



Quality Insights

## Patentcloud Quality Insights Annotation Report

***Acceleron, LLC v. Dell, Inc.***

NDGA-1-12-cv-04123

Focus on: U.S. Pat. No. 6,948,021

Filing date: Nov. 28, 2012

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Click on a page number to read

## Claim Construction and § 112 Invalidity

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# Map claims to specification and file wrapper

# Map claims to specification - '021

Which claim terms are or are not in the specification?

Claim Analysis > Claim# 3

Find relevant specification content as intrinsic evidence for claim term interpretation

9 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# 3**

The **computer network appliance** of claim 2, wherein

the **chassis** comprises **caddies** providing **air flow** from the **front** to the **rear** of the **chassis**.

Select Terms



**Claim Analysis finds** these terms in the spec:  
"computer network appliance", "chassis", "caddies", "air flow", as well as other terms that are highlighted in red.

# Map claims to specification - '021

Which claim terms are or are not in the specification?

9 Terms Identified in This Claim Click to Select Terms

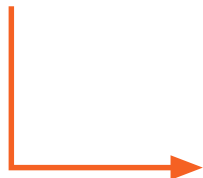
Select Text	Claim# 3
Highlight text from within the claim with your cursor and click on the tooltip "Select Terms" to find references in the Specification.	The <b>computer network appliance</b> of claim 2, wherein
	the <b>chassis</b> comprises <b>caddies</b> providing <b>air flow</b> from the <b>front</b> to the <b>rear</b> of the <b>chassis</b> .

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

Selected elements of '021 Claim 1

Selected elements of Claim '021 in Spec

Figures of '021



Select Text	Content	
<div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;"> <span style="background-color: #e0f0ff; border: 1px solid #0070c0; padding: 2px;">chassis</span> </div> <p>The selected clause includes the following keywords:</p> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;"> <span style="background-color: #e0f0ff; border: 1px solid #0070c0; padding: 2px;">"chassis" (40)</span> </div>	<p>114. The cluster computer network appliance 100 fits in a 1.75" tall (1RU) metal <b>chassis</b> that fits in a standard 19" rack. The <b>chassis</b> 150 includes a fold down front panel 116 and supports the modules and backplane board of the invention. The <b>chassis</b> has five bays accessed via the front for inserting the CPU modules 102(a)-102(e) and three bays accessed via the rear 118 for inserting one each of the power module 106, the ethernet switch module 110 and the microcontroller module 108. Each module resides in a caddy 152 of the <b>chassis</b> such that when the module is inserted into the <b>chassis</b> the caddy ensures that the hot swap connectors are aligned. Each of the hot swap connectors used in the modules is specific to corresponding hot swap mating connectors in the backplane board. For normal operation, the <b>chassis</b> must be equipped with at least one CPU module, the power</p>	

# Map claims to specification and Complaint - '021

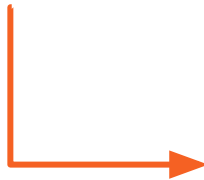
Does the allegedly infringing product element fall within or outside the patent's scope?

Select Text	Content
<input type="text" value="chassis"/> <p>The selected clause includes the following keywords:</p> <p><b>chassis</b> (40)</p>	<p>114. The cluster computer network appliance 100 fits in a 1.75" tall (1RU) metal <b>chassis</b> that fits in a standard 19" rack. The <b>chassis</b> 150 includes a fold down front panel 116 and supports the modules and backplane board of the invention. The <b>chassis</b> has five bays accessed via the front for inserting the CPU modules 102(a)-102(e) and three bays accessed via the rear 118 for inserting one each of the power module 106, the ethernet switch module 110 and the microcontroller module 108. Each module resides in a caddy 152 of the <b>chassis</b> such that when the module is inserted into the <b>chassis</b> the caddy ensures that the hot swap connectors are aligned. Each of the hot swap connectors used in the modules is specific to corresponding hot swap mating connectors in the</p>

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

Answer the question:

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



1955 Blade Enclosure. The chasses include a midplane, or backplane board (as claimed in claim 3 of the '021 patent via base claim 1) with a number of hot-swappable mating connectors, that interconnects the blade servers, power supplies, and ethernet switch modules in the chassis and is used as a shared resource. Dell's hot-swappable blade servers include caddies that provide airflow from the front to the reach of the chassis and that carry CPU modules that include a stand-alone independently-functioning computer and are inserted into the chassis (as claimed in claim 3 of the '021 patent). Dell's hot-swappable blade servers (as claimed in

