

EUROPEAN PATENT OFFICE  
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 662

DATE: MAY 1, 2019

PROJECT RP0458

**The following classification changes will be effected by this Notice of Changes:**

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
<b>SCHEME:</b>		
Symbols New:	G06F	3/0393
	G06F	3/04142
	G06F	3/04144
	G06F	3/04146
	G06F	3/04162
	G06F	3/04164
	G06F	3/04166
	G06F	3/041661
	G06F	3/041662
	G06F	3/04182
	G06F	3/04184
	G06F	3/04186
	G06F	3/0441
	G06F	3/0442
	G06F	3/0443
	G06F	3/0444
	G06F	3/0445
	G06F	3/0446
	G06F	3/0447
	G06F	3/0448
	G06F	2203/04114
Titles Changed:	G06F	3/039
	G06F	3/0412
	G06F	3/0414
	G06F	3/0416
	G06F	3/0418
	G06F	3/042
	G06F	2203/041
	G06F	2203/04105
	G06F	2203/04113
Warnings New:	G06F	3/039
	G06F	3/0414
	G06F	3/0416
	G06F	3/0418
	G06F	3/044
	G06F	3/0393
	G06F	3/04142
	G06F	3/04144
	G06F	3/04146

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<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
	G06F	3/04162
	G06F	3/04164
	G06F	3/04166
	G06F	3/041661
	G06F	3/041662
	G06F	3/04182
	G06F	3/04184
	G06F	3/04186
	G06F	2203/041
	G06F	2203/04114
<b>DEFINITIONS:</b>		
Definitions New:	G06F	3/0393
	G06F	3/04142
	G06F	3/04144
	G06F	3/04146
	G06F	3/04162
	G06F	3/04164
	G06F	3/04166
	G06F	3/04184
	G06F	3/04186
	G06F	3/0441
	G06F	3/0442
	G06F	3/0443
	G06F	3/0444
	G06F	3/0445
	G06F	3/0446
	G06F	3/0447
	G06F	3/0448
Definitions Modified:	G06F	3/0386
	G06F	3/039
	G06F	3/041
	G06F	3/0412
	G06F	3/0414
	G06F	3/0416
	G06F	3/042
	G06F	3/044
	G06F	3/047

**No other subclasses/groups are impacted by this Notice of Changes.**

**This Notice of Changes includes the following [Check the ones included]:**

1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

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- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

- A. New or Modified Definitions (Full definition template)
  - B. Modified or Deleted Definitions (Definitions Quick Fix)
3.  REVISION CONCORDANCE LIST (RCL)
  4.  CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
  5.  CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

**SUBCLASS G06F - ELECTRICAL DIGITAL DATA PROCESSING**

<b><u>Type*</u></b>	<b><u>Symbol</u></b>	<b><u>Indent Level Number of dots (e.g. 0, 1, 2)</u></b>	<b><u>Title</u></b> <b><u>“CPC only” text should normally be enclosed in {curly brackets}**</u></b>	<b><u>Transferred to<sup>#</sup></u></b>
U	G06F 3/0386	5	{for light pen}	
C	G06F 3/039	4	Accessories therefor, e.g. mouse pads	G06F 3/039, G06F 3/0393
N	G06F 3/0393	5	{Accessories for touch pads or touch screens, e.g. mechanical guides added to touch screens for drawing straight lines, hard keys overlaying touch screens or touch pads}	
U	G06F 3/041	3	Digitisers, e.g. for touch screens or touch pads, characterised by the transducing means	
M	G06F 3/0412	4	{Digitisers structurally integrated in a display}	
C	G06F 3/0414	4	{using force sensing means to determine a position}	G06F 3/0414, G06F 3/04142, G06F 3/04144, G06F 3/04146
N	G06F 3/04142	5	{the force sensing means being located peripherally, e.g. disposed at the corners or at the side of a touch sensing plate}	
N	G06F 3/04144	5	{using an array of force sensing means (position sensing using the local deformation of sensor cells G06F3/0447)}	
N	G06F 3/04146	5	{using pressure sensitive conductive elements delivering a boolean signal and located between crossing sensing lines, e.g. located between X and Y sensing line layers}	

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<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <b><u>“CPC only” text should normally be enclosed in {curly brackets}**</u></b>	<u>Transferred to#</u>
C	G06F 3/0416	4	{Control or interface arrangements specially adapted for digitisers }	G06F 3/0416, G06F 3/04162, G06F 3/04164, G06F 3/04166, G06F 3/041661, G06F 3/041662
N	G06F 3/04162	5	{for exchanging data with external devices, e.g. smart pens, via the digitiser sensing hardware }	
N	G06F 3/04164	5	{Connections between sensors and controllers, e.g. routing lines between electrodes and connection pads }	
N	G06F 3/04166	5	{Details of scanning methods, e.g. sampling time, grouping of sub areas or time sharing with display driving (Synchronisation with the driving of the display or the backlighting unit to avoid interferences generated internally G06F3/04184)}	
N	G06F 3/041661	6	{using detection at multiple resolutions, e.g. coarse and fine scanning; using detection within a limited area, e.g. object tracking window }	
N	G06F 3/041662	6	{using alternate mutual and self-capacitive scanning }	
C	G06F 3/0418	5	{for error correction or compensation, e.g. based on parallax, calibration or alignment }	G06F 3/0418, G06F 3/04182, G06F 3/04184, G06F 3/04186
N	G06F 3/04182	6	{Filtering of noise external to the device and not generated by digitiser components }	
N	G06F 3/04184	6	{Synchronisation with the driving of the display or the backlighting unit to avoid interferences generated internally }	
N	G06F 3/04186	6	{Touch location disambiguation }	

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<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to#</u>
M	G06F 3/042	4	by opto-electronic means	
U	G06F 3/0436	5	{in which generating transducers and detecting transducers are attached to a single acoustic waves transmission substrate}	
C	G06F 3/044	4	by capacitive means	G06F 3/044, G06F 3/0441, G06F 3/0442, G06F 3/0443, G06F 3/0444, G06F 3/0445, G06F 3/0446, G06F 3/0447, G06F 3/0448
N	G06F 3/0441	5	{using active external devices, e.g. active pens, for receiving changes in electrical potential transmitted by the digitiser, e.g. tablet driving signals}	
N	G06F 3/0442	5	{using active external devices, e.g. active pens, for transmitting changes in electrical potential to be received by the digitiser}	
N	G06F 3/0443	5	{using a single layer of sensing electrodes}	
N	G06F 3/0444	5	{using a single conductive element covering the whole sensing surface, e.g. by sensing the electrical current flowing at the corners}	
N	G06F 3/0445	5	{using two or more layers of sensing electrodes, e.g. using two layers of electrodes separated by a dielectric layer}	
N	G06F 3/0446	5	{using a grid-like structure of electrodes in at least two directions, e.g. using row and column electrodes}	
N	G06F 3/0447	5	{Position sensing using the local deformation of sensor cells}	

