

United States Patent and Trademark Office
Before the Patent Trial and Appeal Board

Geotab USA, Inc. and Geotab, Inc.,
(Petitioners)

v.

Omega Patents, LLC
(Patent Owner)

No. IPR2023-00504 | **U.S. Patent No. 8,032,278**

Petitioners' Demonstrative Exhibits

April 24, 2024

Geotab Exhibit 1130
Geotab v. Omega
IPR2023-00504

Alleged Invention Is Using GPS With A Multi-Vehicle Control System

On July 3, 2007

'278 Patent

(12) **United States Patent**
Flick

(10) **Patent No.:** **US 8,032,278 B2**

(45) **Date of Patent:** **Oct. 4, 2011**

(54) **VEHICLE TRACKING UNIT WITH
DOWNLOADABLE CODES AND
ASSOCIATED METHODS**

(58) **Field of Classification Search** 701/36,
701/207-209; 340/500, 506, 515, 531, 533-534
See application file for complete search history.

(22) **Filed:** **Jul. 3, 2007**

(65) **Prior Publication Data**

US 2007/0279283 A1 Dec. 6, 2007

Related U.S. Application Data

(63) **Continuation-in-part** of application No. 11/076,259,
filed on Mar. 9, 2005, now Pat. No. 7,720,597, which is

EX1001; Pet. (Paper 3) at 4, 8 (discussing priority)

BACKGROUND OF THE INVENTION

A number of patents disclose various systems and approaches to tracking vehicles. For example, U.S. Pat. No. 5,223,844 discloses a tracking system including a control center and a mobile unit installed in the vehicle. The mobile unit may send security warnings to the command center via a wireless transceiver. Position information for the vehicle is determined using a GPS receiver at the vehicle.

Known
tracking
with GPS

EX1001, 1:47-53, cited Pet. (Paper 3) at 5

A number of patents disclose various security and control systems that address data bus interoperability. For example, U.S. Pat. No. 5,719,551, assigned to Omega Patents, LLC, the assignee of the present invention, discloses a vehicle security system for a vehicle including a data bus connecting a plurality of vehicle devices. A signal enabling circuit enables the alarm controller to operate using a set of desired signals selected from a plurality of possible sets for different vehicles. U.S. Pat. No. 6,011,460, assigned to Omega Patents, LLC, discloses a similar system where the set of desired signals from the plurality of different sets of signals for different vehicles is obtained, such as by connection and communication with a downloading device. Additionally, U.S. Pat. No. 6,756,885, also assigned to Omega Patents, LLC, discloses a multi-vehicle control system whereby a multi-vehicle compatible controller stores a set of device codes for a given vehicle device for a plurality of different vehicles. Device codes are read from the data communications bus, and a match between a read device code and the stored device codes is determined to provide compatibility with different vehicles.

Known
MVCC

Flick-885

Unfortunately, such advanced techniques for dealing with multiple device codes for a vehicle having a data communications bus have not yet been developed for vehicle tracking units.

Alleged
Problem
Solved

EX1001 at 2:17-41, cited Pet. (Paper 3) at 5

Hunt Did It In 2003

Hunt

(12) **United States Patent**
Hunt et al.

(10) Patent No.: **US 6,957,133 B1**
(45) Date of Patent: **Oct. 18, 2005**

(54) **SMALL-SCALE, INTEGRATED VEHICLE
TELEMATICS DEVICE**

(21) Appl. No.: **10/431,947**

(22) Filed: **May 8, 2003**

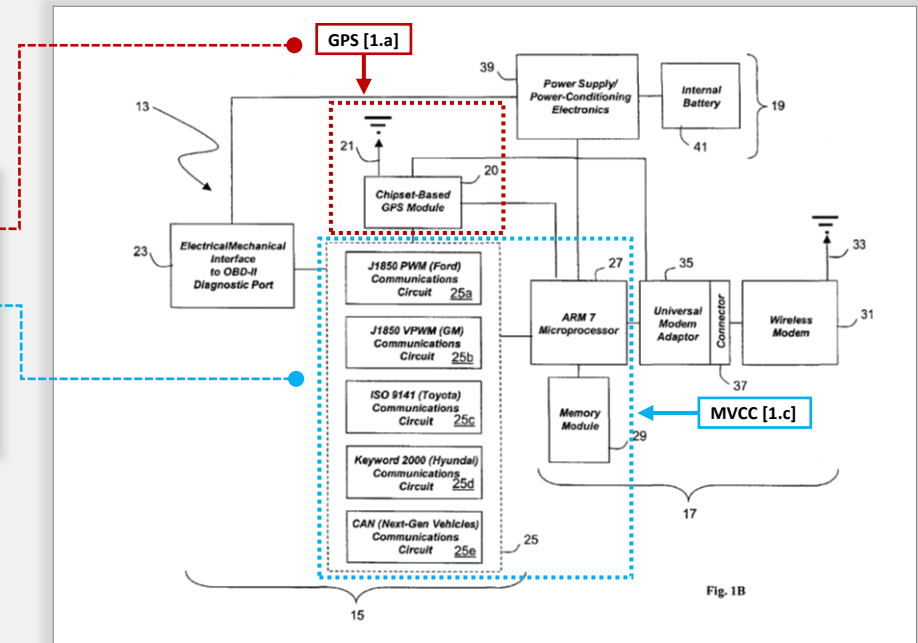
Conventional GPSs can be combined with systems for collecting the vehicle's OBD-II diagnostic data to form 'telematics' systems. Such telematics systems typically include (1) a microprocessor that runs firmware that controls separate circuits that communicate with different vehicle makes (e.g., Ford, GM, Toyota) to collect OBD-II data; (2) a GPS module; and (3) a separate wireless transmitter

Hunt (EX1023) at 1:39-46, cited Pet. (Paper 3) at 13-14, 54-55

'278 Patent Claim 1

1.a	a vehicle position determining device; ●
1.c	a multi-vehicle compatible controller [MVCC] for cooperating with said vehicle position determining device and said wireless communications device to send vehicle position information; ●

