UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SIEMENS MOBILITY, INC., GROUND TRANSPORTATION SYSTEMS USA, INC., HUMATICS CORP., and PIPER NETWORKS, INC.,

Petitioners,

v.

METROM RAIL, LLC,

Patent Owner.

Case No. IPR2023-00470
Patent No. 8,812,227

PETITIONERS' OBJECTIONS TO PATENT OWNER'S DEMONSTRATIVES

Pursuant to the Board's Order Setting Oral Argument, Paper 62 ("Order"), Petitioners reviewed Patent Owner's demonstratives (EX2039) to confirm that the evidence was in the record and to confirm compliance with the guidance regarding appropriate content of demonstratives set forth in *St. Jude Med., Cardiology Div., Inc. v. The Bd. of Regents of the Univ. of Mich.*, IPR2013-00041 (PTAB January 27, 2015) (Paper 65) ("*St. Jude*"), namely *St. Jude*'s prohibition against demonstrative exhibits that "rely on evidence that, although it is in the record, was never specifically discussed in any paper before the Board," as well as the prohibition against new arguments contained in the slides.

In accordance with the Order, Petitioners emailed the below objections, identifying with particularity the objected-to content, and requested a meet-and-confer with the Patent Owner:

Slide 16: The pictures on the slide are from exhibits 2032-33 and 2035-36, which have not yet been added to the record (see Papers 38 and 41).

Slide 21: Arguments that Petitioners offered no evidence regarding the content of other projects before Helix (last row of the chart) were never made in a paper.

Slide 22: The time entry for 10-18-2018 is from exhibits 2032-36, which have not yet been added to the record (see Papers 38 and 41).

Slide 24: Exhibits 2030-31 have not yet been added to the record (see Papers 38 and 41), and exhibit 2022 was only cited in an evidentiary filing (Patent Owner's Motion to Submit Supplemental Information – Paper 38).

Slide 28: Paragraphs 15-16 of exhibit 2008 were never cited in a paper, and 24:18-26:22 of exhibit 1053 was only cited in an evidentiary filing (Patent Owner's Opposition to Motion to Exclude – Paper 57).

Slide 31: Paragraph 15 of exhibit 2008 was never cited in a paper, and 126:5-127:2, 128:3-129:8, 154:7-155:9, 155:14-156:21, 157:11-159:6, 159:20-161:3, and 161:24-162:14 of exhibit 1053 were only cited in an evidentiary filing (Patent Owner's Opposition to Motion to Exclude – Paper 57).

Slide 32: 128:3-129:8 of exhibit 1053 was only cited in an evidentiary filing (Patent Owner's Opposition to Motion to Exclude – Paper 57).

Slide 35: Exhibits 2030-31 have not yet been added to the record (see Papers 38 and 41), exhibit 2022 was only cited in an evidentiary filing (Patent Owner's Motion to Submit Supplemental Information – Paper 38), and paragraph 39 of exhibit 2011 was never cited in a paper.

Slide 36: Exhibit 2031 has not yet been added to the record (see Papers 38 and 41).

Slide 38: Exhibits 2030-36 have not yet been added to the record (see Papers 38 and 41), exhibit 2022 was only cited in an evidentiary filing (Patent Owner's

Motion to Submit Supplemental Information – Paper 38), and paragraphs 27-29 of exhibit 2008, paragraphs 42-44 of exhibit 2009, and paragraph 39 of exhibit 2011 were never cited in a paper.

Slide 40: The pictures and transcript portions on the slide are from exhibits 2032 and 2035-36, which have not yet been added to the record (see Papers 38 and 41).

Slide 41: Arguments that Petitioners controlled evidence regarding failure and skepticism in the industry (last row of the chart) were never made in a paper.

Slide 48: 105:11-19 of exhibit 2007 was never cited in a paper.

Slide 49: 121:19-122:2 of exhibit 2007 was never cited in a paper.

Slide 50: 46:5-12 of exhibit 2007 was never cited in a paper.

During the meet-and-confer, the parties were unable to resolve the objections to these slides. As such, Petitioners hereby object to the above-identified demonstrative slides for relying on evidence not yet in the record or evidence that, although in the record, was never specifically discussed in any non-evidentiary paper before the Board, or for including entirely new arguments. Copies of the slides are attached.