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<u>Type*</u>	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> <u>“CPC only” text should normally be enclosed in {curly brackets}**</u>	<u>Transferred to<sup>#</sup></u>
N	G06F 3/0448	5	{Details of the electrode shape, e.g. for enhancing the detection of touches, for generating specific electric field shapes, for enhancing display quality}	
U	G06F 2203/0384	2	Wireless input, i.e. hardware and software details of wireless interface arrangements for pointing devices	
C	G06F 2203/041	1	Indexing scheme relating to G06F 3/041 -G06F 3/045	G06F 2203/041, G06F 2203/04114
U	G06F 2203/04104	2	Multi-touch detection in digitiser, i.e. details about the simultaneous detection of a plurality of touching locations, e.g. multiple fingers or pen and finger	
M	G06F 2203/04105	2	Pressure sensors for measuring the pressure or force exerted on the touch surface without providing the touch position	
U	G06F 2203/04112	2	Electrode mesh in capacitive digitiser: electrode for touch sensing is formed of a mesh of very fine, normally metallic, interconnected lines that are almost invisible to see. This provides a quite large but transparent electrode surface, without need for ITO or similar transparent conductive material	
M	G06F 2203/04113	2	Peripheral electrode pattern in resistive digitisers, i.e. electrodes at the periphery of the resistive sheet are shaped in patterns enhancing linearity of induced field	
N	G06F 2203/04114	2	Touch screens adapted for alternating or simultaneous interaction with active pens and passive pointing devices like fingers or passive pens	

\*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T= existing entries with enlarged file scope, which receive documents from

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C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

### NOTES:

- \*\*No { curly brackets } are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The { curly brackets } are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required “anchor” symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- “Transferred to” column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the “Transferred to” column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY, ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“Transferred to”) symbol, however it is required to specify “<no transfer>” in the “Transferred to” column for such cases.
- For finalisation projects, the deleted “F” symbols should have <no transfer> in the “Transferred to” column.
- For more details about the types of scheme change, see CPC Guide.



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B. New, Modified or Deleted Warning(s)**SUBCLASS G06F - ELECTRICAL DIGITAL DATA PROCESSING**

<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	G06F 3/039		Group G06F3/039 is impacted by reclassification into group G06F3/0393. Groups G06F3/039 and G06F3/0393 should be considered in order to perform a complete search.
N	G06F 3/0393		Group G06F3/0393 is incomplete pending reclassification of documents from group G06F3/039. Groups G06F3/039 and G06F3/0393 should be considered in order to perform a complete search.
N	G06F 3/0414		Group G06F3/0414 is impacted by reclassification into groups G06F3/04142, G06F3/04144 and G06F3/04146. All groups listed in this Warning should be considered in order to perform a complete search.
N	G06F 3/0416		Group G06F3/0416 is impacted by reclassification into groups G06F3/04162, G06F3/04164, G06F3/04166, G06F3/041661, and G06F3/041662. All groups listed in this Warning should be considered in order to perform a complete search.
N	G06F 3/0418		Group G06F3/0418 is impacted by reclassification into groups G06F3/04182, G06F3/04184, and G06F3/04186. All groups listed in this Warning should be considered in order to perform a complete search.
N	G06F 3/04142		Group G06F3/04142 is incomplete pending reclassification of documents from group G06F3/0414. Groups G06F3/0414 and G06F3/04142 should be considered in order to perform a complete search.

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<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	G06F 3/04144		Group G06F3/04144 is incomplete pending reclassification of documents from group G06F3/0414. Groups G06F3/0414 and G06F3/04144 should be considered in order to perform a complete search.
N	G06F 3/04146		Group G06F3/04146 is incomplete pending reclassification of documents from group G06F3/0414. Groups G06F3/0414 and G06F3/04146 should be considered in order to perform a complete search.
N	G06F 3/04162		Group G06F3/04162 is incomplete pending reclassification of documents from group G06F3/0416. Groups G06F3/0416 and G06F3/04162 should be considered in order to perform a complete search.
N	G06F 3/04164		Group G06F3/04164 is incomplete pending reclassification of documents from group G06F3/0416. Groups G06F3/0416 and G06F3/04164 should be considered in order to perform a complete search.
N	G06F 3/04166		Group G06F3/04166 is incomplete pending reclassification of documents from group G06F3/0416. Groups G06F3/0416 and G06F3/04166 should be considered in order to perform a complete search.
N	G06F 3/041661		Group G06F3/041661 is incomplete pending reclassification of documents from group G06F3/0416. Groups G06F3/0416 and G06F3/041661 should be considered in order to perform a complete search.
N	G06F 3/041662		Group G06F3/041662 is incomplete pending reclassification of documents from group G06F3/0416. Groups G06F3/0416 and G06F3/041662 should be considered in order to perform a complete search.

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<u>Type*</u>	<u>Location</u>	<u>Old Warning</u>	<u>New/Modified Warning</u>
N	G06F 3/04182		Group G06F3/04182 is incomplete pending reclassification of documents from group G06F3/0418. Groups G06F3/0418 and G06F3/04182 should be considered in order to perform a complete search.
N	G06F 3/04184		Group G06F3/04184 is incomplete pending reclassification of documents from group G06F3/0418. Groups G06F3/0418 and G06F3/04184 should be considered in order to perform a complete search.
N	G06F 3/04186		Group G06F3/04186 is incomplete pending reclassification of documents from group G06F3/0418. Groups G06F3/0418 and G06F3/04186 should be considered in order to perform a complete search.
N	G06F 3/044		Group G06F3/044 is impacted by reclassification into groups G06F3/0441, G06F3/0442, G06F3/0443, G06F3/0444, G06F3/0445, G06F3/0446, G06F3/0447, and G06F3/0448. All groups listed in this Warning should be considered in order to perform a complete search.
N	G06F 2203/041		Group G06F2203/041 is impacted by reclassification into group G06F2203/04114. Groups G06F2203/041 and G06F2203/04114 should be considered in order to perform a complete search.
N	G06F 2203/04114		Group G06F2203/04114 is incomplete pending reclassification of documents from group G06F2203/041. Groups G06F2203/041 and G06F2203/04114 should be considered in order to perform a complete search.

\*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

## 2. A. DEFINITIONS (new)

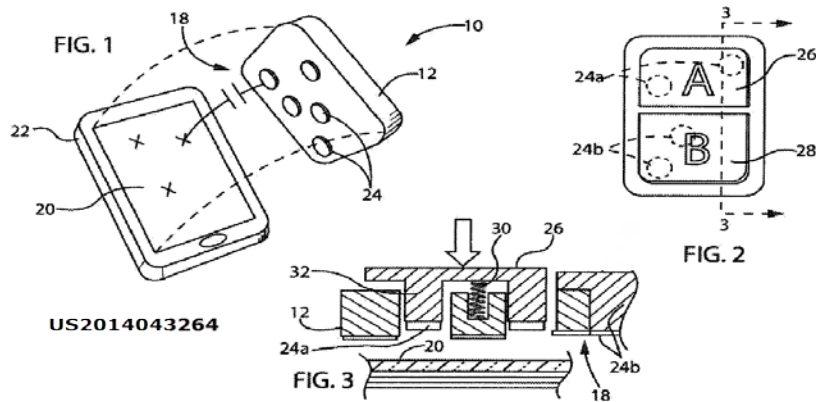
Insert the following new Definitions:

### G06F 3/0393

#### Definition statement

*This place covers:*

For example:



## G06F 3/04142

### Definition statement

*This place covers:*

Touch position determined by the analysis of the signals provided by a plurality (reduced number) of discrete pressure/force sensors disposed at several points of (e.g. under) the touch sensing surface, e.g. at the corners or the side of a touch sensing plate.