EX1001 at 26:1-6; Pet. (Paper 3) at 92



Pet. (Paper 3) at 13-15 ([1.a]), 17-23 ([1.c]);
Hunt (EX1023) Fig. 1B

Alleged Invention Was Known And Obvious On July 3, 2007

		Ground 1		Ground 3
Ref	Claim	Hunt	Flick-885	Flick-885+Hunt
1.pre	A multi-vehicle compatible tracking unit for a vehicle comprising a vehicle data bus extending throughout the vehicle, the multi-vehicle compatible tracking unit comprising:	x	x	x
1.a	a vehicle position determining device;	x		x
1.b	a wireless communications device;	x	x	x
1.c	a multi-vehicle compatible controller for cooperating with	x	x	x
	said vehicle position determining device and	x		x
	said wireless communications device to send vehicle position information;	x	x	x
1.d	said multi-vehicle compatible controller to be coupled to the vehicle data bus for communication thereover with at least one vehicle device using at least one corresponding vehicle device code from among a plurality thereof for different vehicles; and	x	x	x
1.e	a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.	x	x	x

Pet. (Paper 3) at 13-45 (Hunt), 53-68 (Flick-885+Hunt)

Disputes

Ground	Reference	Basis	Claims	Disputed Issues	Cites
3	Flick-885+ Hunt	103	1-22	Reasons to combine Flick-885 with Hunt's GPS	Pet., 48-52; POR, 57-60; Reply, 1-5; Sur-reply, 21-23
				Secondary considerations	Pet., 75-83; POR, 44-53, 60-62; Reply, 5-16; Sur-reply, 11-21, 23
1	Hunt	102	1, 4-6, 8, 11-12, 18-19, 21	Hunt teaches [1.e] "downloading interface"	Pet., 34-41; POR, 11-31; Reply, 16-28; Sur-reply, 2-9
2	Hunt	103	1, 4-6, 8, 11-12, 18-19, 21	Obvious for Hunt to wirelessly download firmware meeting [1.e] "downloading interface"	Pet., 48; POR, 35-44; Reply, 29-30; Sur-reply, 9-11
				Secondary considerations	Pet., 75-83; POR, 44-53; Reply, 5-16, 30-31; Sur-reply, 11-21

Ground 3

Ground 3: Flick-885+Hunt Renders All Claims Obvious

Ground	Reference	Basis	Claims	Disputed Issues	Cites
3	Flick-885+ Hunt	103	1-22	Reasons to combine Flick-885 with Hunt's GPS	Pet., 48-52; POR, 57-60; Reply, 1-5; Sur-reply, 21-23
				Secondary considerations	Pet., 75-83; POR, 44-53, 60-62; Reply, 5-16; Sur-reply, 11-21, 23
1	Hunt	102	1, 4-6, 8, 11-12, 18-19, 21	Hunt teaches [1.e] "downloading interface"	Pet., 34-41; POR, 11-31; Reply, 16-28; Sur-reply, 2-9
2	Hunt	103	1, 4-6, 8, 11-12, 18-19, 21	Obvious for Hunt to wirelessly download firmware meeting [1.e] "downloading interface"	Pet., 48; POR, 35-44; Reply, 29-30; Sur-reply, 9-11
				Secondary considerations	Pet., 75-83; POR, 44-53; Reply, 5-16, 30-31; Sur-reply, 11-21

A POSA Had Reasons To Combine Hunt's GPS Teaching With Flick-885's Teachings To Achieve Hunt's "Many Advantages"

Petition

First, Hunt would have motivated POSAs to add location services to Flick-885 to achieve any or all of the "advantages" Hunt describes to adding location services to a system like Flick-885, including "roadside assistance," "alerting" the owner when the vehicle is moved, vehicle "recovery" and "remote diagnostics." Hunt, 2:35-41, 4:18-22; Miller, ¶366.

Second, this combination is no more than the "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417; Miller, ¶367.

Pet. (Paper 3) at 50-51; Reply (Paper 27) at 2

Institution Decision

Moreover, we agree with Petitioner on this record that Hunt expressly teaches a skilled artisan that providing a combination of GPS location services and vehicle diagnostic data provides "many advantages," Ex. 1023, 4:12, and thus provides a reason to combine the teachings of Hunt and Flick '885. Hunt expressly teaches that vehicle-location data and vehicle-diagnostic data "are complementary and, when analyzed together, can improve conventional services such as roadside assistance, vehicle theft notification and recovery, and remote diagnostics." *Id.* at 4:18-23. Thus,

D.I. (Paper 11) at 46-47

Ground 3: Flick-885+Hunt

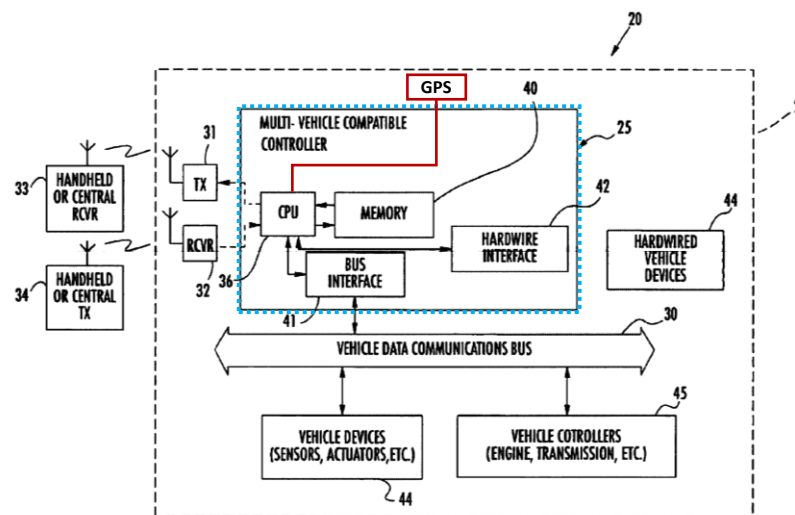


FIG. 1

Pet. (Paper 3) at 51;
Flick-885 (EX1024), Fig. 1 (annotated)

PO's "Make Slower" Argument Challenging Reasons To Combine Is Unsupported Attorney Argument And Contrary To The Facts

POR

stronger, cheaper, faster, more durable, or more efficient device. A POSA would understand that at the time of the invention adding GPS would make the device slower, as more processing power would be required at a time when processing power, particularly in real-time, was severely limited. Ex-2010, ¶192. There is no

POR (Paper 15) at 58

PO's Expert McAlexander

192. A POSA would understand that at the time of the invention adding GPS would make the device slower, as more processing power would be required at a time when processing power, particularly in real-time, was severely limited.

