



Quality Insights

Patentcloud Quality Insights Annotation Report

Cedar Lane Technologies Inc. v. Snap Inc.

DDE-1-22-cv-00058

Focus on: U.S. Pat. No. **6,972,790**

Filing date: Jan. 14, 2022

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Map claims to specification and file wrapper

Map claims to specification - '790

Which claim terms are or are not in the specification?

Claim Analysis > Claim# 1

Find relevant specification content as intrinsic evidence for claim term interpretation

24 Terms Identified in This Claim [Click to Select Terms](#)

Select Text

Highlight text from within the claim with your cursor and click on the tooltip "Select Terms" to find references in the Specification.

Claim# 1 Select Terms

An interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system comprising:

a memory for storing imaging array data and clocking signals at a rate determined by the clocking signals;

a signal generator for generating a signal for transmission to the processor system in response to the quantity of data in the memory;

and a circuit for controlling the transfer of the data from the memory at a rate determined by the processor system.

Claim Analysis finds these terms in the spec: "image sensor", "imaging array", "clocking signals", "signal generator", as well as other terms that are highlighted in red.

Map claims to specification - '790

Which claim terms are or are not in the specification?

Find relevant specification content as intrinsic evidence for claim term interpretation

24 Terms Identified in This Claim [Click to Select Terms](#)

Select Text

Highlight text from within the claim with your cursor and click on the tooltip "Select Terms" to find references in the Specification.

Claim# 1	Select Terms
An interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system comprising:	
a memory for storing imaging array data and clocking signals at a rate determined by the clocking signals;	
a signal generator for generating a signal for transmission to the processor system in response to the quantity of data in the memory;	
and a circuit for controlling the transfer of the data from the memory at a rate determined by the processor system.	

Review the selected claim element and see how it is defined in the patent specification and related figures.

Selected elements of '790 claim 1

Claim Terms

imaging array

The selected clause includes the following keywords:

- array** (51)
- imaging** (49)



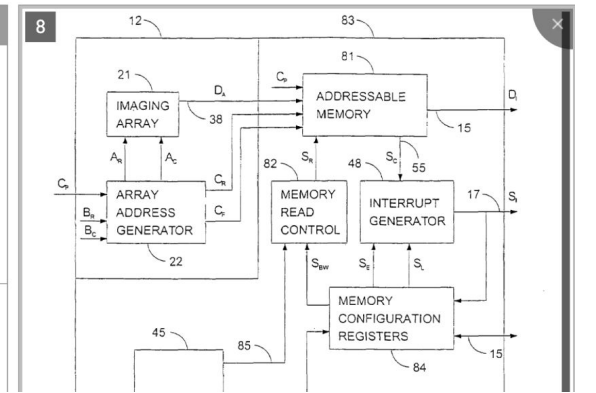
Selected elements of '790 in Spec

Content

[0046] In a further embodiment of the present invention, the memory in the interface 83 may be an addressable memory 81 as shown on FIG. 8. For purposes of writing to memory 81 from the **imaging array** 21 the row and frame clocks CR and CF serve as row and column addresses. The video system clock CP serves as a write clock. Thus the memory 81 records the **imaging array** output DA at the same rate as the **imaging array** 21, and in the same **array** order as the **imaging array** 21.

[0032] Referring to FIG. 4, the **array** address generator 22 is shown in greater detail. The column address AC is generated by a column counter 41 which is incremented by the video system clock CP. The maximum number of sequential addresses generated

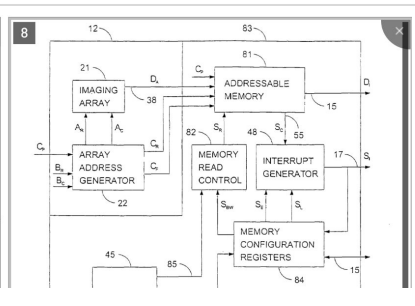
Figures of '790



Map claims to specification - '790

Does the allegedly infringing product element fall within or outside the patent's scope?