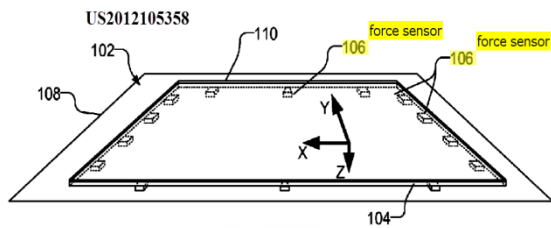
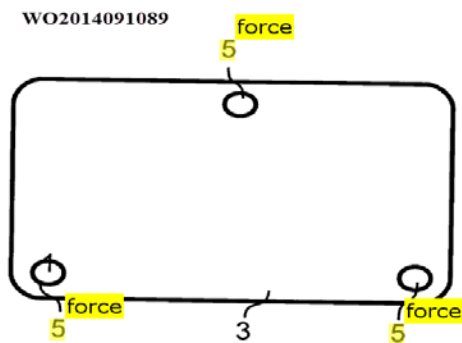


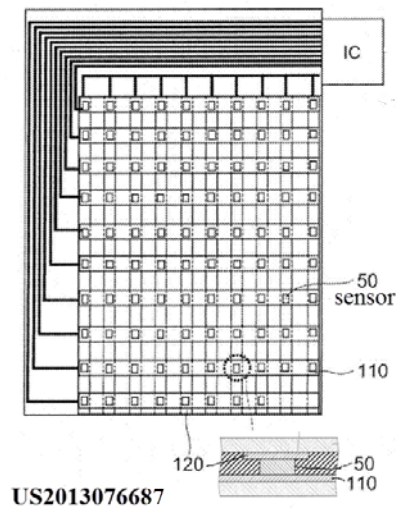
Fig. 3

## G06F 3/04144

### Definition statement

*This group covers:*

Touch position determined by the analysis of the signals provided by either virtual pressure sensors generated by intersection nodes of a grid of sensing lines interacting with a pressure sensitive medium or an array of discrete pressure/force sensors delivering a variable (not a single Boolean 0/1) signal, the array extending over the whole area of the touch sensing surface, e.g. a grid of sensors disposed under the touch sensing surface.



### References

#### Limiting references

*This place does not cover:*

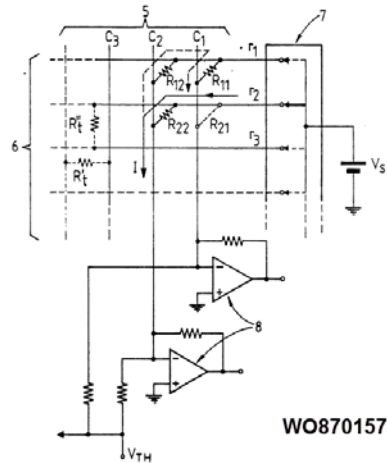
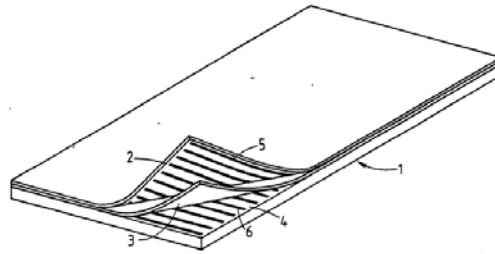
Position sensing using the local deformation of sensor cells	<a href="#">G06F 3/0447</a>
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## G06F 3/04146

### Definition statement

*This place covers:*

Digitisers having a grid of crossing wires brought into virtual contact when pressure is exerted on the interaction surface, the virtual contact is established through a pressure sensitive layer disposed between the wire layers and made of a material that resistance diminishes under an applied pressure used to provide a “binary” output. The touch position is determined only by the contacting wires (scanning line and column) and not by the analog value of the sensed signal.



### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Tactile force sensors	<a href="#">G01L 5/226</a>
Force resistance touch switches	<a href="#">H03K 17/9625</a>
Piezoelectric touch switches	<a href="#">H03K 17/964</a>

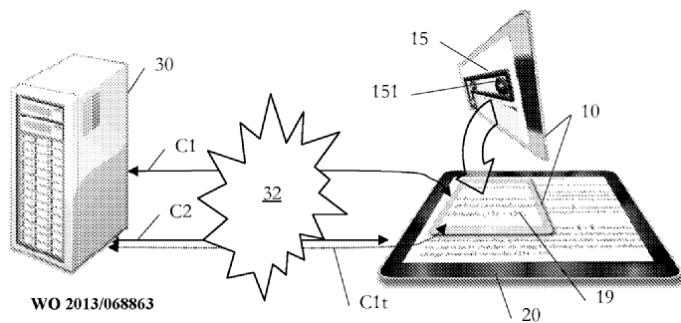
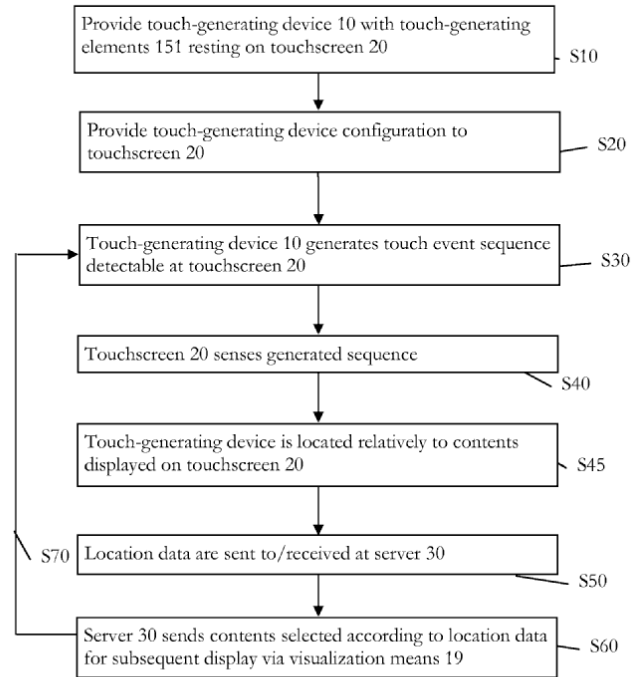
## G06F 3/04162

### Definition statement

*This place covers:*

Digitiser control allowing exchange of data with external devices via the digitiser sensing hardware (touch sensing electrodes, touch sensing coils, etc...), including exchange of information with smart pens as long as it concerns data transmission via the touch detection hardware.

Not for transmission of data between devices using only transmission paths other than the touch sensing hardware (e.g. wired or wireless network).