Dated: March 26, 2024

By: */s/ Joshua H. James*

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on March 26, 2024, a true and correct copy of the foregoing Petitioners' Objections to Patent Owner's Demonstratives was served by electronic mail on the following email address:

MetromIPR@mcandrews-ip.com

Dated: March 26, 2024

By: */s/ Joshua H. James*
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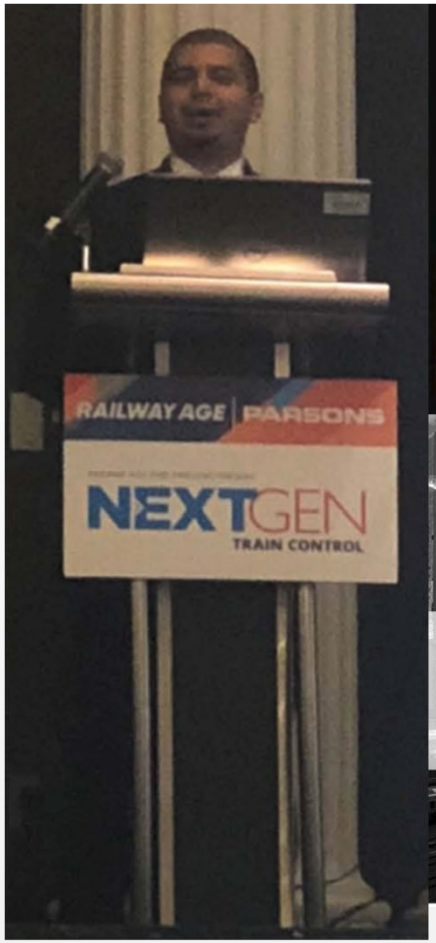
The Inventions Are Objectively Not Obvious



From: Garcia, David <David.Garcia@parsons.com>
Sent: Friday, October 12, 2018 12:55 PM
To: Patel, Himanshu
Cc: Sara Woitel; Rick Carlson; Rick Carlson Jr.
Subject: NextGen - UWB Presentation Final Draft
Attachments: NextGen UWB Presentation_181018.pptx

Himanshu,
Attached is our final draft.

David Garcia
David.Garcia@Parsons.com - M: +1 312.402.8102

POR 6-15, Surreply 18-25

The Objective Evidence is Highly Probative

Indeed, evidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decisionmaker remains in doubt after reviewing the art.

Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1538-39 (Fed. Cir. 1983)

Petitioners Opposed the Introduction of Objective Evidence at Every Opportunity
Opposed Patent Owners Motion for Additional Discovery (Paper No. 15)
Opposed Patent Owners Motion to Submit Supplemental Information (Paper No. 40)
Moved to Strike Certain Opinions Regarding Objective Indicia by Conti (Paper No. 54)
Offered no Declarants in Response to Metrom's Copying and Industry Characteristics Evidence
Offered no Evidence Regarding the Content of Other Projects before Helix

PO Surreply at 19, 24-25

Metrom Invented, Achieved Success, and Was Then Copied

First provisional Filed
5-19-2011

"AURA" marketed from **6-2-2013** forward

Garcia Presents at the NextGen Rail Conference
10-18-2018

$15 million + in Sales by Metrom

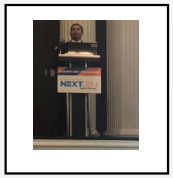
Garcia Joins Piper in **2020**

Piper Introduces Helix Between **8/5/21 and 10/2/22**

2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023

Exhibit 1001

Exhibit 2016



Exhibits 2032-36

Exhibit 2009 at ¶47

Exhibit 2011 at ¶36, Exhibits 2017-18

Evidence For Nexus

- Declarations: Cooklev (Exhibit 2011, ¶¶ 40-41); Gunther (Exhibit 2009, ¶¶ 19-21); Marchi (Exhibit 2008, ¶ 23)
- Deposition Transcripts: Marchi (Exhibit 1054, Tr. 146:13-148:20); Gunther (Exhibit 1052, Tr. 114:22-115:12; 192:6-193:3)
- Additional Exhibits: 2002 (Claim chart – reading on Petitioner Piper); 2013 (Sales collateral describing Piper's systems); 2016-20 (Sales collateral covering Piper's "Helix" and Metrom's "Aura" collision avoidance systems); Metrom sales collateral describing Aura); 2021-23 (Claim charts and comparisons); 2030-31 (Piper sales collateral distributed at NextGen Rail, November 2023)
- No Reply Declarants
- No Responsive claim chart for Helix

POR 14-15; PO Surreply 18-19; Paper 14 at 4; Paper 37 at 6

Evidence for Long Felt Need

- Declarations: Conti (Exhibit 2012, ¶¶ 42-50); Gunther (Exhibit 2009, ¶ 19); Marchi (Exhibit 2008, ¶¶ 11, 15-16, 19, 23)
- Deposition Transcripts: Conti (Exhibit 1053, Tr. 24:18-26:22); Marchi (Exhibit 1054, Tr. 44:10-17; 45:21-46:9; 46:21-47:14; 48:16-21; 55:8-16); Gunther (Exhibit 1052, Tr. 36:16-37:4, 79:16-80:8)