# Map claims to the file wrapper - '021

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

Disclosure Rate by Prior Art

Claims	Disclosure by Single Reference		Disclosure by Multiple References	
	Prosecution History	Post-Grant	Prosecution History	Post-Grant
#1	75%	83%	75%	83%
#2	75%	100%	75%	100%
#3	75%	100%	75%	100%
#4	50%	100%	50%	100%

Claim# 1  
A computer network appliance, comprising: a plurality of hot-swappable CPU modules, wherein each CPU module is a stand-alone independently-functioning computer; a hot-swappable power module; a hot-swappable ethernet switch module; and a backplane board having a plurality of hot swap mating connectors, wherein the at least one backplane board interconnects each of the CPU modules with the at least one power module and the at least one ethernet switch module, such that the at least one power module and the at least one ethernet switch module can be used as a shared resource by the plurality of CPU modules.

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

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

Claim Insights Summary Table > Claim Table (Claim# 3) | Select A Claim 1 2 3 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.

All **Prosecution history** Post-Grant  Responded prior arts only

Claims	Prior Art Ref. (7)					
	US5161097	US5555510	US6591324	US6421777	US5033112	US6462797
#3.01 [A] [C] (100%)	100%	100%	100%	100%	100%	0%
#3.02 [A] (100%)	0%	0%	0%	0%	0%	75%

Disclosure Rate by Prior Art

# Map claims terms to the file wrapper - '021

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

Claims	Prior Art Ref. (r)					
	US5161997	US5555510	US6591324	US6421777	US5033112	US6452797
#3.01 (A) (100%)	100%	100%	100%	100%	100%	0%
#3.02 (A) (100%)	0%	0%	0%	0%	0%	75%

Claim Insights Summary Table > Claim Table ( Claim# 3 ) > Claim Element Page ( Claim# 3.02 ) > US6452797 | Select A Claim 1 2 3

Side-by-side comparison; Claim terms not found may imply the reasons for patentability.

**Claim Element**

#3.02 the **chassis** comprises **caddies** **providing air** flow from the front to the **rear** of the **chassis**.

Terms not in the file wrapper

**caddies**

Find 1 Result(s)

Prior Art Ref. **A** Konstad [US6452797]

**Rejection** 20040421-CTNF Rejection History 35 U.S.C. § 103

13.

claim 3 is rejected under 35 u.s.c. § 103(a) as being unpatentable over by us patent 6,591,324 issued to chen et al. in view of us patent 6,452,797 issued to konstad.

as per claim 3, the reference of konstad teaches the added limitation of the claim **providing air** flow from the front to the **rear** of the **chassis** in col. 1, lines 26-29.

it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the above features in the system of chen et al. because that would allow the system of chen et al. to draw cooler air from outside the **chassis**.

the reference of konstad teaches the motivation in col. 1, lines 1524 .

**Remarks** 20041021-REM

claim 3 was rejected under 35 u.s.c. 103(a) as being unpatentable over chen et al. and konstad (us. patent 6,591,324), however, neither chen et al. nor konstad teach the feature of a -13- plurality of hot-swappable cpu modules that allow components of the computers to be used as shared resources, where each cpu module is an independently - functioning computer. as claim 3 depends on amended claim 1, which includes this feature, claim 3 is also allowable.