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## References

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

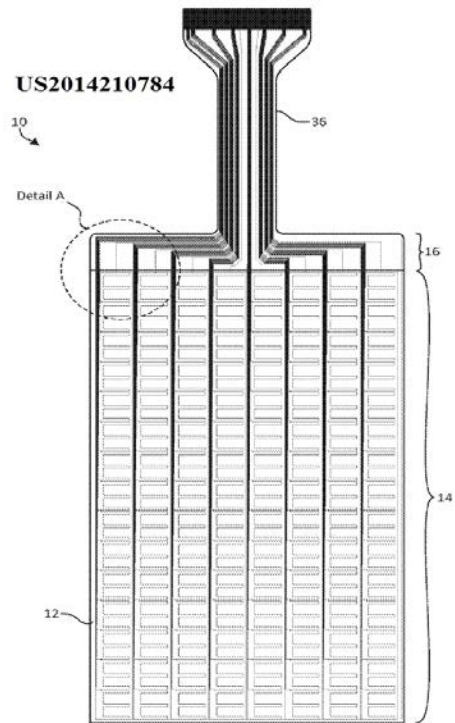
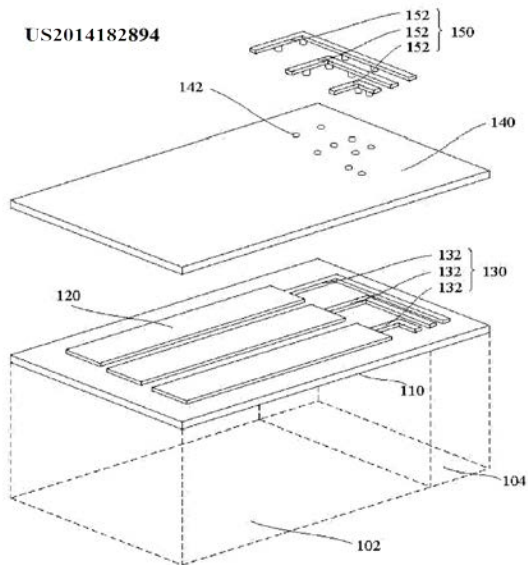
Near-field transmission systems	<a href="#">H04B 5/00</a>
Data switching networks	<a href="#">H04L 12/00</a>
Remote control transmission over wireless link	<a href="#">G08C 17/00</a>
Mobile phones interface using two way short range wireless interface	<a href="#">H04M 1/7253</a>

## G06F 3/04164

### Definition statement

*This place covers:*

Routing between sensing electrodes and controller or connector, details on wiring and connectors.

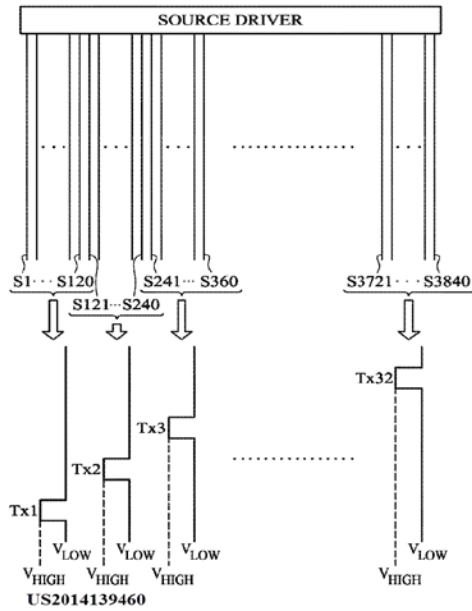


## G06F 3/04166

### Definition statement

*This place covers:*

For example grouping electrodes for changing the detection speed, resolution or sensitivity (including proximity distance), detection of multiple touches, detection of both pen and finger or, combination of multiple touch technologies.



### References

### Limiting references

*This place does not cover:*

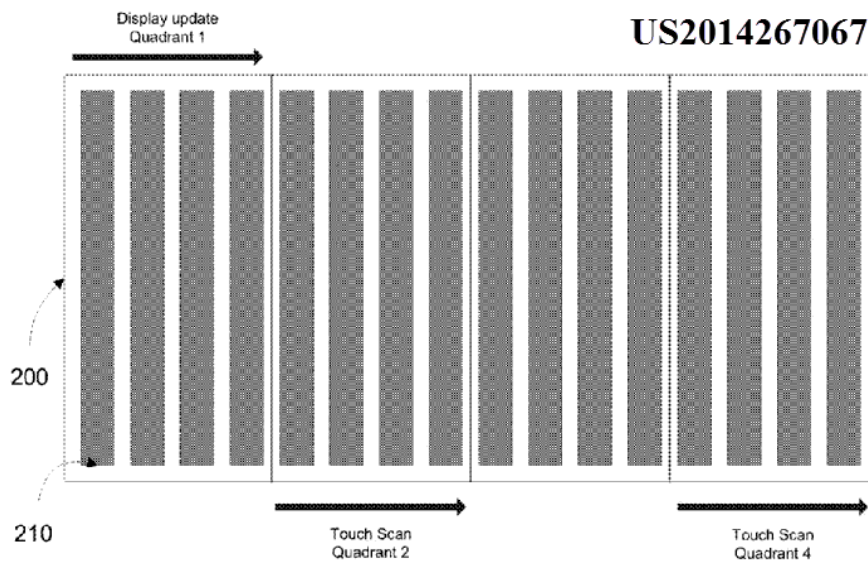
Synchronisation with the driving of the display or the backlighting unit to avoid interferences generated internally	<a href="#">G06F 3/04184</a>
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## G06F 3/04184

### Definition statement

*This place covers:*

Synchronisation of the touch detection signals with the display (or backlight) driving signals whenever the digitiser is integrated in the display or not.



## **G06F 3/04186**

### **Definition statement**

*This place covers:*

Correcting or resolving an ambiguous detected touch, resulting from either

- an ambiguous touch location measured by the digitiser (e.g. correcting a detected large single touch into more than one smaller and adjacent touches, a partial touch at an edge of a digitiser into a full touch, a detected touch with an unwanted detected event like hover/palm rejection, cracks, water droplets, impurities, ghost touches, or gravity center due to tilt/angle of the input device) or
- an ambiguous interaction with a GUI on a touch screen, wherein the touch location as measured by the digitiser is unambiguous (e.g. correcting a detected touch to a user intended touch position)

### **Special rules of classification**

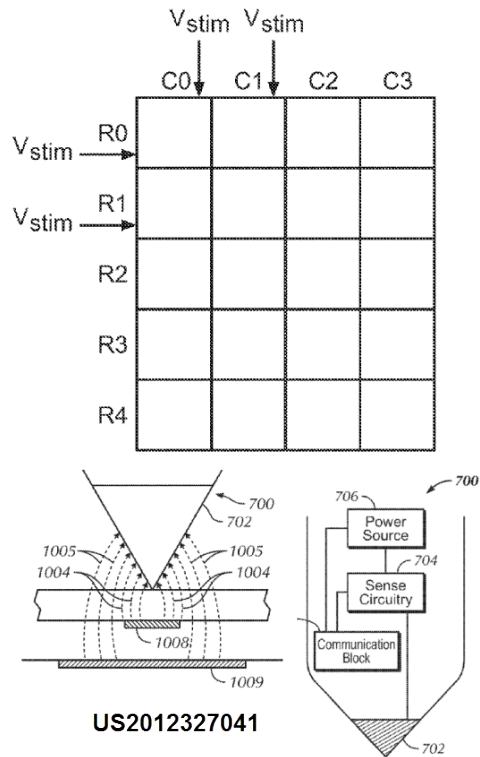
Documents disclosing disambiguation of an interaction with a GUI on a touch screen, wherein the touch location as measured by the digitiser is unambiguous, should be doubly classified in G06 F3/0488 and below.