McAlexander Decl. (EX2010) at ¶192

Reply

2. Omega's "slower" Argument Fails.

Omega's contention that POSAs would not add Hunt's GPS to Flick-885 because "it would make the device slower" (POR, 58) relies on **conclusory testimony parroting the POR** (EX2010, ¶¶190-191) that warrants no weight. *Xerox v. Bytemark*, IPR2022-00624, Paper 9, 15 (Aug. 24, 2022) (precedential).

Neither Hunt nor the '278 patent describe GPS making any device "slower."

The '278 patent **describes no techniques for overcoming** this alleged problem.

Even if there were a speed tradeoff for achieving the benefits the Board recognized from adding GPS to Flick-885 (D.I., 46), **the law only requires that a combination provide "a suitable option."** *Intel v. Qualcomm*, 21 F.4th 784, 800 (Fed. Cir. 2021). Hunt demonstrates using GPS with a vehicle controller was a "suitable option."

Reply (Paper 27) at 3

Sur-reply

filing. This is impermissible hindsight. Omega has provided evidence that adding GPS at the time of filing of the '278 Patent was in fact **beyond the skill** of a POSA **since a POSA would not do so** in consideration of processing speeds. POR 58; Ex-2020, ¶192.

Sur-reply (Paper 32) at 23

Non-Responsive



The Combination Is Not “Hindsight” Because Hunt Expressly Teaches Combining GPS With A Multi-Vehicle Controller In 2003

POR

A combination of *Flick885* and *Hunt* can only be achieved through the use of improper hindsight. Ex-2010, ¶193.

POR (Paper 15) at 58

Hunt

(12) **United States Patent**
Hunt et al.

(10) Patent No.: **US 6,957,133 B1**
(45) Date of Patent: **Oct. 18, 2005**

(54) **SMALL-SCALE, INTEGRATED VEHICLE
TELEMATICS DEVICE**

(21) Appl. No.: **10/431,947**

(22) Filed: **May 8, 2003**

Conventional GPSs can be combined with systems for collecting the vehicle’s OBD-II diagnostic data to form ‘telematics’ systems. Such telematics systems typically include (1) a microprocessor that runs firmware that controls separate circuits that communicate with different vehicle makes (e.g., Ford, GM, Toyota) to collect OBD-II data; (2) a GPS module; and (3) a separate wireless transmitter

Hunt (EX1023) at 1:39-46, cited Pet. (Paper 3) at 13-14, 54-55

Reply

3. Omega’s Hindsight Argument Fails.

Omega’s contention that adding GPS to Flick-885 is “hindsight” (POR, 58-60) disregards that Hunt added GPS to a vehicle controller *in 2003*, before Omega filed its application *in 2007*.

Reply (Paper 27) at 3-4



Sur-reply

C. The Combination of *Flick885* and *Hunt* Is Fraught With Hindsight

Petitioners distill the combination of a GPS, like in *Hunt*, with *Flick885* to nothing more than a predictable and suitable combination that provides “advantages” that can be used for improvement in the same way. Reply, 2-4. Petitioners focus on GPS alone in *Hunt* but fail to consider *Hunt* as a whole at the time of filing – when GPS was not so prolific. POR, 57-60. Petitioners fail to establish that any recognized benefit of a combined system would have been recognized by a POSA at the time of filing. This is impermissible hindsight. Omega has provided evidence that adding GPS at the time of filing of the ‘278 Patent was in fact beyond the skill of a POSA since a POSA would not do so in consideration of processing speeds. POR 58; Ex-2020, ¶192.



Non-Responsive

Sur-reply (Paper 32) at 23

Intel and KSR Refute Omega's "Hindsight" Argument

Intel v. Qualcomm



And "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, **using the technique is obvious** unless its actual application is beyond his or her skill." *KSR*, 550 U.S. at 417, 217 S.Ct. 1727. That's what we have here. Given the facts and reasoning of *KSR*, it is readily apparent that the Board's hindsight inference lacks substantial evidence.

Intel v. Qualcomm, 21 F.4th 784, 800 (Fed. Cir. 2021),
cited Reply (Paper 27) at 4

POR

A combination of *Flick885* and *Hunt* can only be achieved through the use of improper hindsight. Ex-2010, ¶193.

POR (Paper 15) at 58

Reply

In *Intel*, the Federal Circuit rejected "hindsight" arguments ignoring "the facts and reasoning of *KSR*." 21 F.4th at 800. "[I]f a technique [GPS] has been used to improve one device [Hunt]" and POSAs "would recognize that it would improve similar devices [Flick-885] in the same way, **using the technique is obvious** unless its actual application is beyond his or her skill." *Id.*, quoting *KSR v. Teleflex*, 550 U.S. 398, 417 (2007).¹ Omega never disputes that POSAs understood that adding GPS would improve Flick-885's controller the same way that it improved Hunt's (Miller, ¶¶360-367), nor that this was within the POSA's skill. Miller, ¶¶10-12, 64 (adding GPS to a controller), 58 (Hunt evidences POSA's skill), 217-220 (discussing Hunt's GPS); Pet., 13-15 (similar). This refutes Omega's "hindsight" argument. *Intel*, 21 F.4th at 800.

Reply (Paper 27) at 3-4

Sur-reply

C. The Combination of *Flick885* and *Hunt* Is Fraught With Hindsight

Petitioners distill the combination of a GPS, like in *Hunt*, with *Flick885* to nothing more than a predictable and suitable combination that provides "advantages" that can be used for improvement in the same way. Reply, 2-4. Petitioners focus on GPS alone in *Hunt* but fail to consider *Hunt* as a whole at the time of filing – when GPS was not so prolific. POR, 57-60. Petitioners fail to establish that any recognized benefit of a combined system would have been recognized by a POSA at the time of filing. This is impermissible hindsight. Omega has provided evidence that adding GPS at the time of filing of the '278 Patent was in fact beyond the skill of a POSA since a POSA would not do so in consideration of processing speeds. POR 58; Ex-2020, ¶192.