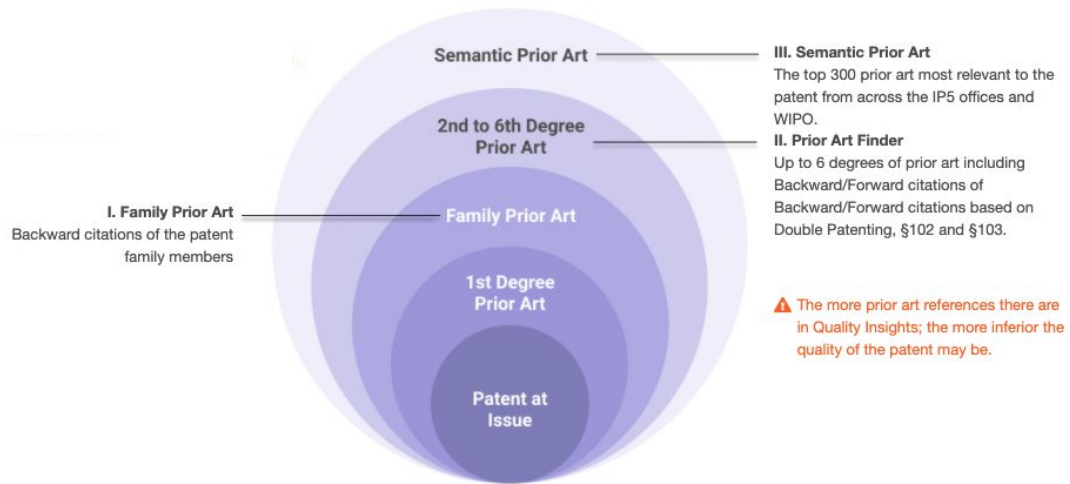
claim 3 was rejected under 35 u.s.c. 103(a) as being unpatentable over chen et al. and konstad (us. patent 6,591,324), however, neither chen et al. nor konstad teach the feature of a -13- plurality of hot-swappable cpu modules that allow components of the computers to be used as shared resources, where each cpu module is an independently - functioning computer. as claim 3 depends on amended claim 1, which includes this feature, claim 3 is also allowable.

📌 All of the limitations of this asserted claim element in '021 were 75% known by Konstad (US6452797).

Answer the questions:  
**Why was this patent granted?**



# How does Quality Insights generate prior art?



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# Prior Art Finder

# Prior Art Finder for '021

Review cited and citing patents of '021 from the first to the sixth degree

Filter by:

- Applicability
- Legal Basis (§102 or §103)
- Patent Office
- Legal Status

1st Degree Art

**12**

2nd Degree Art

**69**

N Degree Art

**92**

## 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

Ranked By : Legal Basis (§102 first)



US6948021B2

### 6th Degree List

	#	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
<input type="checkbox"/>	1	<a href="#">US20050198543A1</a>	Processor having real-time power conserva...	<b>PGPub - Granted</b>	2005-05-03	2005-09-08	WATTS LAVAUGHN FJR	(Pre-AIA) § 102(e)(1)
<input type="checkbox"/>	2	<a href="#">US6158012A</a>	Real-time power conservation and thermal ...	<b>Expired</b>	1995-02-28	2000-12-05	TEXAS INSTRUMENTS INC	(Pre-AIA) § 102(e)(2)
<input type="checkbox"/>	3	<a href="#">US7100061B2</a>	Adaptive power control	<b>Expired</b>	2000-01-18	2006-08-29	TRANSMETA CORP	(Pre-AIA) § 102(e)(2)

