figs. 1, 5 (shows electrode positioning). 【図1】  IKEDA Fig. 1: Illustrates electrode positioning along different axial locations of the pen.

【図5】

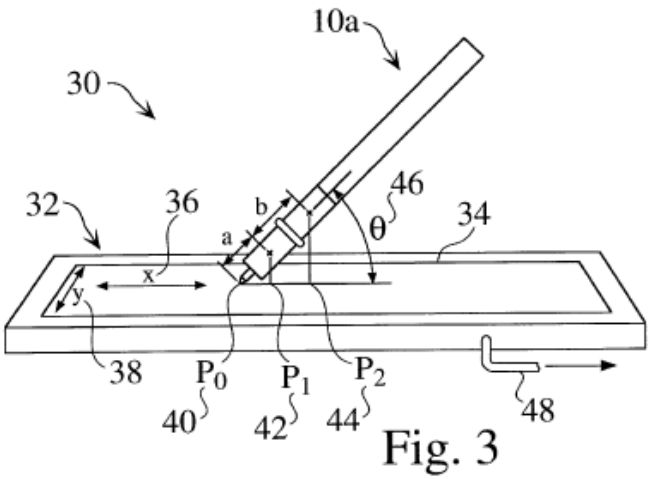


IKEDA Fig. 5: Depicts detection of pen inclination and tilt angle, reinforcing that the electrodes are arranged along the axis of the pen.

Further, IKEDA discloses that coordinate detection is performed using these two spatially separated detection units: “Fig. 1 is a configuration diagram of the coordinate detection pen of this invention, where an axis-shaped detection unit 2 is positioned at the tip of the coordinate detection pen 1 to read the coordinates of the indicated point, and a ring-shaped detection unit 3 for indicating the angle is positioned on the body of the coordinate detection pen.” IKEDA, [0008], Fig. 5.

Additionally, IKEDA discloses how the system processes signals separately from the two detection units, confirming their distinct locations: “Using the coordinate data from the two detection units 2 and 3 stored in the regions of RAM 8, the dimensional control program converts the dimensions between the detection unit for coordinate detection and the detection unit for angle detection, storing the angle dimension P where the coordinate detection pen 1 is located in RAM 8 of the coordinate input device.” IKEDA, [0013], Fig. 5.

	To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose electrodes arranged at first and second positions that are different along the axis of the pen-shaped position indicator, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI describes multiple electrodes positioned at different locations along the axis of a stylus. Specifically, IGUCHI discloses: "The main electrode 304 covered with resin is arranged at an end tip of the pen shaft 310" and "[t]he auxiliary electrode 305 is arranged around this main electrode 304." IGUCHI, 30:25-29. Additionally, IGUCHI describes how these spatially separated electrodes enable detection of angular displacement: "Since the auxiliary electrode is located in a position separated from the main electrode, coordinates of the main and auxiliary electrodes with respect to a tablet plate are separately detected when the pen shaft is inclined." IGUCHI, 15:6-12. A POSITA would have recognized that arranging electrodes at different positions along the stylus body improves signal differentiation and tilt detection. Given that IKEDA already discloses a system where electrodes are placed at distinct axial positions to determine inclination, incorporating IGUCHI's structured multi-electrode design would have been an obvious enhancement to optimize capacitive coupling for accurate tilt measurement. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below.

	WARD discloses a pen positioning system 10 with multiple output elements 18, 22 used to determine both the location and the tilt of the pen tip relative to an electronic tablet 32. WARD, Figs. 3, 4.  Fig. 3 Figure 3 of WARD shows the pen 10a positioned at an inclined angle 46 relative to the electronic tablet 32, demonstrating angle detection.