Sur-reply (Paper 32) at 23

Non-Responsive



Ground 3: Flick-885+Hunt Renders All Claims Obvious

Ground	Reference	Basis	Claims	Disputed Issues	Cites
3	Flick-885+ Hunt	103	1-22	Reasons to combine Flick-885 with Hunt's GPS	Pet., 48-52; POR, 57-60; Reply, 1-5; Sur-reply, 21-23
				Secondary considerations	Pet., 75-83; POR, 44-53, 60-62; Reply, 5-16; Sur-reply, 11-21, 23
1	Hunt	102	1, 4-6, 8, 11-12, 18-19, 21	Hunt teaches [1.e] "downloading interface"	Pet., 34-41; POR, 11-31; Reply, 16-28; Sur-reply, 2-9
2	Hunt	103	1, 4-6, 8, 11-12, 18-19, 21	Obvious for Hunt to wirelessly download firmware meeting [1.e] "downloading interface"	Pet., 48; POR, 35-44; Reply, 29-30; Sur-reply, 9-11
				Secondary considerations	Pet., 75-83; POR, 44-53; Reply, 5-16, 30-31; Sur-reply, 11-21

Secondary Considerations Cannot Overcome Obviousness Established By Other *Graham* Factors For Flick-885+Hunt

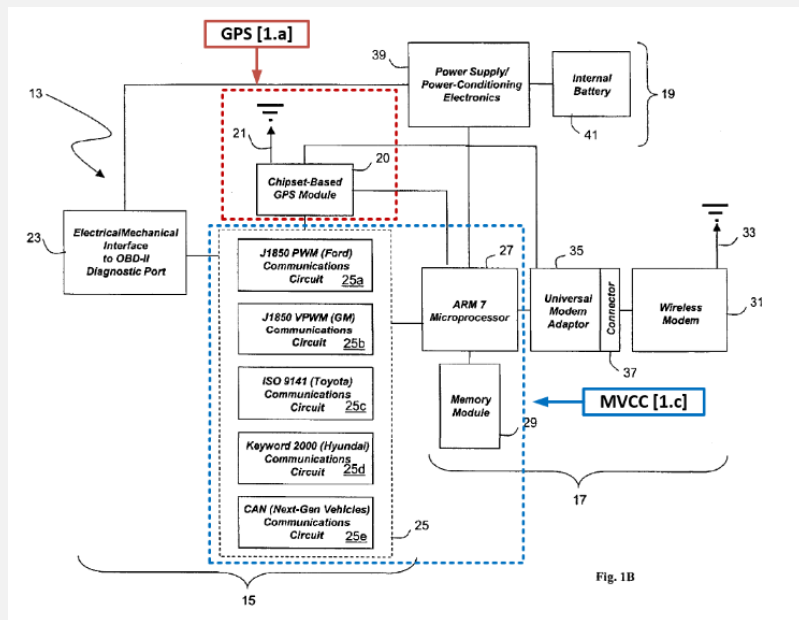
Institution Decision

alleged grounds of unpatentability for obviousness, we determine that Hunt—either alone or in combination with Flick '885—provides strong evidence of unpatentability based on the record before us at this stage of the proceeding. *Infra* § IV.C. This evidence may weigh differently against

D.I. (Paper 11) at 18

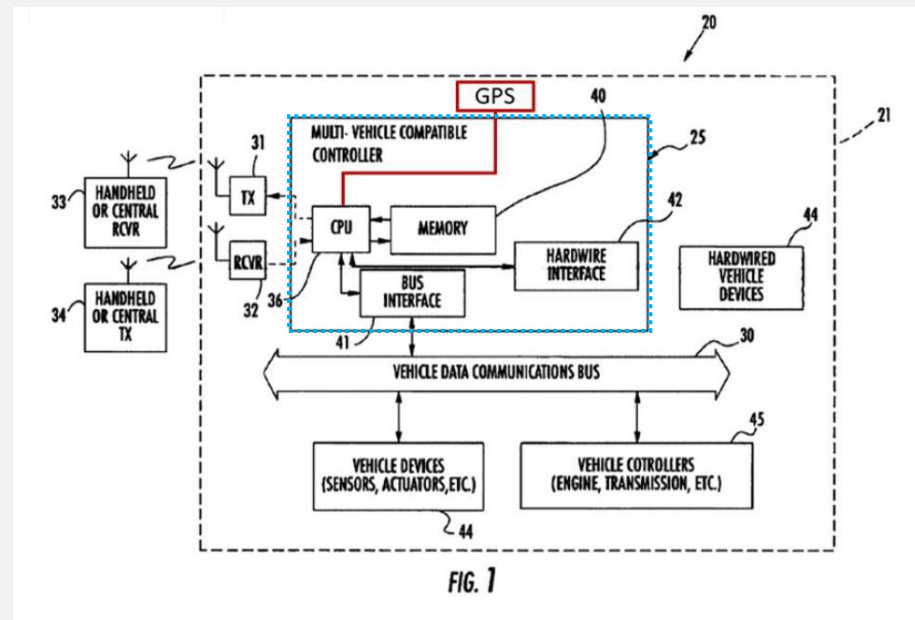
Ground 3: Flick-885+Hunt

Hunt (annotated)



Pet., 13-15 ([1.a]), 17-23 ([1.c]);
Hunt (EX1023), Fig. 1B.

Flick-885 (adding Hunt's GPS teaching)



Pet., 48-51;
Flick-885 (EX1024), Fig. 1 (annotated)

Secondary Considerations Cannot Overcome Obviousness Established By Other *Graham* Factors For Flick-885+Hunt

Institution Decision

alleged grounds of unpatentability for obviousness, we determine that Hunt—either alone or in combination with Flick '885—provides strong evidence of unpatentability based on the record before us at this stage of the proceeding. *Infra* § IV.C. This evidence may weigh differently against

D.I. (Paper 11) at 18

Reply

“Where the inventions represent no more than the predictable use of prior art elements according to their established functions the secondary considerations *are inadequate to establish nonobviousness as a matter of law.*” *Wyers*, 616 F.3d at 1246 (cleaned up), cited Pet., 76-77 (collecting cases). In Flick-855+Hunt, Hunt’s “housing... houses” (Hunt, 3:7-9) and Hunt’s “conventional GPS” (Hunt, 1:15-20) determines vehicle position. Miller, ¶¶362-370. Flick-885+Hunt is nothing more than the predictable use of Flick-885’s controller with Hunt’s housing and GPS according to their “established functions.” Pet., 49-53.

The *sole* disputed issue for Ground 3 is whether in 2007 POSAs had reasons to add GPS to a vehicle controller like Flick-885’s. POR, 57-60. Omega alleges that secondary consideration “evidence” shows they did not. POR, 62 (“adding of a vehicle position determining device and a multi-vehicle compatible controller ... [was] not obvious”). But Omega never explains how its alleged secondary consideration “evidence” could erase *Hunt’s explicit teaching to combine GPS with a multi-vehicle compatible controller in 2003*. Pet., 10-14, 17-23, 49-53; *supra*, §I.A.3. It cannot.