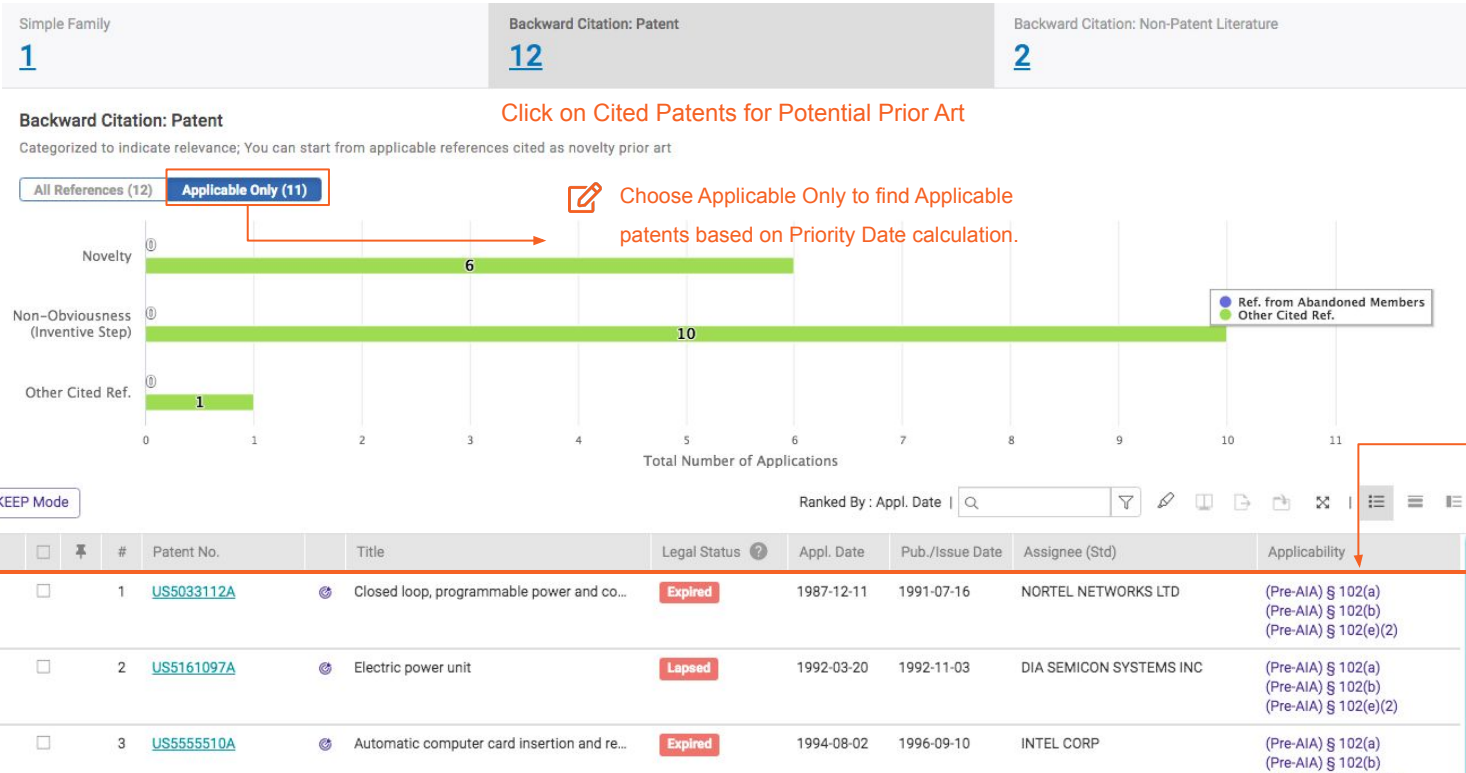
Up to 6th Degree  
Prior Art List

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# Family Prior Art

# Family Prior Art of '021

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



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# Semantic Prior Art

# Semantic Prior Art of '021

Review potential prior art ranked by concept similarity

Across IP5 and WIPO thanks to Patentcloud's proprietary algorithm

Semantic Prior Art

Most Relevant IP5 & WO 300 prior art references based on [Semantic Similarity](#) among the first claims and abstracts. Change Scope

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

Select claim text or enter the desired text/keywords

KEEP Mode 0 are of high semantic similarity Ranked By : Relevance

Ranking	Patent No.	Title	Legal Status	Appl. Date	Pub./Issue Date	Assignee (Std)	Applicability
1	<a href="#">US6293828B1</a>	Methods and systems for a power supply h...	Abandoned	1999-02-25	2001-09-25	POWER-ONE INC	(Pre-AIA) § 102(e)(2)
2	<a href="#">US6294848B1</a>	Distributed power supply for hot swappable...	Abandoned	2000-10-12	2001-09-25	SPRINT COMMUNICATIONS...	(Pre-AIA) § 102(e)(2)
3	<a href="#">US6528904B1</a>	Power management strategy to support hot...	Reissued	2000-09-29	2003-03-04	INTEL CORP	(Pre-AIA) § 102(e)(2)
4	<a href="#">USRE39855E1</a>	Power management strategy to support hot...	Expired	2005-02-25	2007-09-25	INTEL CORP	(Pre-AIA) § 102(e)(2)
5	<a href="#">US6044423A</a>	Identification of a swappable device in a po...	Expired	1997-10-27	2000-03-28	SAMSUNG ELECTRONICS C...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
6	<a href="#">US6591324B1</a>	Hot swap processor card and bus	Expired	2000-07-12	2003-07-08	NEXCOM INTERNATIONAL ...	(Pre-AIA) § 102(e)(2)
7	<a href="#">US20050223146A1</a>	High speed information processing and ma...	Abandoned	2005-02-04	2005-10-06	DELLACONA RICHARD	(Pre-AIA) § 102(e)(1)
8	<a href="#">US6032209A</a>	Hot-swappable high speed point-to-point in...	Expired	1998-07-24	2000-02-29	STORAGE TECHNOLOGY C...	(Pre-AIA) § 102(a) (Pre-AIA) § 102(b) (Pre-AIA) § 102(e)(2)
9	<a href="#">WO1999/057639A1</a>	SCALABLE FAULT TOLERANT NETWORK IN...	PCT End - NP	1999-04-01	1999-11-11	QUAD RESEARCH	(Pre-AIA) § 102(a)