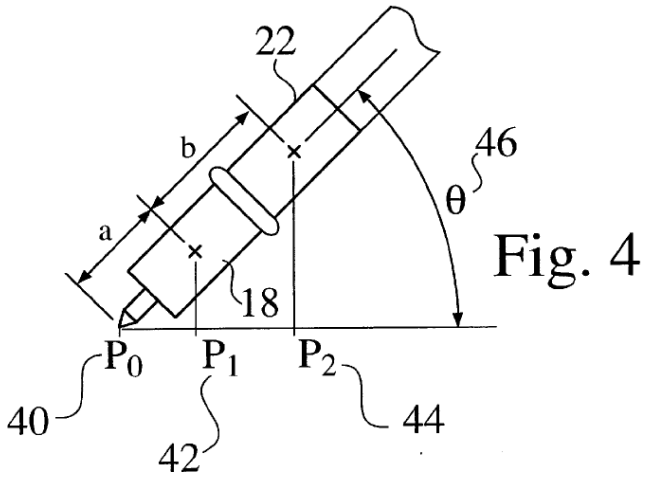
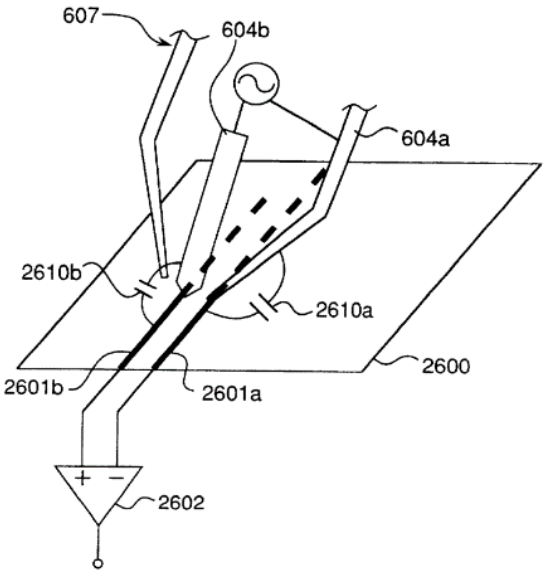


Fig. 4

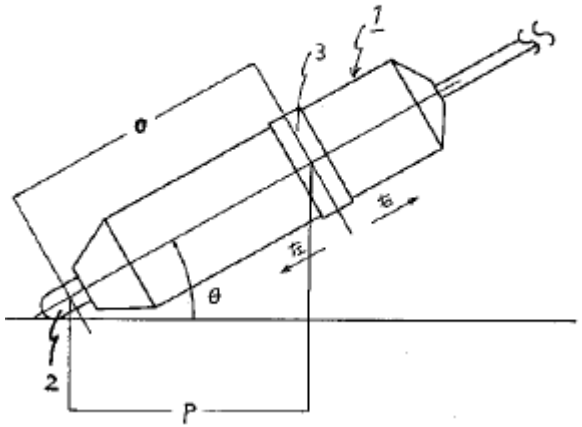
Figure 4 of WARD illustrates how the geometric relationships between the pointing tip (16) and output elements (18, 22) provide angular information.

WARD further states: "An improved pen positioning system is provided, in which a pen, having multiple output elements, is adapted to determine the location of the pointing tip of the pen accurately, in relation to an electronic tablet." WARD, 1:65-2:1. WARD also discloses: "The geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 2:4-8.

A POSITA would have recognized that capacitive stylus-based input systems commonly utilize multiple electrodes positioned at different locations to improve angle and coordinate detection. Given that IKEDA already describes a capacitive stylus system with electrodes positioned along the stylus axis, incorporating WARD's structured multi-output element tracking method would have been an expected enhancement to refine tilt measurement and positional accuracy.

Claim 18	Disclosure
The method according to claim 14, wherein the angle information is a tilt angle of the pen-shaped position indicator relative to the sensor surface.	*See supra* regarding Claim 14. *Fig.26*  IKEDA discloses detecting the tilt angle of the pen-shaped position indicator relative to the sensor surface: "[A] coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Fig. 5 (illustrating tilt angle detection).

【図5】

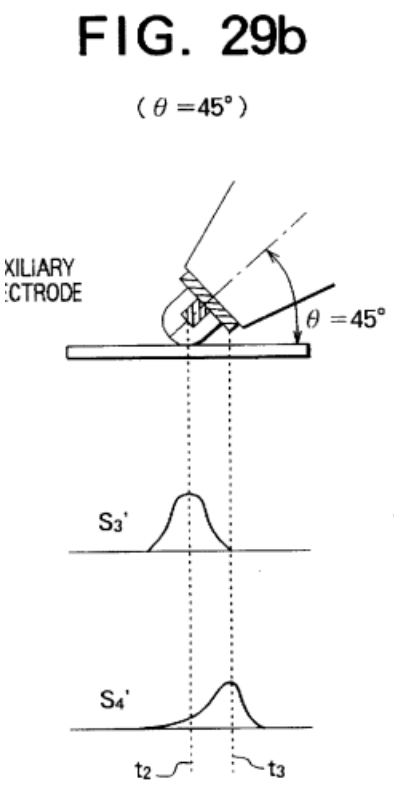


IKEDA Fig. 5 - Illustrates pen inclination detection, showing the tilt angle measurement process.