Reply (Paper 27) at 5-6

Wyers v. Master Lock



Moreover, secondary considerations of nonobviousness – considered here by the district court—simply cannot overcome a string *prima facie* case of obviousness.

* * *

Here, where the inventions represented no more than “the predictable use of prior art elements according to their established functions,” *KSR*, 550 U.S. at 417, 127 S.Ct. 1727, the secondary considerations are inadequate to establish nonobviousness as a matter of law.

Wyers v. Master Lock, 616 F.3d 1231, 1246 (Fed. Cir. 2010).
cited Pet., 76-77 (collecting cases); Reply (Paper 27) at 5

ZUP, LLC v. Nash Mfg., Inc.



Obviousness is ultimately a legal determination, and a strong showing of obviousness may stand “even in the face of considerable evidence of secondary considerations.” *Rothman v. Target Corp.*, 556 F.3d 1310, 1322 (Fed. Cir. 2009); *see also Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472 (Fed. Cir. 1997) (“In reaching an obviousness determination, a trial court may conclude that a patent claim [was] obvious, even in the light of strong objective evidence tending to show nonobviousness.”).

ZUP, LLC v. Nash Mfg., Inc., 896 F.3d 1365, 1374 (Fed. Cir. 2018),
cited D.I. (Paper 11) at 18-19

PO's Misleading Sur-reply Argument On RX4 (90/014,419) Does Not Change Any Patentability Analysis Herein

Sur-reply (Mar. 8, 2024)

considerations was considered and relied on. While Petitioners have argued Board decisions that consider different art are irrelevant (*id.*), the most recent decision in *Ex Parte* reexamination, application 90/014,419, confirmed the patentability of the '278 patent, this time with express consideration of the ongoing IPRs and the combination of *Hunt* and the *Flick885* (Paper 24), and cited evidence of secondary considerations in confirming the patentability of the '278 patent.⁴ Omega has

* * *

⁴ Petitioners filed the prosecution histories for all five reexaminations at EX1005-EX1009. However, as acknowledged by both parties in mandatory notices (Papers 24, 25 and 31), *Ex Parte* reexamination 4 (90/014,419) has continued. As noted in Papers 24, the Patent Office confirmed the patentability of the claims of the '278 patent over all art cited herein (as reflected in the IDS forms referenced therein), including '133 to *Hunt* and the *Flick '885* patents. Paper 24. To the extent not already before this Board, Omega requests the Board take official notice of the proceedings referenced by both parties. See, e.g., *Data Engine Techs. LLC. V. Google LLC*, 906 F.3d 999, 1008 n. 2 (Fed. Cir. 2018) (prosecution histories are subject to judicial notice); FRE 201; 37 C.F.R. 42.62.

Sur-reply (Paper 32) at 17-18, 18 n.4; *id.* at 1, 9-10, 22-23 (similar)

Institution Decision (Feb. 21, 2024)

Verizon v. Omega, IPR2023-01162

⁴ In its Supplemental Mandatory Notice, filed January 3, 2024, Patent Owner notes that *Ex Parte* Reexamination No. 90/014,419, which was granted in part on July 27, 2023, resulted in issuance of a certificate on January 2, 2024, confirming all claims patentable. Paper 9, 2–3. Patent Owner represents that the Examiner confirmed patentability over the *Flick '885* and *Flick '561* patents at issue here. *Id.* We have reviewed the Notice of Intent to Issue *Ex Parte* Reexamination Certificate, mailed January 12, 2024, and note that neither *Flick '885* nor *Flick '561* are mentioned therein; rather, the basis for this reexamination was obviousness over U.S. Patent No. 5,719,551 to *Flick*. *Flick '885* and *Flick '561* were, however, each individually cited in an IDS, along with dozens of other references, but we have no indication that such references were substantively considered by the Examiner, alone or in combination. Moreover, the Examiner's statement of reasons for allowance is reliance on evidence of secondary considerations made of record in previous reexamination proceedings, which we address *infra* Section IV.C.1.c). Accordingly, this recent development does not change our analysis herein.

Verizon v. Omega, IPR2023-01162, Paper 12 (D.I.), 15 n.4 (Feb. 21, 2024)

MPEP §§ 2256, 2656

Where patents, publications, and other such documents are submitted by a party (patent owner or requester) in compliance with the requirements of the rules, the requisite degree of consideration to be given to such information will be normally limited by the degree to which the party filing the information citation has explained the content and relevance of the document. The initials of the examiner placed adjacent to the citations on the form PTO/SB/08 or its equivalent, without an indication to the contrary in the record, do not signify that the document has been considered by the examiner any further than to the extent noted above.



Ground 1

Ground 1: Hunt Anticipates Claims 1, 4-6, 8, 11-12, 18-19, 21

Ground	Reference	Basis	Claims	Disputed Issues	Cites
3	Flick-885+ Hunt	103	1-22	Reasons to combine Flick-885 with Hunt's GPS	Pet., 48-52; POR, 57-60; Reply, 1-5; Sur-reply, 21-23
				Secondary considerations	Pet., 75-83; POR, 44-53, 60-62; Reply, 5-16; Sur-reply, 11-21, 23
1	Hunt	102	1, 4-6, 8, 11-12, 18-19, 21	Hunt teaches [1.e] "downloading interface"	Pet., 34-41; POR, 11-31; Reply, 16-28; Sur-reply, 2-9
2	Hunt	103	1, 4-6, 8, 11-12, 18-19, 21	Obvious for Hunt to wirelessly download firmware meeting [1.e] "downloading interface"	Pet., 48; POR, 35-44; Reply, 29-30; Sur-reply, 9-11
				Secondary considerations	Pet., 75-83; POR, 44-53; Reply, 5-16, 30-31; Sur-reply, 11-21

Board's "enabling data" Construction Is Not Disputed

'278 Patent Claim 1

1.e	a downloading interface for permitting downloading of <u>enabling data</u> related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.
-----	---

'278 patent (EX1001) claim 1, limitation [1.e];
Pet. (Paper 3) at 34-41

Ex parte Omega Patents, LLC, Appeal No. 2018-008119 (Nov. 3, 2018) ("Omega Patents I," Ex. 1012)

D.I. (Paper 11) at 14

Institution Decision

In *Omega Patents I*, the Board construed "enabling data" as data that "enables the recited controller to use a particular vehicle device code from among plural such codes for different vehicles by providing either (1) the code itself to the controller, or (2) data that otherwise enables the controller to select or generate the code." *Omega Patents I*, 12–13 (citing Ex. 1001, 24:5–25:28, Figs. 10–13). We see no reason to depart from the Board's previous construction of this term at this stage of the proceeding.