## G06F 3/0441

### Definition statement

*This place covers:*

Digitisers using the capacitive coupling between the edge of a pointing pen or a similar sensing device and touch sensing conductors (electrodes) of the position sensing surface wherein the pen detects changes in electric potential of the conductors generated by the tablet (e.g. tablet driving signals); corresponding to JP FI: G06F3/044&A.



### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

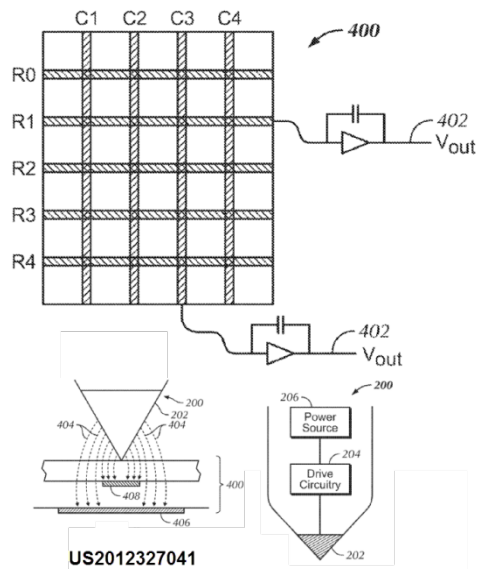
Transmission of data between devices using the touch sensing hardware as transmission path	<a href="#">G06F 3/04162</a>
--	------------------------------

## G06F 3/0442

### Definition statement

*This place covers:*

Digitisers using the capacitive coupling between the edge of a pointing pen or a similar input device and touch sensing conductors (electrodes) of the position sensing surface wherein active pens generate changes in electric potential of tablets, corresponding to JP FI: G06F3/044&B.



### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

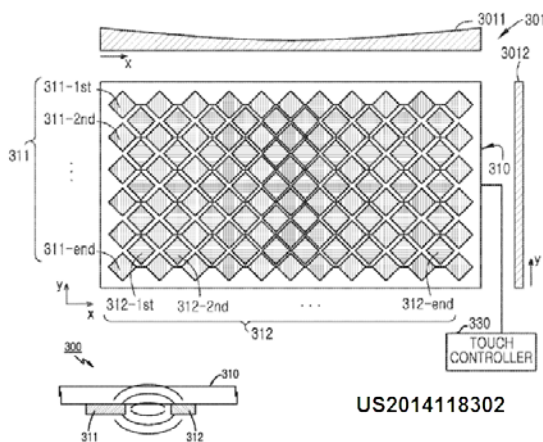
Transmission of data between devices using the touch sensing hardware as transmission path	<a href="#">G06F 3/04162</a>
--	------------------------------

## G06F 3/0443

### Definition statement

*This place covers:*

Digitisers using a single layer of sensing electrodes, i.e. sense and/or drive electrodes. The electrodes may be interconnected by bridges at crossings. The connecting bridge may be in another layer but all the sensing electrodes are in the same one.



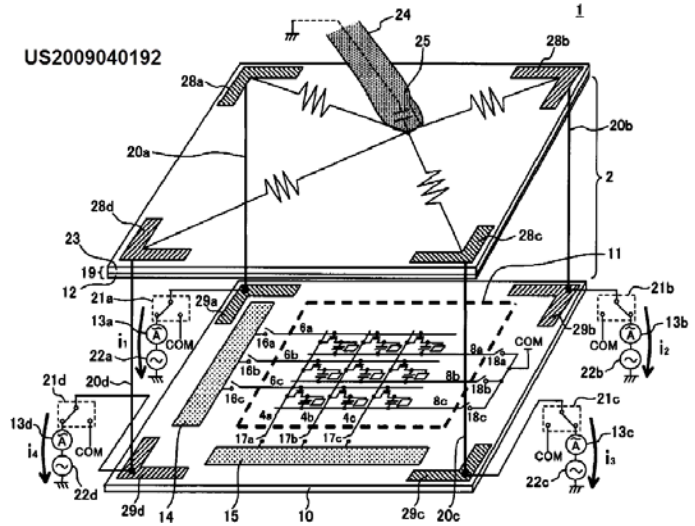


## G06F 3/0444

### Definition statement

*This place covers:*

Digitisers using a single layer of sensing electrode which is made of a single piece of conducting material extending on the detection area and covered by a dielectric material.

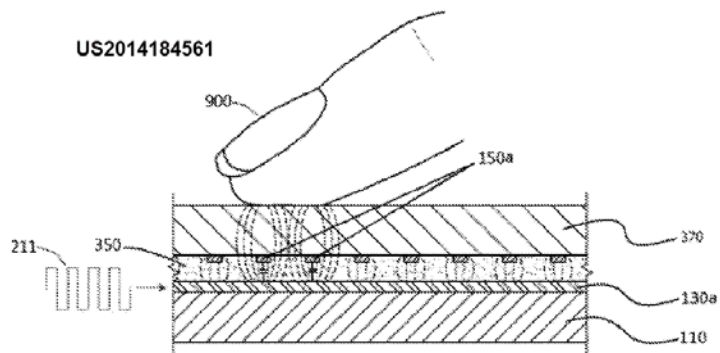


## G06F 3/0445

### Definition statement

*This place covers:*

Digitisers using at least two layers of sensing electrodes, i.e. sense and/or drive electrodes, separated either by a solid dielectric layer or by a gap which could be filled by a dielectric material.

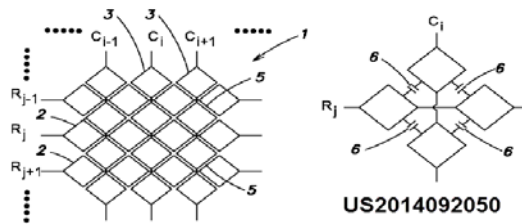
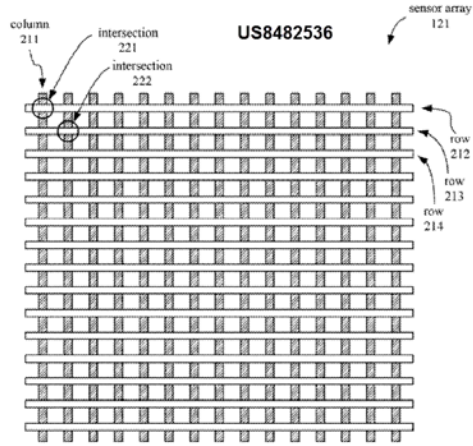


## G06F 3/0446

### Definition statement

*This place covers:*

Digitisers comprising a plurality of sets of parallel sensing and/or driving electrodes extending in at least two crossing directions; each "row" or "column" electrode may be either a single piece electrode or a plurality of interconnected electrodes (e.g. via bridges over the electrodes in the crossing direction) making a virtual electrode extending along the given direction.