Claim Terms	Content
<p>imaging array</p> <p>The selected clause includes the following keywords:</p> <p>array (51)</p> <p>imaging (49)</p>	<p>[0046] In a further embodiment of the present invention, the memory in the interface 83 may be an addressable memory 81 as shown on FIG. 8. For purposes of writing to memory 81 from the imaging array 21 the row and frame clocks CR and CF serve as row and column addresses. The video system clock CP serves as a write clock. Thus the memory 81 records the imaging array output DA at the same rate as the imaging array 21, and in the same array order as the imaging array 21.</p> <p>[0032] Referring to FIG. 4, the array address generator 22 is shown in greater detail. The column address AC is generated by a column counter 41 which is incremented by the video system clock CP. The</p>



With the claim scope interpretation from **Claim Analysis**, verify your findings against the compliant.

Answer the question:

Does the alleged Invention element fall within or outside the patent's scope?



Claim 1	Evidence
<p>1. An interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system comprising:</p>	<p>The Snap Spectacles camera glasses have an interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system.</p> <p>For example, an image capturing subsystem of the Snap Spectacles camera glasses has an image sensor that includes an imaging array and a clock generator. An image processing subsystem of the Snap Spectacles camera glasses includes a processor that processes image data. The Snap Spectacles camera glasses includes interface circuitry that receives image data from the image capturing subsystem and transfers the image data to the processor. The interface circuitry thereby enables the transfer of image data between the image capturing subsystem, which runs in a pixel clock domain, and the image processing subsystem, which runs in a processor clock domain.</p>

Map claims to the file wrapper - '790

Which claim terms are in the file wrapper (i.e. examiner's opinion) ?

Review how the asserted claims were disclosed by the prior art found by the examiner during prosecution and post-grant proceedings.

Disclosure Rate by Prior Art

Claim	Disclosure by Single Reference		Disclosure by Multiple References	
	Prosecution History	Post-Grant	Prosecution History	Post-Grant
#1	25%	0%	25%	0%
#15	80%	0%	80%	0%

Claim# 1

An interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system comprising: a memory for storing imaging array data and clocking signals at a rate determined by the clocking signals; a signal generator for generating a signal for transmission to the processor system in response to the quantity of data in the memory; and a circuit for controlling the transfer of the data from the memory at a rate determined by the processor system.

A higher percentage means more claim elements were disclosed by the prior art.

Claim Insights Summary Table > Claim Table (Claim# 1) | Select A Claim 1 15 **switch between claims**

How is each claim element disclosed by cited prior art? Click numbers to find detailed comparison.

The percentage "%" indicates how many keywords in an element being disclosed by a specific references. [Click](#) to find comprehensive explanation of calculation.

Responded prior arts only

Claims	Prior Art Ref. (3)		
	US6721008	US6833862	US6021449
#1.01 (50%)	50%	50%	0%
#1.02 (0%)	0%	0%	0%
#1.03 (50%)	0%	50%	50%
#1.04 (0%)	0%	0%	0%

Disclosure Rate by Prior Art

Map claims terms to the file wrapper - '790

Why was this patent granted? Which claims were amended and how did the scope change?

Claims	Prior Art Ref. (s)		
	US6721008	US6833862	US6021449
#1.01 (50%)	50%	50%	0%
#1.02 (0%)	0%	0%	0%
#1.03 (50%)	0%	50%	50%
#1.04 (0%)	0%	0%	0%

All of the limitations of this asserted claim element in '790 were 50% known by Lee (US6721008) and Li (US6833862).

Answer the questions:

Why was this patent granted?