Additionally, IKEDA discloses how these two capacitive relationships allow for tilt measurement: “Using the coordinate data from the two detection units 2 and 3 stored in the regions of RAM 8, the dimensional control program converts the dimensions between the detection unit for coordinate detection and the detection unit for angle detection, storing the angle dimension P where the coordinate detection pen 1 is located in RAM 8 of the coordinate input device.” IKEDA, [0013], Fig. 5.

Further, IKEDA discloses that the system detects the inclination (tilt) angle relative to the sensor surface: 'By detecting each coordinate using the detection unit 2 for coordinate detection and the detection unit 3 for angle detection of the coordinate detection pen 1, control over the angle of the coordinate detection pen 1 can be achieved . . . .” IKEDA, [0015], Fig. 5.

	To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose that the first and second electrodes are arranged at first and second positions that are different along the axis of the pen-shaped position indicator, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI discloses determining tilt angle from capacitive relationships and signal timing differences. IGUCHI, Fig.29b, 31:37-50 (explaining "an arbitrary angle of the input pen with respect to the tablet can be set to an inclination angle in a standard state in accordance with differences in habit when the detecting pen is individually used" where "a time difference is caused between timing t2 of a peak of an output signal S3' provided by the main electrode and timing t3 of a peak of an output signal S4' provided by the auxiliary electrode.").

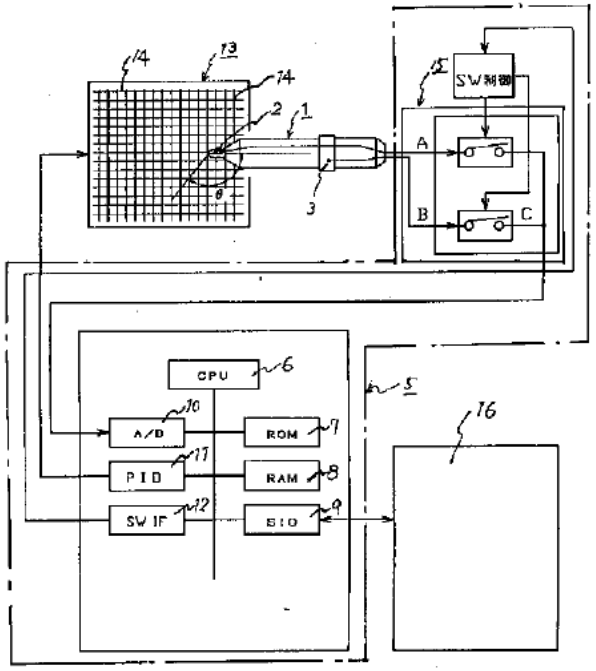


IGUCHI's Figure 29b, as previously described, illustrates the method of determining the pen's tilt angle by analyzing the time differences between signals from the main and auxiliary electrodes. The graphical representation in the figure correlates these time differences with specific tilt angles. The figure illustrates how a stylus's angle is derived from capacitive relationships, demonstrating real-world tilt calculations.

	A POSITA would have recognized that both IKEDA and IGUCHI disclose capacitive stylus systems capable of detecting tilt angles. IKEDA teaches a coordinate detection pen with two capacitive detection units (one at the tip and one on the pen body) to determine inclination angles, while IGUCHI discloses how time-differentiated capacitive signals can be used to measure angular displacement. IGUCHI, Fig. 29b, 31:37-50. Given that both references address the same problem—accurately detecting stylus tilt using capacitive relationships—a POSITA would have found it obvious to incorporate IGUCHI's time-differentiated capacitive detection method into IKEDA's system to improve tilt measurement accuracy. The combination would have been a predictable optimization, applying well-known capacitive sensing techniques to enhance stylus-based coordinate input devices.