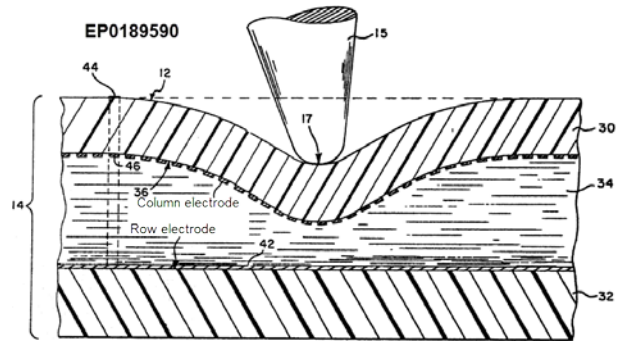


## G06F 3/0447

### Definition statement

*This place covers:*

Digitisers comprising an array of cells, e.g. made by the crossing of "row" and "column" electrodes, which are deformed under the pressure of a touching object, inducing a change in their capacitance.

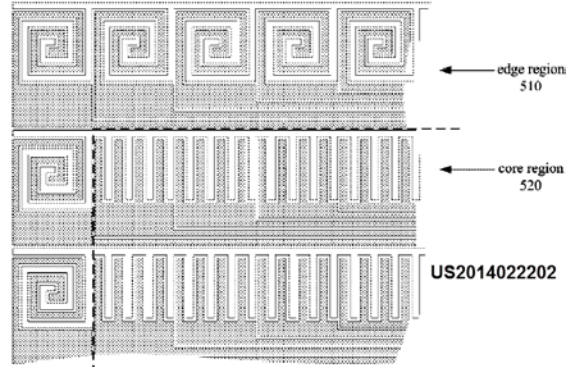


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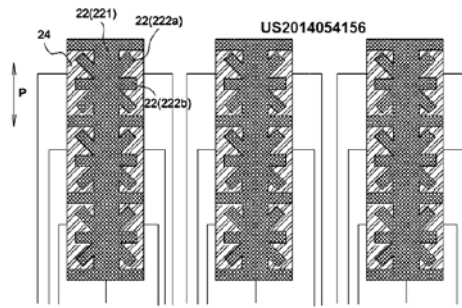
### Definition statement

*This place covers:*

The electrodes have shapes optimised to obtain a specific effect, e.g. increasing fringe field, better resolution or avoiding moiré effect.



If the electrode design or pattern exhibits an irregular or non-conventional shape without mentioning any specific effect then this symbol should be allocated as additional information.



### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Touch switches

[H03K 2017/9602](#)

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## 2. A. DEFINITIONS (modified)

Make the following changes to the existing Definitions:

### G06F 3/0386

#### References

**Delete** the entire Limiting references section.

#### Informative references

**Insert** the following new row into the Informative references table:

Light pen using the raster scan of a CRT	G06F 3/037
--	------------

### G06F 3/039

#### References

**Delete** the entire Limiting references section.

#### Informative references

**Insert** the following new row into the Informative references table:

Platforms for supporting wrists as table extension	A47B 21/0371
--	--------------

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## G06F 3/041

### Definition statement

**Delete** the following text from the existing Definition statement:

This group has been created with the introduction of IPC 8 (2006); before that date, the subject matter of this group and its subgroups was classified in the class range G06K 11/06 - G06K11/16 (up to IPC7).

### References

**Delete** the entire Limiting references section.

### Informative references

**Insert** the following five new rows into the Informative references table:

True 3D computer input devices with a freely movable member	G06F 3/0346
3D input gestures	G06F 3/017
Pens for interaction between user and computer	G06F 3/03545
Accessories for pointing devices	G06F 3/039
Touch interaction within a graphical user interface [GUI]	G06F 3/0488

### Special rules of classification

**Replace** the existing symbol G06F 2203/04112 with the new symbol **G06F 2203/04114** within the Special rules of classification section.

**Insert** the following new text into the Special rules of classification section as a new paragraph following the existing text:

Subgroups G06F3/0412 and G06F3/0416 to G06F3/04186 are not explicit to a specific sensing technology but describe details about the integration within a display or the driving/interface of the digitiser.

For documents belonging to these subgroups, if further relevant details related to the sensing technology are disclosed, the corresponding subgroup of G06F3/041 that is

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best related to the sensing technology employed should be doubly allocated as invention information.

If the sensing technology is indicated only with minor details, the sensing technology (if any) should be indicated as additional information.

## **G06F 3/0412**

### **Definition statement**

**Replace** the existing Definition statement with the following new text and images:

Structural details and methods of driving a combination of displays with digitisers that share at least one constitutive part of both the touch sensing technology as well as the display technology (e.g. a common electrode for LCD control and a touch electrode (i.e. driving or sensing) for capacitive touch sensing, a common electrode being used as a guard/shield electrode in touch sensing, or a common electrode that is specifically floated during a touch driving/sensing period).

Examples:



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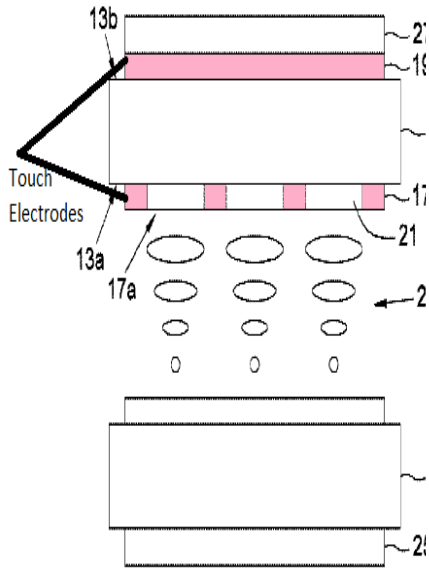


FIG. 1A

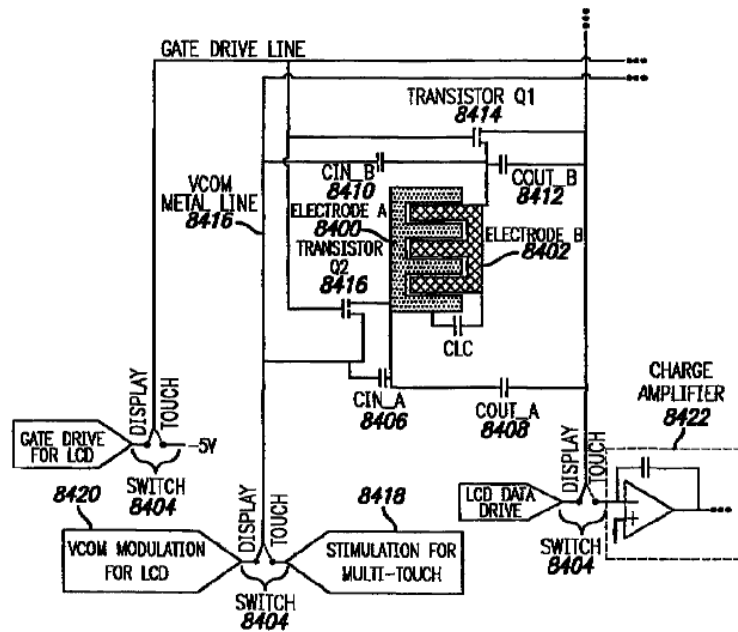


FIG. 84

Structural details and methods of driving a display and a digitizer in which the digitizer is either wholly or in part within the structural confines that make up the display panel of the display device (e.g., a sensor pixel that is adjacent to the display pixel) or the sensor is arranged to utilize at least one structural component of the display panel (e.g. such as the top substrate of the display pane).