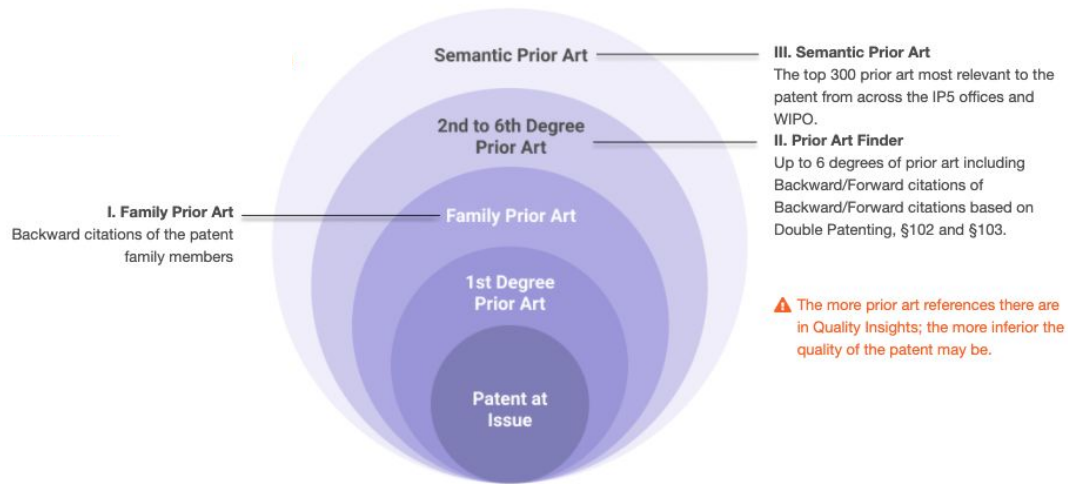
Rejection from Examiner

1.01
1.02
1.03
1.04

Find 1 Result(s)
Filter ▾ Clear All

Claim Element	Prior Art Ref.
<p>#1.01 An interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system comprising:</p> <p>Terms not in the file wrapper </p> <ul style="list-style-type: none"> clock generator image sensor processor system 	<p>Lee [US6721008] Li [US6833862]</p> <p>Rejection 20050225-CTNE Prosecution History 35 U.S.C. § 103</p> <p>4.</p> <p>claim 15 is rejected under 35 u.s.c. 103(a) as being unpatentable over lee, us patent 6,721,008 b2 in view of li, us patent 6,833,862 b1.</p> <p>regarding claim 15, lee discloses an integrated semiconductor imaging circuit(fig.3)(fig.3)for use with an electronic processing system comprising:an imaging array sensor(fig.3:12)having an array of sensing pixels and an array address generator(fig.3:16)integrated on a die(fig.3:10); and an interface(fig.3:89)integrated on the die for receiving data from the imaging array sensor as determined by the imaging array sensor and adapted to transfer the data to the electronic processing system(fig.3:80)as determined by the electronic processing system(col.4, line 66 – col.5, line 57).</p> <p>the interface transferring the data to the electronic processing system in inherently taught by lee since the processing system(fig.3:80)works at a predetermined rate.</p> <p>lee does not explicitly disclose the electronic processing system having a data bus.</p> <p>however, li teaches an imaging circuit(fig.2)comprising a sensor array(fig.2:12), a bus interface(fig.2:54)with a data bus(fig.2:20)for transmitting data to a processing system(fig.2:18)(col.2, lines 32-64;col.3, lines 13-21).</p>

How does Quality Insights generate prior art?



Prior Art Finder

Prior Art Finder for '790

Review cited and citing patents of '790 from the first to the sixth degree

Filter by:
 Applicability
 Legal Basis (102 or 103)
 Patent Office
 Legal Status

1st Degree Art **3**

2nd Degree Art **16**

N Degree Art **79**

N Degree Art
 Extend forward/backward citations from the Second Degree Art

Discover prior art's similarity with claim chart format in seconds !

KEEP Mode

US6972790B2

- 1st Degree (3)
- 2nd Degree (16)
- 3rd Degree (20)
- 4th Degree (20)
- 5th Degree (20)
- 6th Degree

Ranked By : Legal Basis (§102 first) | | | | |

#	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)
1	US20050036051A1	Solid-state imaging element, method for dri...	PGPub - Granted	2004-09-20	2005-02-17	UENO TAKAHISA
2	US20020019644A1	Magnetically guided atherectomy	Abandoned Appl.	2001-02-05	2002-02-14	HASTINGS ROGER N
3	US20110211101A1	Solid-state imaging element having image ...	PGPub - Granted	2011-05-10	2011-09-01	SONY CORP
4	US20110282142A1	Encapsulated Medical Imaging Device and ...	Abandoned Appl.	2010-08-25	2011-11-17	MOSHE REFAEL
5	US20070002135A1	In-vivo imaging device, optical system and ...	PGPub - Granted	2005-09-09	2007-01-04	ARKADY GLUKHOVSKY
6	US7057655B1	Amplifying solid-state imaging device, and ...	Expired	1999-10-13	2006-06-06	PANASONIC CORP