POR, PO Surreply, Paper 57, Opposition to Motion to Exclude

Evidence for Skepticism

- Declarations: Conti (Exhibit 2012, ¶¶ 41, 46, 48-49); Gunther (Exhibit 2009, ¶¶ 35-41); Marchi (Exhibit 2008, ¶ 11, 15, 19, 23)
- Deposition Transcripts: Conti (Exhibit 1053, Tr. 50:4-52:8; 98:10-100:15; 117:10-23; 126:5-127:2; 128:3-129:8; 154:7-155:9; 155:14-156:21; 157:11-159:6; 159:20-161:3; 161:24-162:14; 166:14-168:18); Marchi (Exhibit 1054, Tr. 44:10-17; 45:21-46:9; 46:21-47:14; 48:16-21; 55:8-16); Gunther (Exhibit 1052, Tr. 36:16-37:4, 79:16-80:8); Exhibit 2024
- No counter-declarations

POR 10-11, PO Surreply 19-21, Paper 57, Opposition to Motion to Exclude

Conti – Industry was Skeptical

Q. Can -- does that mean that it's your opinion that there was no development in UWB in 2010?

A. No, but it was my opinion that it was not obvious that UWB would be a strong candidate to solve this problem coupled with the idea that I hadn't heard of UWB while I was contemplating various types of systems and coupled with the idea that you'd have all this PTC activity going on and from what I'm aware not a lot of them -- not a lot of people that participated in that market used UWB.

That's -- that was the strength of all of this together, not just one article as, you know, you're trying to, you know, characterize it as --

Q. Well --

A. -- that it was not obvious that "UWB, hey, this is a winner. My God, thank you for this -- thank you for this band- -- bandwidth. It's long overdue, and now we can seize the moment."

No, it was -- it had a lot of shortcomings and people were -- were not solving those problems, they were actually finding they were true and very difficult, and it didn't seem like anybody was -- was using it, so I thought it was a -- you know, it was not obv- -- not obvious that that would be a winner here at this -- at this period of time, so that's what I --

Exhibit 1053 (Conti) Tr. 128:3-129:8;

Paper 57 at 2-3

Evidence for Commercial Success

- Declarations: Cooklev (Exhibit 2011, ¶¶ 39-41); Gunther (Exhibit 2009, ¶ 16); Marchi (Exhibit 2008, ¶¶ 18-19, 22-23, 25-26)
- Deposition Transcripts: Marchi (Exhibit 1054, Tr. 146:13-147:22; 148:1-20); Gunther (Exhibit 1052, Tr. 94:1-18)
- Other Exhibits: 2016, 2019, 2021, 2022, 2023, Proposed Exhibit 2030 ("hundreds of Amtrak's . . . vehicles"), Proposed Exhibit 2031

POR 11-12, PO Surreply 21-22, Paper 37 at p. 6

Evidence for Commercial Success

Altogether, we estimate that the Aura CAS system protects all Canadian National and Canadian Pacific Railways MOW assets, in addition to systems at MOW contractors and CSX, comprising roughly 33% of mainline freight MOW equipment in the United States. Until Petitioner Piper entered this space in about 2022, Metrom had virtually 100% of the installed market for a radio based collision avoidance system between MOW vehicles.

Collision Avoidance and Detection

Work zones often include multiple MoW vehicles operating in close proximity to each other with bi-directional movements. It's imperative to monitor the front and rear of each of these vehicles to prevent collisions and damage. For this function Piper deploys its field-tested UWB solution. The Helix CPU uses its knowledge of which track the vehicle is localized to and communicates with other Helix-equipped vehicles on the same track using UWB in a localized fashion. The ranging data collected from the UWB sensors allows the Helix CPU to accurately track the distance between the two vehicles and warn both operators if they begin to encroach on their safety envelopes. Operators are able to view this proximity information through the in-cab display alerts that follow the rules for safe separation of vehicles in both work and travel modes.