Examples:

FIG. 1

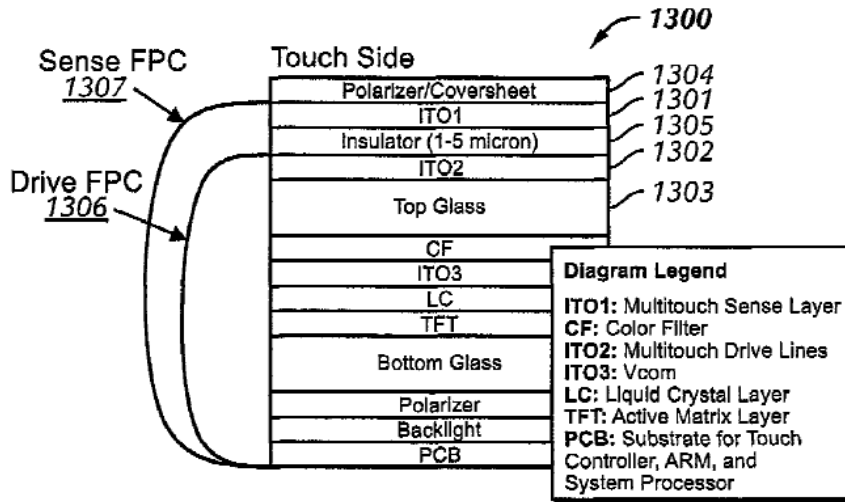
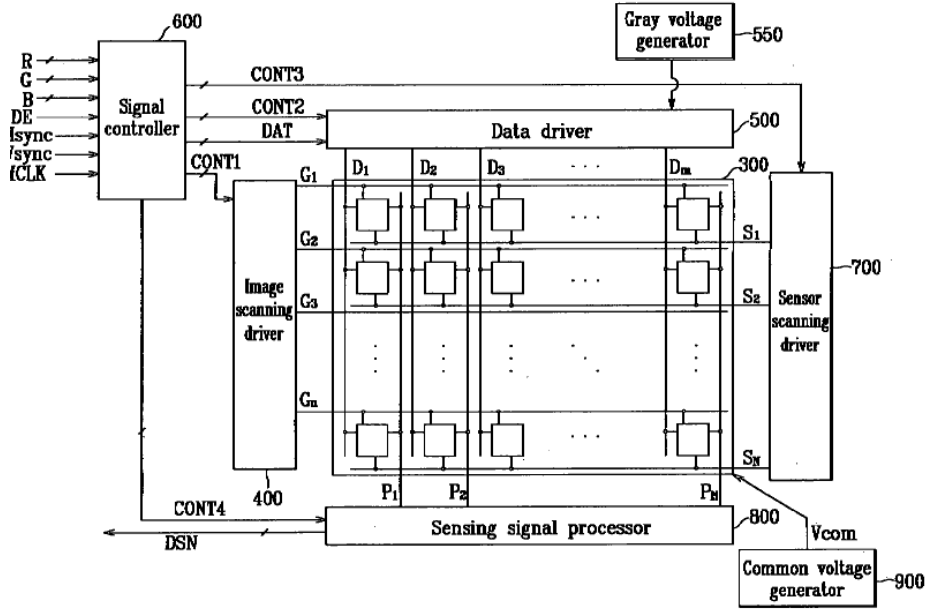


FIG. 13

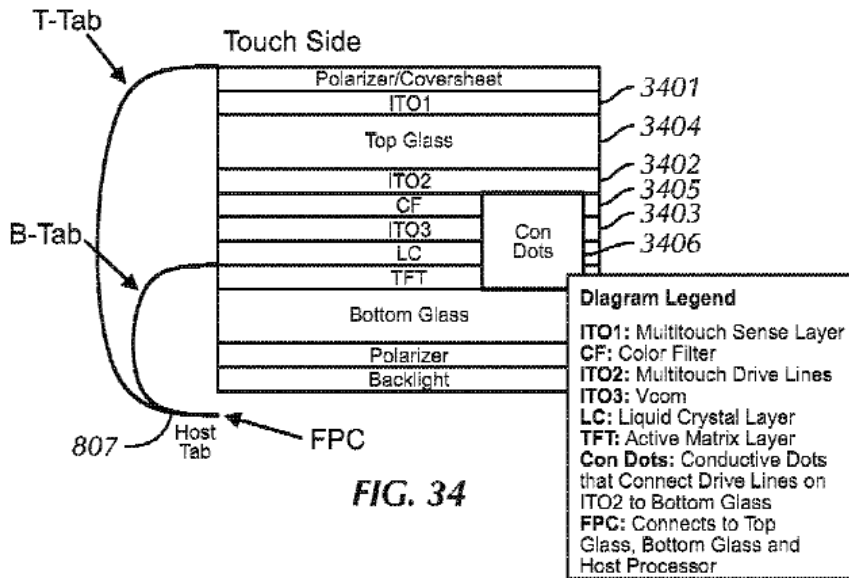
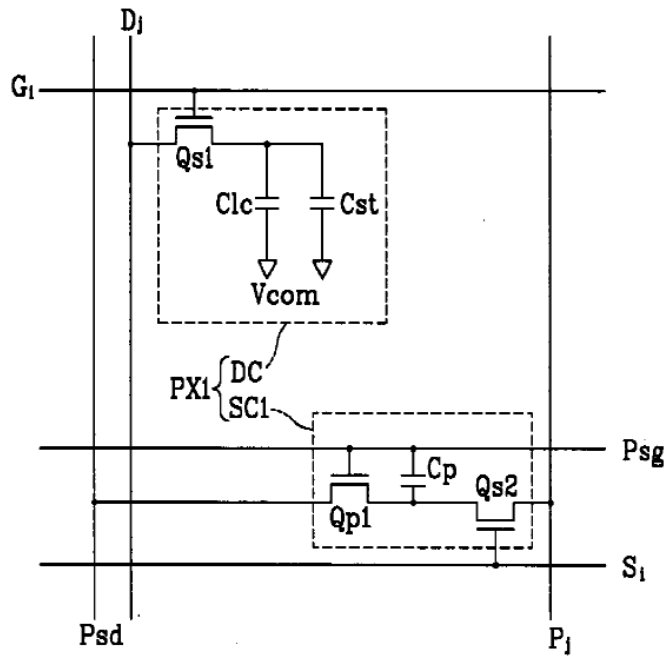


FIG. 34

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## References

**Delete** the entire Limiting references section.

**Insert** the following new Informative references section:

### Informative references

Constructional details of LCDs	<a href="#">G02F 1/13</a>
Construction details of OLED displays	<a href="#">H01L 27/323</a>
Driving details of LED/OLED	<a href="#">G09G 3/30</a>
Driving details of LCDs	<a href="#">G09G 3/36</a>

## Special rules of classification

**Replace** the existing text in the Special rules of classification section with the following new text:

Documents disclosing both a specific display panel (LCD, OLED etc.) and touch sensing are doubly classified in the relevant areas (for example: G02F for LCD, H01L for OLEDs, and G09G for methods of driving displays), pertaining to the respective types of display panels as well as in G06F 3/0412.