# Semantic Prior Art of '021

Review potential prior art ranked by concept similarity

**US6948021B2** [↗](#)

Cluster component network appliance system and method for enhancing fault tolerance and hot-swapping

\_\_\_\_\_

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 IP5 & WO 300 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](#)

✕

Select A Claim 1 2 3 4 5 6 7 8 9 10 Next 10

The computer network appliance of claim 2, wherein the chassis comprises caddies providing air flow from the front to the rear of the chassis.

Add

adding text from claims to find more related Prior Art



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# Comparison tools

# Prior Art Comparison (claim chart format)

What does this prior art say about the critical elements?

→ Disclosure Rate of Prior Art

3.01 3.02
Find 17 Result(s) | Disclosure Rate 50%
✎ ☰ ☰

Claim Element

#3.02 the chassis comprises caddies providing air flow from the front to the rear of the chassis.

**Keyword List** ⓘ

- 👁 rear (26) FW PA
- 👁 chassis (16) FW PA
- caddies (0) FW
- providing air (0) FW

US6742068B2 Content

Specification

[13] In accordance with still another feature of the invention, a chassis is provided having a plurality of shelves for supporting electrical modules . A partitioning member is provided having captive, manually operable hardware adapted for removable insertion onto one of the shelves . The shelf has a pair of slots adapted to receive a pair of modules when the partitioning member is fastened to the shelf . Such shelf has a single slot adapted to receive one module with width greater than the width of one of the pair of modules when the partitioning member is removed from the shelf . The partitioning members of one of the shelves may be removed from , or inserted onto , the shelf without interrupting operation of the modules on the other shelves .

[44] Referring to FIGS . 5B , 5C and 5E , a Teradyne High Density Metric ( HDM ) connector 93 is mounted to the rear of server interconnect printed circuit board 68 . The rear of the HDM connector 93 projects outward from a slot 94 provided in the rear panel 98 of the processing unit module 28 ( FIGS . 5D and 5F ) ; FIG . 5F showing processing unit module 28 with the interconnect printed circuit board 68 removed . The upper portion 95 of connector 93 is adapted to receive the 48 volts provided by the AC / DC converters 38 ( FIGS . 6 and 8 ) on the 48 volt bus system . The middle and lower portions 97 , 99 of the connector 93 ( FIG . 5B ) are adapted to receive signals via the backplanes 30.sub.1 -30.sub.4 . Disposed between the middle and lower portions 97 , 99 of connector 93 is a hole 101 . The rear panel 98 of the processing unit module 28 ( FIG . 5B ) is provided with a hole 105 , as shown , disposed below the connector 93 . As will be described below in connection with the server cabinet 18 , this arrangement is used in a three - step " blind mating " arrangement enabling hot replacement of the processing unit module 28 from a backplane 30.sub.1 -30.sub.4 into which the processing unit module 28 plugs .

[5] In accordance with another feature of the invention , a data server is provided having a cabinet with a plurality of slots , or compartments therein . Each one of the slots has a backplane disposed at the rear thereof . A plurality of hot replaceable , DC powered processing unit modules is provided . Each one of the modules is adapted to be inserted in , or removed from , a corresponding one of the slots as such one of the processing unit modules is plugged into , or un - plugged from the backplane .