D.I. (Paper 11) at 25-26

Hunt Discloses Wirelessly Downloading And Installing Firmware That Identifies The Host Vehicle's Communication Protocol

'278 Patent Claim 1

1.e

a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

'278 patent (EX1001) claim 1, limitation [1.e];
Pet. (Paper 3) at 34-41

Petition

ii. Hunt Meets [1.e] Even If Enabling Data is Limiting

If the Board finds that [1.e] requires downloading a particular *type* of data,

Hunt still meets it because Hunt describes updating the firmware on the MVCC's microprocessor 27, and that firmware identifies the host vehicle communication protocol and processes device codes (*supra* §VI.B.5.b.ii) read from a vehicle device. Hunt, 2:66-3:3, 6:9-12, 6:18-25; Miller, ¶¶211, 308-309, 327. Firmware that identifies the host vehicle communication protocol "by testing each protocol in an effort to establish communications," (Hunt 9:3-6), and processes device codes, is enabling data (Ex. 1001, 24:9-12), and the MVCC's firmware instructions that select and read vehicle device codes are "related to the at least one corresponding vehicle device code for use by said [MVCC]." Miller, ¶328. Thus, Hunt meets [1.e]. Miller, ¶329.

Petition (Paper 3) at 40-41

Hunt (EX1023)

The microprocessor may run firmware that determines the vehicle-communication protocol of a host vehicle. Once this is determined, the microprocessor selects the appropriate module in the vehicle-communication circuit that supports the vehicle-communication protocol.

Hunt (EX1023), 2:66-3:3, cited Pet. (Paper 3) at 12, 20, 35, 40

Moreover, the processes associated with some of the present embodiments may be executed by programmable equipment, such as computers. Software that may cause programmable equipment to execute the processes may be stored in any storage device, such as, for example, a computer system (non-volatile) memory, an optical disk, magnetic tape, or magnetic disk. Furthermore, some of the processes may be programmed when the computer system is manufactured or via a computer-readable medium at a later date. Such a medium may include any of the forms listed above with respect to storage devices and may further include, for example, a carrier wave modulated, or otherwise manipulated, to convey instructions that can be read, demodulated/decoded and executed by a computer.

Hunt (EX1023), 11:5-18, cited Pet. (Paper 3) at 35, 48;
Reply (Paper 27) at 17-18, 30-31

Hunt Discloses Wirelessly Downloading And Installing Firmware That Identifies The Host Vehicle's Communication Protocol

'278 Patent Claim 1

1.e	a downloading interface for permitting downloading of <u>enabling data</u> related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.
-----	---

'278 patent (EX1001) claim 1, limitation [1.e];
Pet. (Paper 3) at 34-41

Petition

ii. Hunt Meets [1.e] Even If Enabling Data is Limiting

If the Board finds that [1.e] requires downloading a particular *type* of data, Hunt still meets it because Hunt describes updating the firmware on the MVCC's microprocessor 27, and that firmware identifies the host vehicle communication protocol and processes device codes (*supra* §VI.B.5.b.ii) read from a vehicle device. Hunt, 2:66-3:3, 6:9-12, 6:18-25; Miller, ¶¶211, 308-309, 327. Firmware that identifies the host vehicle communication protocol "by testing each protocol in an effort to establish communications," (Hunt 9:3-6), and processes device codes, is enabling data (Ex. 1001, 24:9-12), and the MVCC's firmware instructions that select and read vehicle device codes are "related to the at least one corresponding vehicle device code for use by said [MVCC]." Miller, ¶328. Thus, Hunt meets [1.e]. Miller, ¶329.

Petition (Paper 3) at 40-41

Institution Decision

reprogrammable (or updatable) through download, claim 1 does not require the controller to be updatable with, e.g. new vehicle device codes. Instead, limitation 1[e] broadly recites downloading "enabling data *related to* the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller." In our view, data that otherwise enables the controller to select or generate the code is enabling data "related to" the vehicle device codes. Indeed, the '278 patent describes "enabling data" as data that may be "an instruction to select a code or codes *from among those already stored.*" Ex. 1001, 24:8-13 (emphasis added).

D.I. (Paper 11) at 37

Reply

II. Hunt Anticipates Claims 1, 4-6, 8, 11-12, and 18-19 (Ground 1).

Omega only disputes whether Hunt meets limitation [1.e]'s "downloading interface." POR, 11-31. The Board rejected this argument at institution. D.I., 28-38. Omega gives the Board no reason to reach a different conclusion.

A. Hunt Meets [1.e]'s "downloading interface."

The Board agreed that Hunt meets [1.e] because Hunt discloses downloading and installing firmware, which is "enabling data" because it "communicat[es] the vehicle's specific protocol to Hunt's [vehicle communication circuit 25]." D.I., 36; *id.*, 32-37; Pet., 34-37, 40-41.

Reply (Paper 27) at 16

PO Does Not Dispute Any Relevant Fact Concerning Hunt's Microprocessor Or Post-Installation Firmware Download

Reply

a. Hunt's Firmware is Enabling Data.

Omega acknowledges that Hunt's microprocessor "communicates the protocol to the ASIC" and has updatable firmware that "tests 'each protocol.'" POR, 28-29. Omega alleges that Hunt nevertheless lacks a downloading interface for downloading *enabling data* because Hunt's communication protocols "are in the ASIC and cannot be changed." *Id.*

To the extent Omega suggests that Hunt's firmware is not "enabling data," that fails as a matter of claim construction. Hunt's firmware meets the Board's construction of "enabling data" because it is data "that enables... the controller to use a particular vehicle device code" and "enables the controller to select or generate the code." D.I., 25, 36. Omega does not dispute that Hunt's MVCC uses firmware to identify the host vehicle's communication protocol (Pet., 21, 35-36, 40-41; D.I., 34, 36-37; POR, 28) and cause the MVCC to generate the correct vehicle device codes specified by the protocol to allow the MVCC to communicate with the vehicle's devices (Hunt, 9:18-27).