Devices in which a component is shared between touch detection circuitry and display driving circuitry, for example, a shared electrode for touch detection and display driving wherein the details of both the touch detection and the display driving are disclosed should be classified in the relevant areas either G09G (depending upon the type of display device) as well as in G06F 3/0412.

Devices in which construction details of both LCD panel and touch components are disclosed, but touch detection is only nominally disclosed should be classified only in G02F 1/13338 and only classified in G06F 3/0412 as an Additional.

Construction details of OLED display components integrated with touch detection components wherein the disclosure primarily concerns the OLED and minimally recites touch circuitry is classified in H01L 27/323 and only classified in G06F 3/0412 as an Additional.

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**G06F 3/0414****References**

**Delete** the entire Limiting references section.

**Insert** the following new Informative references section:

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Tactile force sensors	<a href="#">G01L 5/226</a>
Force resistance touch switches	<a href="#">H03K 17/9625</a>
Piezoelectric touch switches	<a href="#">H03K 17/964</a>
Pressure sensors for measuring the pressure or force exerted on the touch surface without providing the touch position	<a href="#">G06F 2203/04105</a>

**Delete** the entire Special rules of classification section.

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## G06F 3/0416

### References

**Delete** the entire Limiting references section.

**Insert** the following new Informative references section:

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Touch interaction with a GUI
------------------------------

G06F 3/0488
-------------

### Special rules of classification

**Replace** the existing text in the Special rules of classification section with the following new text:

Documents disclosing any additional means of providing or processing touch signals outside of the traditional ways how individual methods of touch sensing technology work should be classified in their respective touch sensing technology subgroups as well as in G06F3/0416.

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## G06F 3/042

### References

**Delete** the entire Limiting references section.

**Insert** the following new Informative references section:

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Pens detecting optically their absolute position with respect to a coded surface	<a href="#">G06F 3/0317</a>
Systems where the position detection is based on the screen scanning with a light pen	<a href="#">G06F 3/0386</a> , <a href="#">G06F 3/037</a>
Measuring arrangements characterised by the use of optical means	<a href="#">G01B 11/00</a>
Optical encoders	<a href="#">G01D 5/34</a>
Position fixing using optical waves:	<a href="#">G01S 5/16</a> , <a href="#">G01S 17/00</a>
Prospecting or detecting by optical means	<a href="#">G01V 8/00</a>
Static switches using electro-optical elements in general	<a href="#">H03K 17/78</a>
Optical switches	<a href="#">H03K 17/941</a>
Optical touch switches	<a href="#">H03K 17/9627</a>

## G06F3/044

### References

**Delete** the entire Limiting references section.

**Insert** the following new Informative references section:

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

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Means for converting the output of a sensing member to another variable by varying capacitance	G01D 5/24
Capacitive proximity switches	H03K 17/955
Capacitive touch switches	H03K 17/962

## G06F 3/047

**Delete** the entire References/Limiting references sections.

### Special rules of classification

**Delete** the following text beginning with “Notes” from the Special rules of classification section:

#### Notes

1. This group covers subject matter where the focus is placed on the way the user can interact with the displayed data. The mere presence of a standard GUI in the context of the disclosure of a specific software application or a specific device capable of processing data related to its specific function, should be in general classified in the appropriate subclasses related to those software applications or specific devices.
2. In this group, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its groups, which is considered to represent information of interest for search, should be classified in each of those groups.



CPC NOTICE OF CHANGES 662

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3. REVISION CONCORDANCE LIST (RCL)

<u>Type*</u>	<u>From CPC Symbol (existing)</u>	<u>To CPC Symbol(s)</u>
C	G06F 3/039	G06F 3/039, G06F 3/0393
C	G06F 3/0414	G06F 3/0414, G06F 3/04142, G06F 3/04144, G06F 3/04146
C	G06F 3/0416	G06F 3/0416, G06F 3/04162, G06F 3/04164, G06F 3/04166, G06F 3/041661, G06F 3/041662
C	G06F 3/0418	G06F 3/0418, G06F 3/04182, G06F 3/04184, G06F 3/04186
C	G06F 3/044	G06F 3/044, G06F 3/0441, G06F 3/0442, G06F 3/0443, G06F 3/0444, G06F 3/0445, G06F 3/0446, G06F 3/0447, G06F 3/0448
C	G06F 2203/041	G06F 2203/041, G06F 2203/04114

\* C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

NOTES:

- Only C, D, F, and Q type entries are included in the table above.
- When multiple symbols are included in the “To” column, do not use ranges of symbols.
- For administrative transfer of documents, the following text should be used: “< administrative transfer to XX>”, “<administrative transfer to XX and YY simultaneously>”, or “<administrative transfer to XX, YY, ...and ZZ simultaneously>” when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be “additional information”.
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations “ADD” or “INV”: <administrative transfer to XX ADD>, <administrative transfer to XX INV>, or < administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the “D” entries of 2000-series or Y-series groups may not require a destination (“To”) symbol, however it is required to specify “<no transfer>” in the “To” column for such cases.
- RCL is not needed for finalisation projects.

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4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

<u>CPC</u>	<u>IPC</u>	<u>Action*</u>
G06F 3/0393	G06F 3/039	NEW
G06F 3/04142	G06F 3/041	NEW
G06F 3/04144	G06F 3/041	NEW
G06F 3/04146	G06F 3/041	NEW
G06F 3/04162	G06F 3/041	NEW
G06F 3/04164	G06F 3/041	NEW
G06F 3/04166	G06F 3/041	NEW
G06F 3/041661	G06F 3/041	NEW
G06F 3/041662	G06F 3/041	NEW
G06F 3/04182	G06F 3/041	NEW
G06F 3/04184	G06F 3/041	NEW
G06F 3/04186	G06F 3/041	NEW
G06F 3/0441	G06F 3/044	NEW
G06F 3/0442	G06F 3/044	NEW
G06F 3/0443	G06F 3/044	NEW
G06F 3/0444	G06F 3/044	NEW
G06F 3/0445	G06F 3/044	NEW
G06F 3/0446	G06F 3/044	NEW
G06F 3/0447	G06F3 /044	NEW
G06F 3/0448	G06F 3/044	NEW
G06F 2203/04114	CPCONLY	NEW

\*Action column:

- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with “NEW.”
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with “UPDATED.”
- For a (D) CPC entry or indexing entry complete the Action column with “DELETE.” IPC symbol does not need to be included in the IPC column.
- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with “NEW”.
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with “CPCONLY” and complete the action column with “NEW”.

NOTES:

- F symbols are not included in the CICL table above.
- T and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.