Up to the 6th Degree List

Family Prior Art

Family Prior Art of '790

Review prior art cited by and cited against the family counterparts when available

Simple Family

10

Backward Citation: Patent

50

Backward Citation: Non-Patent Literature

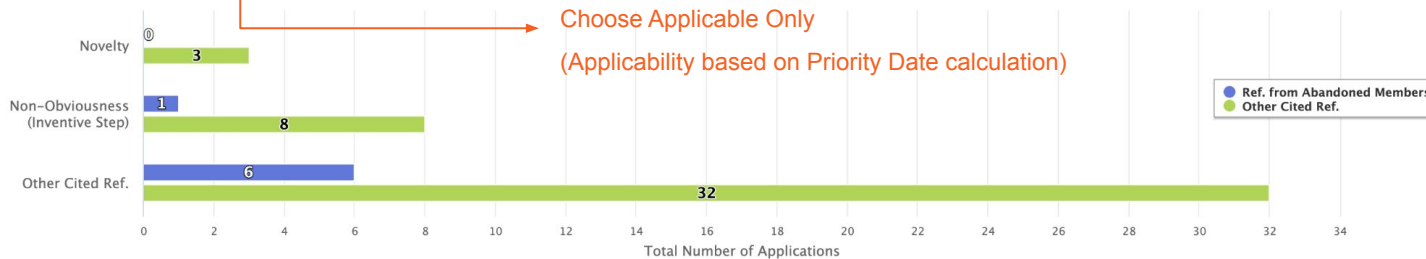
8

Backward Citation: Patent

Categorized to indicate relevance; You can start from applicable references cited as novelty prior art

All References (50)

Applicable Only (47)



Prior Art List

KEEP Mode

Ranked By : Appl. Date

	<input type="checkbox"/>	↕	#	Patent No.	Title	Legal Status ?	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
	<input type="checkbox"/>		1	JPS63-228875A	DATA INPUT/OUTPUT DEVICE	Abandoned Appl.	1987-03-18	1988-09-22	CANON KK	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)
	<input checked="" type="checkbox"/>		2	JPS63-294182A	SOLID-STATE IMAGE PICKUP DEVICE	PGPub - Granted	1987-05-27	1988-11-30	HITACHI LTD	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)
	<input type="checkbox"/>		3	US4837628A	Electronic still camera for recording still pic...	Expired	1987-07-14	1989-06-06	TOSHIBA KK	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)

Semantic Prior Art

Semantic Prior Art of '790

Review potential prior art ranked by concept similarity

Across IP5 and WIPO thanks to Patentcloud's proprietary algorithm

Semantic Prior Art

Most Relevant US, EP, JP, KR, CN & WO potential prior art references based on **Semantic Similarity** with a patent's first claim and abstract

[Change Scope](#)

Select claim text or enter the desired text/keywords

Discover prior art's similarity with claim chart format in seconds !

KEEP Mode 0 are of high semantic similarity

Ranked By : Relevance

<input type="checkbox"/>	<input type="checkbox"/>	Ranking	Patent No.	<input type="checkbox"/>	★ Title	Legal Status [?]	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>		1	US6593967B1	<input type="checkbox"/>	Electronic camera having dual clocked line ...	Expired	1998-12-16	2003-07-15	EASTMAN KODAK CO	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		2	US6947085B1	<input type="checkbox"/>	CMOS sensor with data flow control	Abandoned	1998-02-27	2005-09-20	INTEL CORP	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		3	US6493025B1	<input type="checkbox"/>	Image sensing system equipped with interf...	Abandoned	1996-10-03	2002-12-10	SANYO ELECTRONIC CO LTD	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		4	WO1999/065235A1	<input type="checkbox"/>	IMAGE SENSOR WITH CROPPING	PCT End - NP	1999-06-09	1999-12-16	LOGITECH EUROPE SA	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)
<input type="checkbox"/>		5	JPH09-097307A	<input type="checkbox"/>	WRITING CONTROL MECHANISM FOR IMA...	PGPub - Granted	1995-09-29	1997-04-08	OKI ELECTRIC IND CO LTD	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)
<input type="checkbox"/>		6	JPH04-140182A	<input type="checkbox"/>	PRINTER	Abandoned	1990-09-30	1992-05-14	SANYO ELECTRIC CO LTD	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b)
<input type="checkbox"/>		7	US6021449A	<input type="checkbox"/>	Video FIFO overflow control method that bl...	Abandoned	1997-08-01	2000-02-01	INTERNATIONAL BUSINESS...	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		8	US5920343A	<input type="checkbox"/>	Imaging system with image processing for ...	Expired	1996-08-09	1999-07-06	SANYO ELECTRIC CO LTD	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
<input type="checkbox"/>		9	KR100175606B1	<input type="checkbox"/>	DATA INTERFACE APPARATUS BETWEEN P...	Abandoned	1996-10-25	1998-11-10	LG INFORMATION & COMM...	(Pre-AIA) § 102(a)