Reply (Paper 27) at 17-18

b. Hunt Discloses Post-Manufacture Firmware Download.

Omega alleges that because Hunt uses an ASIC that "cannot be changed" Hunt had no reason to download new "device codes" the ASIC could not use. POR, 18-19. That is a red herring because neither the claims, Petitioners' "enabling data" construction that the Board adopted, nor Ground 1's showing require that Hunt's MVCC download new device codes. "Enabling data" is met by firmware that enables the MVCC to identify the vehicle's host communication protocol and its specified device codes. Pet., 21, 35-36, 40-41; D.I., 34, 36-37.

* * *

First, Hunt expressly describes installing firmware by wireless download at a "later date" than Hunt's MVCC is manufactured. (Pet., 35-36, 40-41; Hunt, 11:5-18). Thus, Hunt describes downloading the firmware for the initial programming of the MVCC's microprocessor. Miller, ¶¶308-313, 327-331.

Reply (Paper 27) at 18

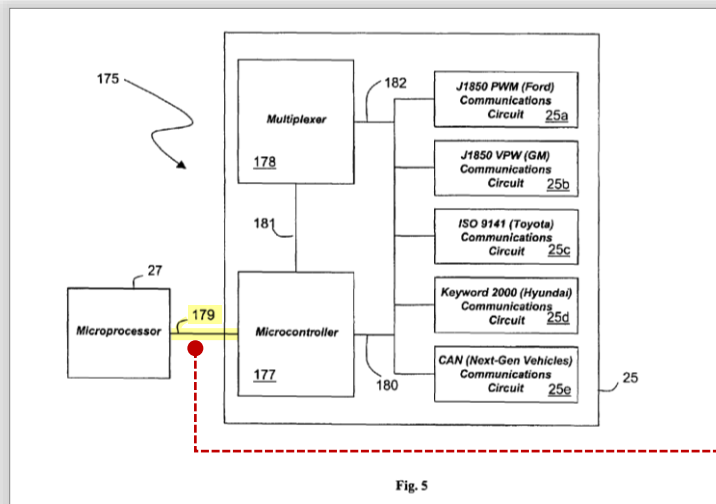
Hunt's Cellphone Embodiment Also Meets [1.e] “downloading interface”

Petition

Furthermore, Hunt's disclosure that its wireless appliance can be implemented on a cell phone (Hunt, 11:5-7, 11:34-40; *supra* §VI.B.3 ([1.b])) discloses that software (e.g., an application) is downloaded (e.g., wirelessly) onto the phone to implement Hunt's above-discussed appliance functionality. *E.g.*, Ex. 1056, Abstract; *accord* Ex. 1057, Abstract; Ex. 1058, [0026], [0092]; Ex. 1060, Abstract; Miller, ¶330. The downloaded software implementing the appliance functionality includes instructions to retrieve and process device codes and is thus also “enabling data related to at least one corresponding vehicle device code for use by said [MVCC]” in [1.e]. Miller, ¶¶331-332.

Petition (Paper 3) at 41

Hunt



Hunt (EX1023) Fig. 5, cited Reply (Paper 27) at 21

POR

g) A Cellphone Is Not A Downloading Interface

Petitioners leap to yet another boilerplate section of *Hunt* to argue *Hunt's* ASIC device can be a cellphone and thus includes the claimed downloading interface. Petition 37, citing *Hunt* 11:34-40; Ex-2010, ¶112. The *Hunt* wireless appliance is hardwire installed in a vehicle; it is illogical to hardwire a cellphone to the OBD-11 diagnostic port. *Hunt* 5:5-6, 8:46-65; Ex-2010, ¶113.

POR (Paper 15) at 30

Reply

Omega's assertion that Hunt's *microprocessor 27* must be “installed in a vehicle” (POR, 30)—rather than wirelessly connected to an “installed” *vehicle-communication circuit 25*—is wrong and provides no basis to disregard Hunt's cellphone embodiment that provides an alternative basis for meeting [1.e]. Miller-Reply, ¶¶32-33.

Only Hunt's circuit 25 (comprising a physical layer, *supra* §II.B.1.b) must be “installed” in a vehicle. Miller-Reply, ¶34. Circuit 25 connects to microprocessor 27 (Hunt, 8:55-58, 9:18-20, Fig. 5)—which may be in a cellphone (Hunt, 11:34-40)—through “asynchronous serial connection” data link 179 (Hunt, 2:62-65, 8:55-58, Fig. 5, claim 11). POSAs knew that Bluetooth provided a wireless asynchronous serial connection that could implement Hunt's data link 179. EX1060, 6:25-41 (Bluetooth connecting cellphone to vehicle network); EX1116, 1, 5-6, 8, 11, 177; EX1117, 2, 4; Miller-Reply, ¶¶35-49; *cf.* Hunt, claim 58 (limiting “data link” to “an electrical line”).

Reply (Paper 27) at 20-21

PO Has No Answer For Hunt's Cellphone Embodiment

Institution Decision



[W]e find no fault with Petitioner's reliance on Hunt's disclosure for what it says.

D.I. (Paper 11) at 40

Reply

Omega's assertion that Hunt's *microprocessor 27* must be "installed in a vehicle" (POR, 30)—rather than wirelessly connected to an "installed" *vehicle-communication circuit 25*—is wrong and provides no basis to disregard Hunt's cellphone embodiment that provides an alternative basis for meeting [1.e]. Miller-Reply, ¶¶32-33.

Only Hunt's circuit 25 (comprising a physical layer, *supra* §II.B.1.b) must be "installed" in a vehicle. Miller-Reply, ¶34. Circuit 25 connects to microprocessor 27 (Hunt, 8:55-58, 9:18-20, Fig. 5)—which may be in a cellphone (Hunt, 11:34-40)—through "asynchronous serial connection" data link 179 (Hunt, 2:62-65, 8:55-58, Fig. 5, claim 11). POSAs knew that Bluetooth provided a wireless asynchronous serial connection that could implement Hunt's data link 179. EX1060, 6:25-41 (Bluetooth connecting cellphone to vehicle network); EX1116, 1, 5-6, 8, 11, 177; EX1117, 2, 4; Miller-Reply, ¶¶35-49; *cf.* Hunt, claim 58 (limiting "data link" to "an electrical line").