Claim 21	**Disclosure**
The method according to claim 14, wherein the first and second signals are of the same type but have a time difference from each other.	*See supra* regarding Claim 14; *see also* Claim 8. IKEDA discloses a coordinate detection pen that utilizes multiple capacitive detection units to measure angular displacement and positional changes. Specifically, IKEDA states: "[A] coordinate detection electrode (first detection unit) is positioned at the tip of the coordinate detection pen, and a ring-shaped coordinate detection electrode (second detection unit) for angle reading is placed on the body of the coordinate detection pen." IKEDA, [0006], Fig. 3.

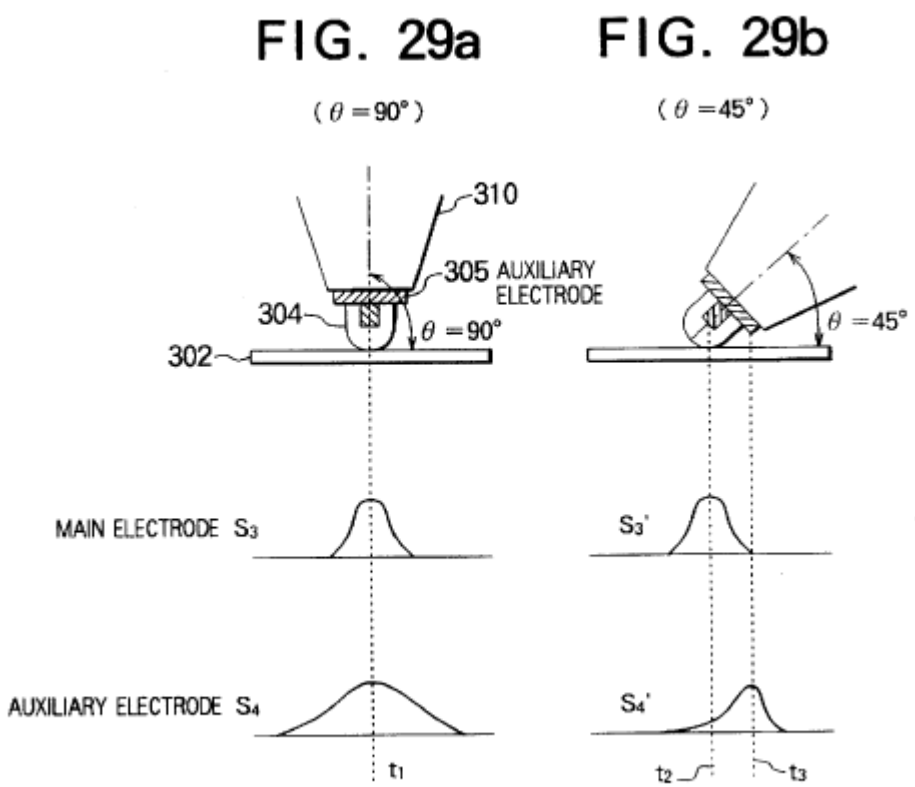
【図３】



IKEDA Fig. 3: Shows an electrical block diagram of IKEDA's coordinate input system, illustrating the separate signal pathways used for coordinate and angular detection.

Additionally, IKEDA discloses that these two capacitive detection units work together to determine tilt and positional changes: "The coordinate detection is performed using the two detection units 2 and 3, and the coordinate data detected via electrostatic capacitance coupling with the tablet's electrodes, as described later, is applied to the main body 5 of the coordinate input device through a cable 4 connected to the coordinate detection pen 1." IKEDA, [0008], Fig. 3.

	Further, IKEDA discloses how these signals are processed to measure angular displacement: "Using the coordinate data from the two detection units 2 and 3 stored in the regions of RAM 8, the dimensional control program converts the dimensions between the detection unit for coordinate detection and the detection unit for angle detection, storing the angle dimension P where the coordinate detection pen 1 is located in RAM 8 of the coordinate input device." IKEDA, [0013], Fig. 3. To the extent Plaintiff contends IKEDA does not expressly, implicitly, or inherently disclose signals of the same type having a time difference from each other, one of ordinary skill in the art would, based on one's knowledge and the disclosure of IKEDA, understand how to modify IKEDA to meet this limitation. Alternatively, one of ordinary skill could modify IKEDA in view of IGUCHI to meet this limitation, as shown below. IGUCHI discloses signals from different electrodes having a timing difference. IGUCHI, Fig.29b, 31:47-50 (explaining "a time difference is caused between timing t2 of a peak of an output signal S3' provided by the main electrode and timing t3 of a peak of an output signal S4' provided by the auxiliary electrode.").