Semantic Prior Art of '790

Review potential prior art ranked by concept similarity

Active

Download Report
Save Report

US6972790B2 [🔗](#)

Host interface for imaging arrays

Overview
History
Claim Analysis
Claim Insights
Family Prior Art
Prior Art Finder
Semantic Prior Art
File Wrapper Search

About Semantic Prior Art

Semantic Prior Art

Most Relevant US, EP, JP, KR, CN & WO potential prior art references based on [Semantic Similarity](#) within the scope below. [Reset to Default](#)

+ Add text from claims
Submit

🔗 Discover prior art's similarity with claim chart format in search results

Add text from claims

✕

Select A Claim

1
2
3
4
5
6
7
8
9
10

Next 10

An interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system comprising: a memory for storing imaging array data and clocking signals at a rate determined by the clocking signals; a signal generator for generating a signal for transmission to the processor system in response to the quantity of data in the memory; and a circuit for controlling the transfer of the data from the memory at a rate determined by the processor system.

Add

↓

✍️

adding text from claims to find more related Prior Art

Comparison tools

Prior Art Comparison (claim chart format)

What does this prior art say about the critical elements?

1.01

1.02

1.03

1.04

Find **14** Result(s) | Disclosure Rate : **50%**

Disclosure Rate of Prior Art

Claim Element

US6593967B1 Content

[Abstract](#)

An electronic camera for capturing and storing images includes an image capture section and an image processing section . The image capture section includes an **image sensor** for capturing an image and producing pixel data representative of the captured image , an analog - to - digital (A / D) converter for digitizing the pixel data , and a horizontal shift register responsive to applied vertical clock signals for receiving lines of the pixel data from the **image sensor** and responsive to applied horizontal clock signals for sequentially transferring the lines of pixel data to the A / D converter , the time between the application of horizontal and vertical clock signals providing for a vertical transfer interval wherein pixel data is prevented from being output from the horizontal shift register . The image processing section includes a first - in - first - out (FIFO) memory coupled to the A / D converter for temporarily storing the digitized pixel data , a digital signal processor coupled to the FIFO memory for processing the digitized pixel data , and a storage device coupled to the digital signal processor for storing the processed digitized pixel data . The electronic camera further includes a **clock generator** for producing the vertical and horizontal clock signals and a FIFO write signal for causing the digitized pixel data from the A / D converter to be transferred to storage locations in the FIFO memory at a first frequency , and a master pixel clock signal . The camera further includes circuitry for producing a FIFO read signal in response to the master pixel clock signal for transferring the digitized pixel data from the FIFO memory to the digital signal processor at a second frequency for processing the digitized pixel data , and after processing , for

Keyword List ⓘ

- 👁 **image sensor** (25) PA
- 👁 **clock generator** (9) PA
- 👁 **interface** (3) FW PA
- processor system (0)
- receiving data (0) FW

Answer the question:
What does this prior art say about the Claim elements: “image sensor”, “clock generator”?

Discover prior art similarity with keywords (includes keyword stemming) mapped to the selected prior art reference Abstract, Claims, and Specification.