[53] Referring again to FIGS . 3C-3E , the relationship between the server backplanes 30.sub.1 -30.sub.4 and the data movers 20.sub.1 -20.sub.14 processing unit modules 28 and control stations 22.sub.1 -22.sub.2 processing unit modules 28 , is shown . Thus , four backplanes 30.sub.1 -30.sub.4 connect up to fourteen stream servers 20.sub.1 -20.sub.14 and two control stations 22.sub.1 -22.sub.2 . More particularly , fastened within in the cabinet 18 ( FIG . 1 ) is a set of four sheet metal chassis 200 , an exemplary

**Answer the question:**  
**What does this prior art say about the Claim elements: "chassis" ?**

**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 - '068	3rd Degree Citation Prior Art - B
3	The computer network appliance of claim 2,	Refer to Claim Analysis results	0%	.....
	wherein the chassis comprises caddies providing air flow from the front to the rear of the chassis.	.....	50%	.....

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

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# Prior Art downloads

# Prior Art downloads

Select all

Export

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 R
<input checked="" type="checkbox"/>	4 JPH11-055358A	MOBILE RAD
<input checked="" type="checkbox"/>	5 US5317622	Ringling circuit for use in a telephone set f...



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

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# Prosecution and PTAB History

## Key Events

# Key Events - '021

1 Prosecution & 2 Post-Grant

<b>Event History</b> <span style="font-size: 24pt; font-weight: bold;">3</span>	<b>Family Status</b> <span style="font-size: 24pt; font-weight: bold;">1</span> Applications	<b>Prior Art Status</b> <span style="font-size: 24pt; font-weight: bold;">421</span> Applications / <span style="font-size: 24pt; font-weight: bold;">5</span> NPL References
------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Event History** | 1 Prosecution History / 2 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
CTFR	Final rejection
CTNF	Non-final rejection
CLM	Claims
REM	Remarks

## Timeline of Prosecution:



# Key Events - '021

## Prosecution History

### 09/987917 Prior Art Ref. | 6 Ref.

Check prior art cited and the legal basis of these challenges

#### Double Patenting | 0 Ref.

#### § 102 | 4 Ref.

[US5161097](#) [US6591324](#) [US6421777](#) [US5033112](#)

#### § 103 | 6 Ref.

[US6452797](#) (1st) [US5161097](#) (1st) [US5555510](#) (1st) [US6421777](#) (1st)  
 Konstad Verseput Pierre-Louis  
[US5033112](#) (1st) [US6591324](#)  
 Bowling Chen

### Summary of 09/987917 History | 9 Event(s)

Data Last Updated on: 2021-09-16

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

Direct links to Grounds,

Claims Highlighted and Prior Art Details

Descriptions (Code)	Date	Prior Art Ref.
Notice of Allowance (NOA)	2005-02-28	
Notice of Allowance (NOA)	2005-02-28	
Applicant Arguments/Remarks Made in an Amendment (REM) <a href="#">Claims (CLM)</a>	2005-02-08	
Final Rejection (CTFR)	2004-11-08	Grounds <b>3</b>
Legal Basis	Claims	Prior Art Ref.
35 U.S.C. § 103	claim 38,39	Bowling US5033112 (1st) US5161097
35 U.S.C. § 102	claim 37	US5033112
35 U.S.C. § 112	claim 37,38,39	



# Key Events - '021

## Post-Grant History

<b>Event History</b> <b>3</b>	<b>Family Status</b> <b>1</b> Applications	<b>Prior Art Status</b> <b>421</b> Applications / <b>5</b> NPL References
----------------------------------	-----------------------------------------------	------------------------------------------------------------------------------

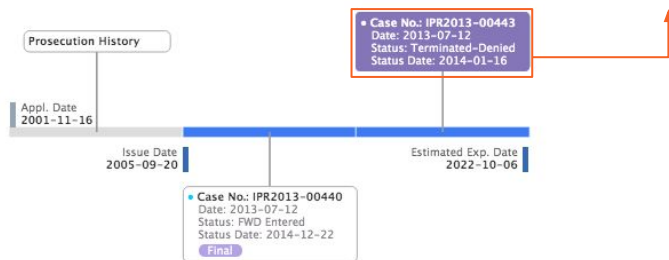
# of Family Counterparts and Legal Status

