

(12) **United States Patent**
Philipp

(10) **Patent No.:** US 8,599,150 B2
(45) **Date of Patent:** Dec. 3, 2013

(54) **TOUCHSCREEN ELECTRODE CONFIGURATION**
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(73) Assignee: **Atmel Corporation**, San Jose, CA (US)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 276 days.
(21) Appl. No.: **12/608,779**
(22) Filed: **Oct. 29, 2009**

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(65) **Prior Publication Data**

US 2011/0102361 A1 May 5, 2011

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(51) **Int. Cl.**

G06F 3/041 (2006.01)
G06K 11/06 (2006.01)
G08C 21/00 (2006.01)
G06F 3/045 (2006.01)
G06F 3/033 (2013.01)
G06F 3/044 (2006.01)

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(52) **U.S. Cl.**

USPC 345/173; 178/18.01; 178/18.02;
178/18.03; 178/18.05; 178/18.06; 178/19.03

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(58) **Field of Classification Search**

USPC 345/173-178; 178/18.01-18.03, 18.05,
178/18.06, 19.03

(57) **ABSTRACT**

A touchscreen includes touchscreen electrode elements distributed across an active area of a substrate, and the touchscreen overlays a display. The touchscreen electrode elements are configured to avoid creating moiré patterns between the display and the touchscreen, such as angled, wavy, zig-zag, or randomized lines. In a further example, the electrodes form a mesh pattern configured to avoid moiré patterns.

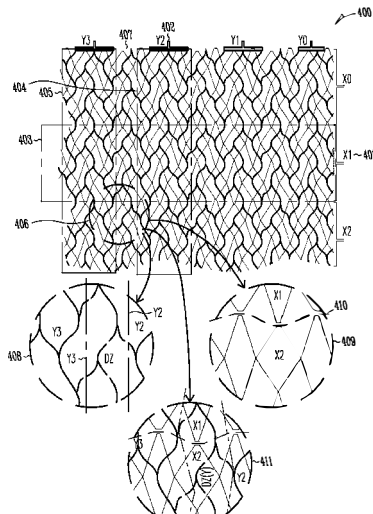
See application file for complete search history.

11 Claims, 7 Drawing Sheets

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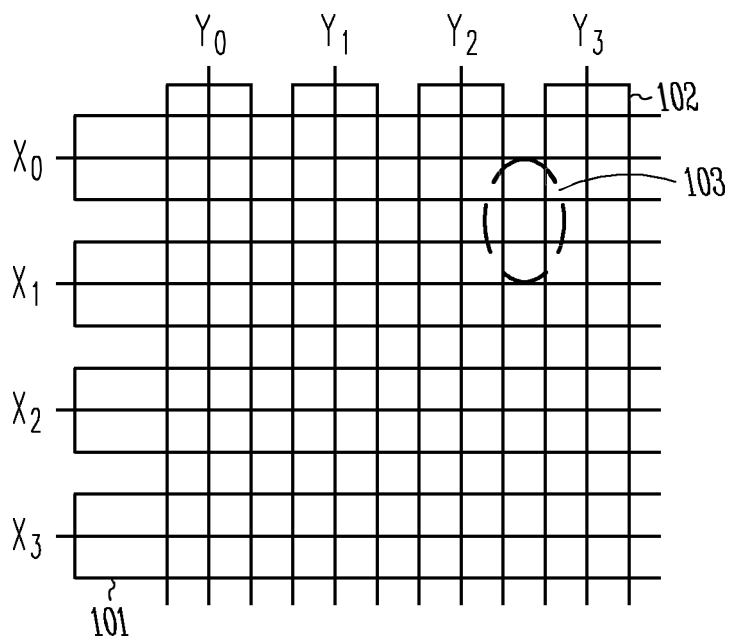