Prior Art Comparison (sample output)

Easily generate a table like below

Claim		Claim-Term Interpretation	Semantic Prior Art - '967	3rd Degree Citation Prior Art - B
1	An interface for receiving data from an image sensor having an imaging array and a clock generator for transfer to a processor system comprising:	Refer to Claim Analysis results	50%	.....
	a memory for storing imaging array data and clocking signals at a rate determined by the clocking signals;	.....	75%	.....
	a signal generator for generating a signal for transmission to the processor system in response to the quantity of data in the memory;	.....	33%	.....
	and a circuit for controlling the transfer of the data from the memory at a rate determined by the processor system.	.....	66%	.....

System-identified keywords and key phrases
(highlighting of other keywords is available)

Results from claim to specification
and file wrapper mapping

Results from prior art comparison
by claim element

Prior art downloads

Prior art downloads

Select all

Export

#	Patent No.	Title
<input checked="" type="checkbox"/>	1 CN1247662A	Dual use spea
<input checked="" type="checkbox"/>	2 EP0998105B1	Mobile teleph
<input checked="" type="checkbox"/>	3 JPH09-036932A	EXTERNAL RI
<input checked="" type="checkbox"/>	4 JPH11-055358A	MOBILE RAD
<input checked="" type="checkbox"/>	5 US5317622	Ringling circuit for use in a telephone set f... Abandoned 1994-05-31 1993-02-23 NEC CORP



Download patent data in Excel or PDF format for Family Prior Art, Second Degree Prior Art, and/or Semantic Prior Art.

Prosecution and PTAB History

Key Events

Key Events - '790

1 Prosecution & 0 Post-Grant

Event History

1

Family Status

10 Applications

Prior Art Status

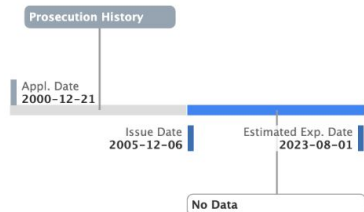
432 Applications / **8** NPL References

Event History | **1** Prosecution History / **0** Post-Grant

Validity challenges to a patent in its prosecution history and post-grant events

of Family Counterparts and Legal Status

of Highly Relevant Prior Art References



Legend	
Document Code	Document Description
CTNF	Non-final rejection
CLM	Claims
REM	Remarks

Timeline of Prosecution:



Key Events - '790

Prosecution History

09/742723 Prior Art Ref. | 3 Ref.

Check prior art cited and the legal basis of these challenges

Double Patenting | 0 Ref.

§ 102 | 0 Ref.

§ 103 | 3 Ref.

[US6833862 \(1st\)](#)
Li

[US6721008 \(1st\)](#)
Lee

[US6021449](#)
Chow

Clickable events for original OAs and their OCR version when available.

Summary of 09/742723 History | 9 Event(s)

Direct links to Grounds, Claims Highlighted and Prior Art Details

Data Last Updated on: 2021-10-25

Descriptions (Code)	Date	Prior Art Ref.
Notice of Allowance (NOA)	2005-09-21	
Notice of Allowance (NOA)	2005-09-21	
Notice of Allowance (NOA)	2005-07-15	
Notice of Allowance (NOA)	2005-07-15	
Applicant Arguments/Remarks Made in an Amendment (REM)	2005-05-26	
Claims (CLM)		
Non-Final Rejection (CTNF)	2005-02-25	Grounds 2 ^
Legal Basis	Claims	Prior Art Ref.
35 U.S.C. § 103	claim 15	Lee US6721008 (1st) Li US6833862
35 U.S.C. § 103	claim 23	Li US6833862 (1st) Chow US6021449

Prosecution and PTAB History Search

Patent File Wrapper Search

Directly discover details in the prosecution history and post-grant proceeding across all documents via a keyword search.

Cross-Document Search

Enter keyword to find documents including specific legal basis or specific claim terms

▼

[① About File Wrapper Search](#)

Rejections, Remarks, and Notice of Allowance in Prosecution History | 13 Records [↓](#)

<input type="checkbox"/> Descriptions (Code) ?	Party	Date ?
<input type="checkbox"/> Notice of Allowance (NOA)	USPTO	2015-09-24
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-06-19
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2015-03-19
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2015-03-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-03-03
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-11-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-10-15
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2014-07-15
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2014-06-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-06-26
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-02-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-02-07
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2013-11-07

Data Last Updated on 2021-04-08

Prosecution and PTAB History PDF Downloads

PDF Downloads

Download the complete set or just part of the PDF files in the File Wrapper Search.