IGUCHI Figure 29b illustrates this concept through a waveform diagram, where the signals S3' and S4' are shown to have distinct peaks that occur at different times. This timing offset enables the determination of angular information based on phase shifts in the detected signals, a principle used in capacitive sensing. The timing difference between the signals from the electrodes in IGUCHI (Fig. 29a, 304, 305) corresponds to the claimed feature in Claim 21 of the '277 patent, thereby rendering this limitation obvious in light of prior art.

	Further, IGUCHI discloses that capacitive signals are detected by electrodes positioned at different locations, confirming the presence of transmission paths: "Since the auxiliary electrode is located in a position separated from the main electrode, coordinates of the main and auxiliary electrodes with respect to a tablet plate are separately detected when the pen shaft is inclined." IGUCHI, 15:6-9. A POSITA would have recognized that capacitive stylus systems commonly exhibit phase shifts and time-differentiated signals due to variations in capacitive coupling strength between the first and second electrodes. Given that IKEDA already discloses a multi-electrode capacitive input system, incorporating IGUCHI's explicit time-differentiated signal approach would have been an obvious optimization to improve coordinate tracking and tilt detection accuracy. Alternatively, one of ordinary skill could modify IKEDA in view of WARD to meet this limitation, as shown below. WARD discloses a multi-output element pen system where signals from different output elements exhibit a measurable time difference. Specifically, WARD describes a dual-output pen system in which spatially separated output elements transmit signals that are processed independently, introducing an inherent time difference in their reception: "The geometric relationship between the output elements and the pointing tip of the pen allows the location of the pointing tip to be determined, independent of the angle which the pen is inclined against the surface of the writing tablet." WARD, 2:4-8. Figures 3 and 4 of WARD illustrate how the two output elements (18, 22) on the pen generate separate signals that are detected at different times, depending on the pen's orientation and spatial positioning. This supports the concept that signals of the same type (e.g., ultrasonic or capacitive signals) can exhibit a time difference due to their transmission and reception at different locations relative to the sensor surface.

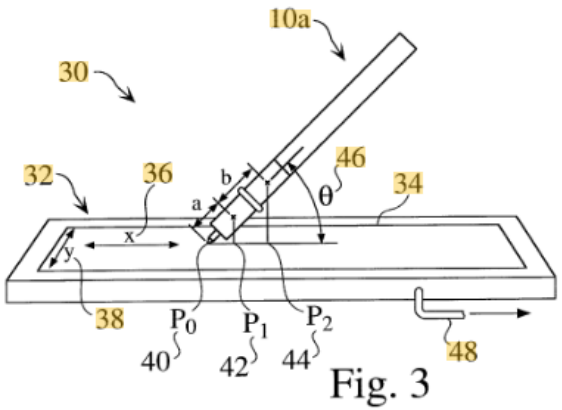


Fig. 3

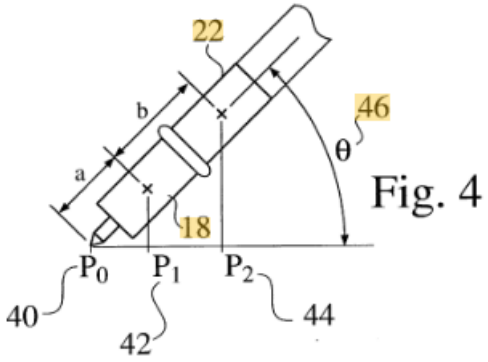


Fig. 4

WARD discloses, "FIG. 3 is a perspective view of the positioning pen system (30), in which a dual output element pen (10a) is shown at an inclined angle (46) in relation to an electronic tablet (32), indicated as θ." WARD, 3:1-4. WARD further explains, "A first output element 18 is located on the pen 10, and has a first point source 20 for a first output signal. A second output element 22 is located on

	the pen 10, and has a second point source 24 for a second output signal." WARD, 2:48-52. A POSITA would have recognized that capacitive and other stylus-based input devices commonly exhibit time-differentiated signals due to differences in signal propagation, phase shift, and detection delays between separate output elements. Given that IKEDA already describes a multi-electrode capacitive detection system, incorporating WARD's structured dual-output element tracking method would have been an obvious enhancement to improve signal differentiation and positional accuracy.