Fig. 1

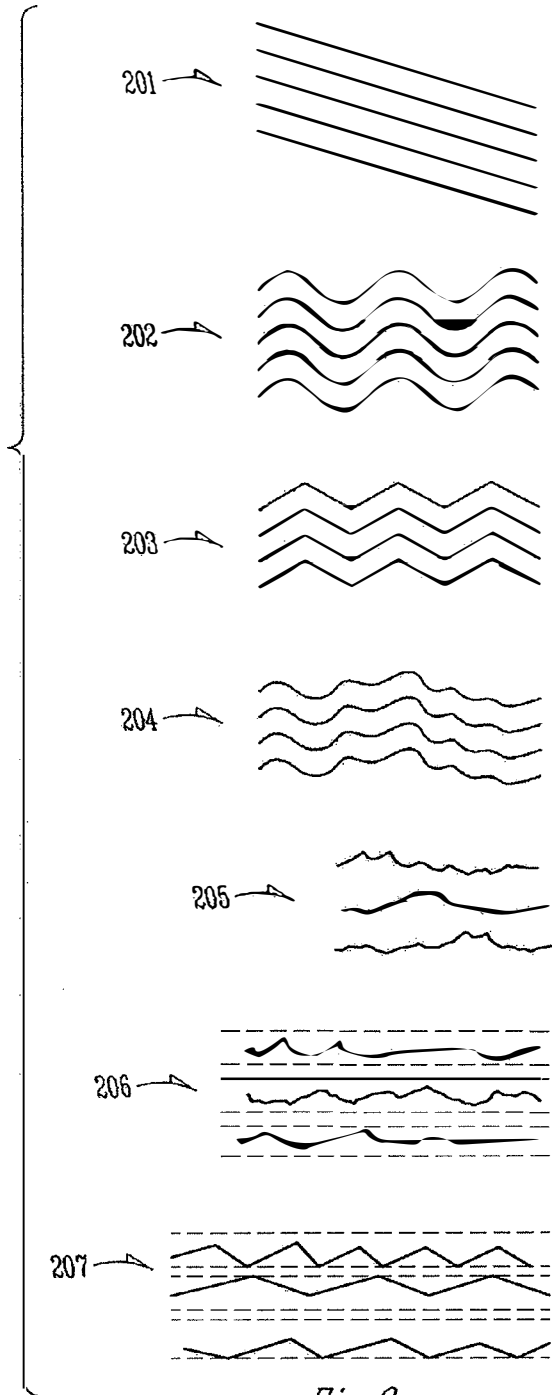


Fig. 2

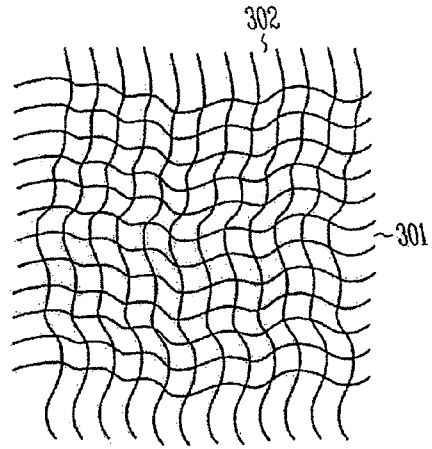


Fig. 3

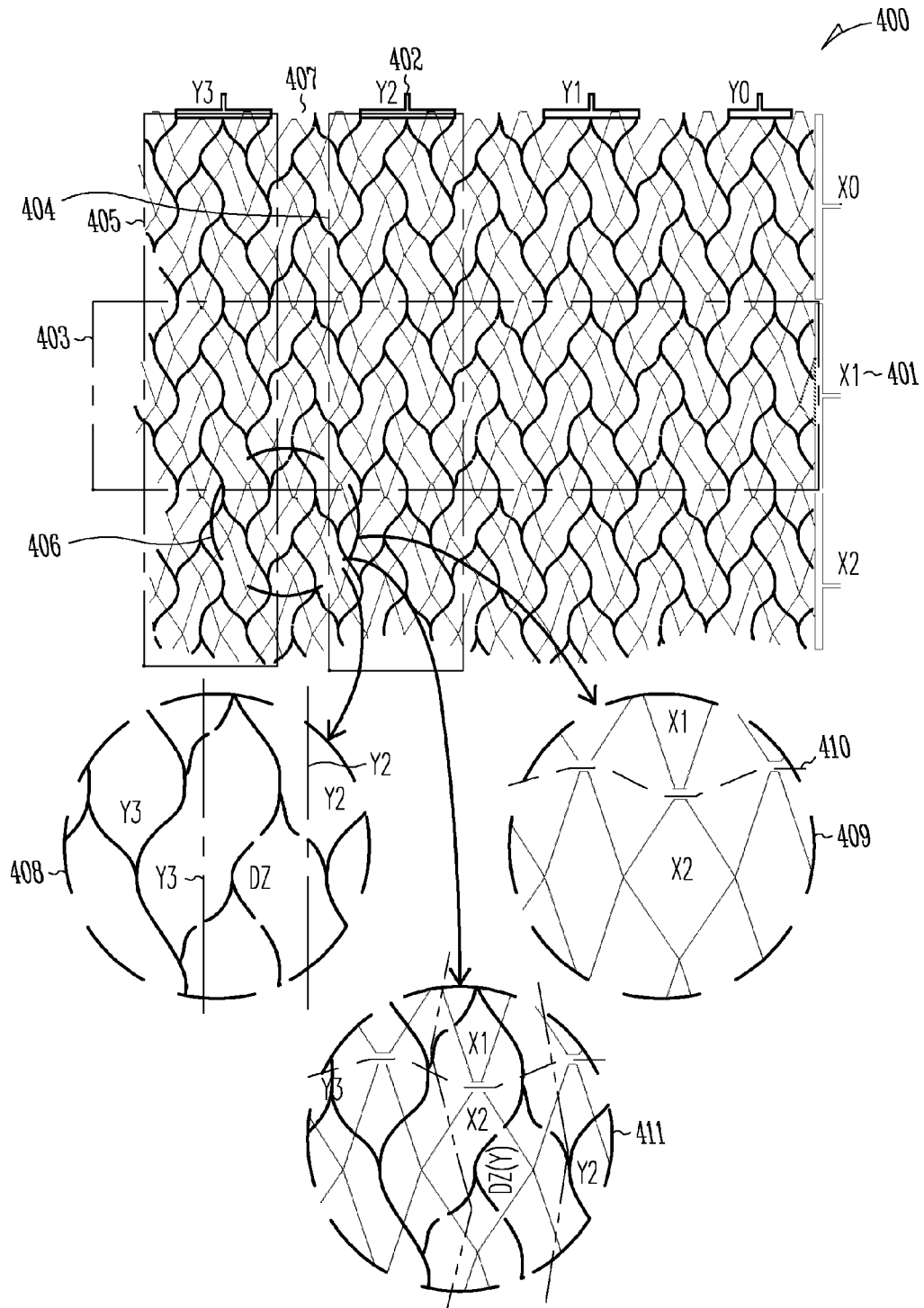


Fig. 4

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