Cross-Document Search

Enter keyword to find documents including specific legal basis or specific claim terms

▼

[① About File Wrapper Search](#)

Rejections, Remarks, and Notice of Allowance in Prosecution History | 13 Records ↓

<input type="checkbox"/> Descriptions (Code) ?	Party	Date ?
<input type="checkbox"/> Notice of Allowance (NOA)	USPTO	2015-09-24
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-06-19
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2015-03-19
<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2015-03-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2015-03-03
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-11-03
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-10-15
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<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2014-06-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-06-26
<input type="checkbox"/> Final Rejection (CTFR)	USPTO	2014-02-26
<input type="checkbox"/> Applicant Arguments/Remarks Made in an Amendment (REM)	Applicant	2014-02-07
<input type="checkbox"/> Non-Final Rejection (CTNF)	USPTO	2013-11-07

Data Last Updated on 2021-04-08

Prosecution and PTAB History Side-by-side PDF and OCR

Side by Side: PDF & OCR



Conduct a keyword search in a single document to identify the claim scope quickly and easily. You can even search additional claim terms within rejections.

The screenshot displays a software interface for keyword searching. On the left, a 'Keywords (2)' panel is highlighted with an orange box. It contains a 'Select a Keyword Set' dropdown, a 'Clear All' button, and two keyword entries: 'sensor' (33) and 'flexible substrate (1)'. Below these is an '+ Add new keyword' button and a 'Save to Keyword Set' button at the bottom.

The main area shows a side-by-side comparison of two documents. The left document is 'US 5,089,672; Col. 2, lines 11-16; Col. 5, lines 1-20; Col. 5, lines 61-68'. The right document is 'US 2010/00451614'. The text in the right document is highlighted in green, corresponding to the keywords 'sensor' and 'flexible substrate'.

Key text from the right document (rejection) includes:

- 103(a) as being unpatentable over Grant et al. US 2008/0303792 A1 (previously cited and ... PAGE 5 ...)
- Application/Control Number: 13/284,674 Page 4
- Art Unit: 2867
- hereinafter Grant) in View of Hotelling et al. US 2008/0158183 A1 (previously cited and hereinafter Hotelling), in further View of Gray et al. US 2010/00451614 (previously cited and hereinafter Gray) and in further View of Frey et al. US 2009/0219257 (Newly cited and hereinafter Frey).
- Regarding claim 1, Grant does teach an apparatus (Abstract) comprising: a substantially flexible substrate (Abstract: flexible touch sensitive surface); and a touch [0003], [0005], [0006], [0006], [0022], [0023], [0027], and [0071], e.g., flexible surface, flexible circuit, and capacitive touch [0003] which must be conductive to receive user input) disposed on the substantially flexible substrate (see at least Figs. 1A-C; [0009-0011], configured to bend with the substantially flexible substrate (Figs. 1A-1C, 3 and the corresponding descriptions; [0003]).
- Grant does not specifically teach the touch [0003] comprising drive or sense electrodes made of flexible conductive material.
- However, Hotelling does teach a touch [0003] (Fig. 2a, 5 and the corresponding descriptions, and the Summary of the Invention, i.e., a touch [0003] comprises of row and column traces made of copper) comprising drive or sense electrodes (see at least Figs. 1 and 2a; [0008, 0030-0033]; claim 9; sense traces formed on a first side of a dielectric substrate; and drive traces formed on a second side of the substrate) made of flexible conductive material ([0008]; traces made of copper or other highly conductive metals running along the edge of the substrate).
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- It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the touch panel taught by Grant by adding drive or sense electrodes made of flexible conductive material as taught by Hotelling since the [0003] traces provide level shifting from a low voltage level to a higher voltage level, thus providing a better signal-to-noise ratio for improved noise reduction purposes while the drive traces provide shielding for the sense traces.
- Neither Grant nor Hotelling specifically teach wherein the flexible conductive material of the drive or sense electrodes comprises first and second conductive lines that electrically contact one another at an intersection.



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