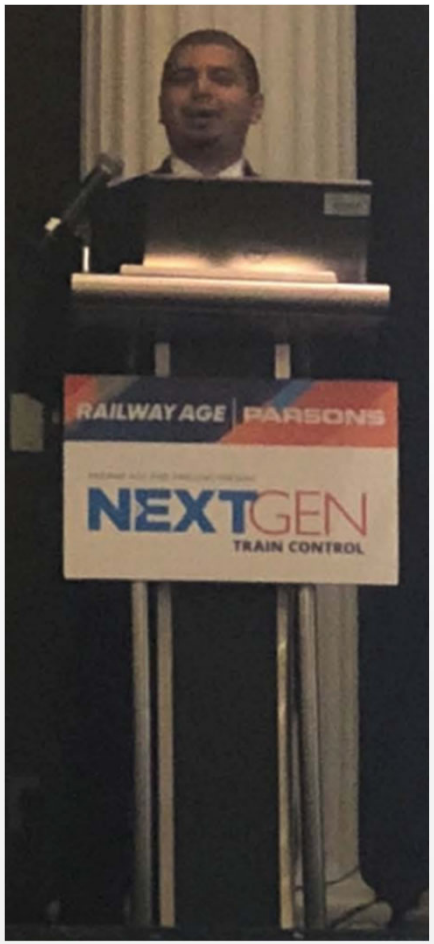
Exhibit 2008 (Marchi Decl.) at ¶26; Exhibit 2031; Exhibit 2014

Evidence of Copying

- Declarations: Gunther (Exhibit 2009, ¶¶42-47); Marchi (Exhibit 2008, ¶¶ 27-29); Cooklev (Exhibit 2011, ¶¶ 34-39)
- Deposition Transcripts: Marchi (Exhibit 1054, Tr. 96:9-98:20, 150:18-154:8, 157:8-162:14); Gunther (Exhibit 1052, 94:1-18, 158:1-172:24)
- Other Exhibits: 2002, 2013, 2016, 2018, 2019, 2020, 2021, 2022, 2025, Proposed Exhibits 2030-2036
- No Reply Declarants

POR 12-14, PO Surreply 23-25, Paper 14, Paper 37, Paper 41

Evidence of Copying – Metrom/Parsons-Parsons/Garcia-Garcia/Piper



The benefit of this technology include that it is accurate with peer-to-peer ranging accuracy of two centimeters. The technology is secure, and that low power levels are virtually undetectable allowing for a low probability of interception. Ultra wideband is resistant to multipath distortion so that in highly reflective environments, such as subways, the technology uses better distance gains without degrading accuracy.

So proving that it works. As noted before, this product has been in service for over six years on over 4,000 assets for collision avoidance. But beyond that, Metrom Rail has done a number of demonstrations.

Exhibit 2035, 2036 page 2, lns 9-17; page 7 lines 12-15, 2032 page 2

The Board Can Draw Adverse Inferences Against Petitioners

"The rule even in criminal cases is that if a party has it peculiarly within his power to produce witnesses whose testimony would elucidate the transaction, the fact that he does not do it creates the presumption that the testimony, if produced, would be unfavorable."

Graves v. United States, 150 U.S. 118, 121 (1893)

Evidence Controlled by Petitioners
David Garcia and Copying (Piper's Vice President)
Technical Evidence Regarding Helix (Piper)
Evidence Regarding Market Demand for Helix (Piper)
Evidence Regarding Failure and Skepticism in the Industry (All Petitioners)

Petitioners' Expert Admits that not all of his Opinions are Supported by Evidence

Q What do you cite to?

A A person would have understood -- so I cite to what a POSITA would have known. There's a lot of background knowledge that people carry with them, and I don't have to cite to a separate reference for every single assertion that I make. If I understand what a person skilled in the art would have known, I can rely on that. Would have been obvious to someone that that would be the case.

Ex. 2007 (Andrews Dep. Tr. at 105:11-19)

Petitioners' Expert Admits that not all of his Opinions are supported by Evidence

Q You haven't cited to a reference that teaches or suggests the benefit of fusing UWB data with GPS data; is that correct?

A I've not cited to a specific reference for that, yes.

Q Sure. In fact, between paragraph 176 -- well, between 176 and 177 you've not cited to any reference other than the knowledge of a POSITA, correct?

A That's correct.

Q Okay.

Ex. 2007 (Andrews Dep. Tr. at 121:19-122:2

Petitioners' Expert Admits that not all of his Opinions are supported by Evidence

Q So is it fair to say you do not have personal experience with railroad collision avoidance equipment.

A I have personal experience, a great deal of personal experience, with collision avoidance systems. Whether they're applied to rail, vehicles, trucks or ships, is kind of irrelevant. I have a lot of experience in collision avoidance systems. Haven't worked specifically on one that was mounted to a train.

Ex. 2007 (Andrews Dep. Tr. at 46:5-12)