# of Highly Relevant Prior Art References

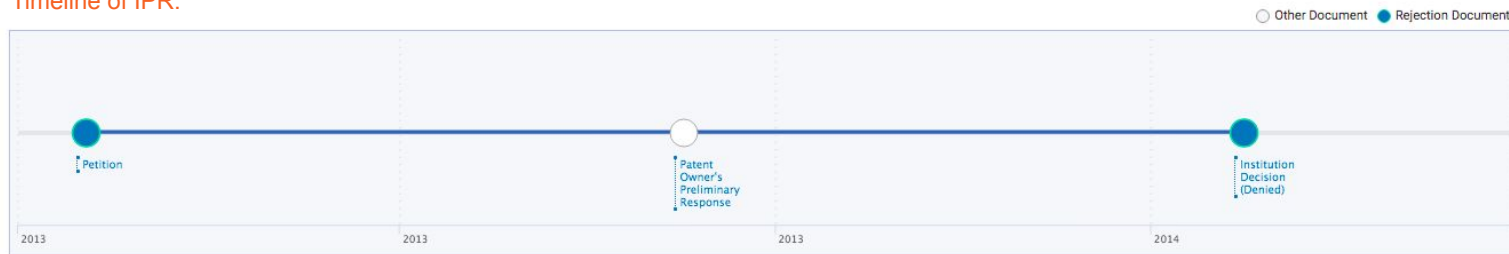
Event History | 1 Prosecution History / 2 Post-Grant

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

Click to view each event in summary and details of IPR



### Timeline of IPR:



# Key Events - '021

## Post Grant History

### IPR2013-00443 Prior Art Ref. | 5 Ref.

Check prior art cited and the legal basis of these challenges

**Double Patenting** | 0 Ref.

**§ 102** | 2 Ref.

[US6950895](#)  
Bottom

[US7032119](#)  
Fung

**§ 103** | 6 Ref.

[US6157974](#) (1st)  
Gasparik

[US6950895](#) (1st)  
Bottom

[US7032119](#) (1st)  
Fung

[other reference](#)  
Garpamik

[US6742068](#)  
Gallagher

[other reference](#)  
PXE

### Order

ORDER In consideration of the foregoing, it is hereby: ORDERED that the Petition is denied as to the challenged claims of the '021 Patent.

### Summary of IPR2013-00443 History | 3 Event(s)

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

Direct links to Grounds,

Claims Highlighted and Prior Art Details

Data Last Updated on: 2021-09-16

Descriptions (Code)	Date	Prior Art Ref.
Institution Decision (Denied)	2014-01-16	Grounds <b>18</b> ▾
Patent Owner's Preliminary Response	2013-10-17	
Petition	2013-07-12	Grounds <b>10</b> ▾

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# 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) <span style="font-size: 0.8em;">?</span>	Party	Date <span style="font-size: 0.8em;">?</span>
<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

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# 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) <span style="font-size: small;">?</span>	Party	Date <span style="font-size: small;">?</span>
<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
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<input type="checkbox"/> Request for Continued Examination (RCEX)	Applicant	2014-06-26
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<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

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# 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.

**Keywords (2)**

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sensor (3) Clear All

flexible substrate (1) ▼

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US9226311B2 - CTNF [2015-03-19]

13/284,674      6 / 18      - 90% +      [Icons]

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Art Unit: 2867

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 sensor 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.

However, Gray does 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 (Fig. 2; [0063]: **A number of conductors forming rows and columns of a conductive pattern (e.g., indium tin oxide (ITO)) may be deposited on a substrate composed of polyester or other material on one or more layers of the touchscreen... the row and column oriented conductors may be disposed on the same layer...**; See also Miller US 5,089,672; Col. 2, lines 11-16; Col. 5, lines 1-20; Col. 5, lines 61-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Grant and Hotelling by including the conductive lines (rows and columns) taught by Gray for the purpose of "providing paths for signals traveling through the touchscreen" (See Gray; Abstract).

103(a) as being unpatentable over Grant et al. US 2008/0303792 A1 (previously cited and ... PAGE 5 ...

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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 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 [0004], [0005], [0006], [0006], [0022], [0023], [0027], and [0071], e.g., flexible surface, flexible circuit, and capacitance touch [0004] which must be conductive to receive user input) disposed on the substantially flexible substrate ( see at least Figs. 1A-1C; [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 [0004] comprising drive or sense electrodes made of flexible conductive material.

However, Hotelling does teach a touch [0004] (Fig. 2a, 5 and the corresponding descriptions, and the Summary of the Invention, i.e., a touch [0004] 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).

... PAGE 6 ...

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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 [0004] 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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