Hunt

Moreover, the processes associated with some of the present embodiments may be executed by programmable equipment, such as computers. Software that may cause

* * *

A "computer" or "computer system" may be, for example, a wireless or wireline variety of a microcomputer, minicomputer, laptop, personal data assistant (PDA), wireless e-mail device (e.g., BlackBerry), cellular phone, pager, processor, or any other programmable device, which devices may be capable of configuration for transmitting and receiving data over a network. Computer devices disclosed herein

Hunt (EX1023) 11:5-7, 34-40, cited Pet. (Paper 3) at 41

Sur-reply

5. A Cellphone Cannot Be A Downloading Interface In Hunt

Petitioners double-down on their contention that *Hunt* discloses a cellphone as a wireless downloading interface from among the laundry-list of devices in the boilerplate. POR, 30-31; Reply 20-21. Petitioners make the argument that since Bluetooth was known at the time of the invention, a POSA would have replaced the data link 179 between the microprocessor 27 and the ASIC 25 with Bluetooth transceivers coupled to both the microprocessor and the ASIC. Reply 20-21; Ex-2025, 71:18-72:8. Not only would this add costs and complexity to *Hunt*, which, by way of the ASIC, *Hunt* attempts to reduce, but it makes no logical sense since this would place the microprocessor and its functionality in someone's cellphone, which may or may not be in the vehicle. POA, 30-31; Reply 20 arguing that microprocessor 27 may be in a cellphone.

PO Argues Limitation [1.e] “enabling data” Distinguishes Hunt Based On Communicative Content, Making “enabling data” Printed Matter

Petition

i. “Enabling Data” Imparts No Patentable Weight

The downloaded data *content* does not limit the “downloading interface,” and the ’278 patent never alleges otherwise. Miller, ¶323. Indeed, claim 8 describes the downloading interface as “also for” permitting downloading of *other* data. If Omega alleges that “enabling data relating to at least one corresponding vehicle device code” distinguishes over Hunt, the claims would be claiming “the content of information” in the enabling data. Under the printed matter doctrine this has no patentable weight. *In re DiStefano*, 808 F.3d 845, 848-851 (Fed. Cir. 2015); *Praxair Distribution v. Mallinckrodt Hospital Products IP*, 890 F.3d 1024, 1032 (Fed. Cir. 2018).

Petition (Paper 3) at 38-39

POR

If, hypothetically, *Hunt*’s modems disclose structure for a downloading interface, the data these modems process is not enabling data related to the at least one corresponding vehicle device code. Ex-2010, ¶111. Instead, the only disclosure associated with modem communication is “diagnostic and location-based data” and GPS data. *Hunt*, 6:35-38, 10:6-9; Ex-2010, ¶111.

POR (Paper 15) at 29-30

7:61; Ex-2010, ¶148. The modem of *Hunt* does not use, download, or otherwise operate on enabling data. *Id.* *Hunt* is silent as to updating the enabling data via a

POR (Paper 15) at 39

’278 Patent

1.e

a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.

’278 patent (EX1001), claim 1, limitation [1.e];
Pet. (Paper 3) at 34-41

Reply

1. “enabling data” Is Printed Matter.

The Board noted the Federal Circuit’s guidance that printed matter is limited to matter “claimed for its communicative content.” D.I., 26. Omega purportedly distinguishes Hunt’s downloading interface based solely on the “communicative content” of the data it downloads. POR, 29 (“the data the modems process is not enabling data”), 39 (Hunt’s modem “does not... operate on enabling data”). That triggers the printed matter doctrine. *In re DiStefano*, 808 F.3d 845, 848–851 (Fed. Cir. 2015).

Reply (Paper 27) at 27

Limitation [1.e] “enabling data” Has No Functional Relationship To A “downloading interface”—Making “enabling data” Non-Limiting

Petition

or anything in device claim 1. *Ingenico-929*, 63; Miller, ¶324. Nothing in the ’278 patent suggests the “downloading interface” would have a structural difference, or its downloading capability “would need to be performed any differently” if non-enabling data were downloaded instead of “enabling data.” *Ingenico-929*, 63; Miller, ¶325.

Petition (Paper 3) at 40

POR

that may be “programmed at a later date.” *Hunt*, 11:11-19; Ex-2010, ¶103. And even if *Hunt* could somehow disclose updating this firmware, the wireless network communications capability is not enabling data: data that enables the recited controller to use a particular vehicle device code from among plural such codes for different vehicles by providing either (1) the code itself to the controller, or (2) data that otherwise enables the controller to select or generate the code. *Id.* This does not

POR (Paper 15) at 27-28

Reply

Omega argues that *other* claimed system components *use* downloaded data in ways *Hunt*’s system allegedly does not. POR, 27-28. The Board suggested that the “controller” (not the downloading interface) uses enabling data to perform a particular function. D.I., 26. But while Omega could have pursued method claims that required *using* “enabling data,” it did not; the claims do not require using downloaded data. How the *controller* uses downloaded data does not limit the *downloading interface* in [1.e]—the only limitation Omega alleges *Hunt* lacks.

* * *

electronic structure.” *In re Lowry*, 32 F.3d 1579, 1583 (Fed. Cir. 1994). In this case data content does not impose structure on the downloading interface. The “downloading interface” can be “a socket to accept a memory card” (EX1001, 24:44-46). The content of data stored on an “accept[ed]” memory card does not limit the socket. Miller-Reply, ¶¶84-85. Omega does not argue otherwise.

Reply (Paper 27) at 28

Unlike The “ADO” Data Structures Claimed In Lowry, The “enabling data” Does Not “define functional characteristics” Of A “downloading interface”

'278 Patent

1.e	a downloading interface for permitting downloading of enabling data related to the at least one corresponding vehicle device code for use by said multi-vehicle compatible controller.
-----	--

'278 patent (EX1001), claim 1, limitation [1.e];
Pet. (Paper 3) at 34-41

Reply

3. Lowry Is Distinguishable.

In *Lowry* (discussed D.I., 26-27) the claims recited a data structure that imparted “a physical organization on the information” that was “the essence of electronic structure.” *In re Lowry*, 32 F.3d 1579, 1583 (Fed. Cir. 1994). In this case data content does not impose structure on the downloading interface. The “downloading interface” can be “a socket to accept a memory card” (EX1001, 24:44-46). The content of data stored on an “accept[ed]” memory card does not limit the socket. Miller-Reply, ¶¶84-85. Omega does not argue otherwise.

Reply (Paper 27) at 28



In re Lowry

1. A memory for storing data... comprising:
a data structure stored in memory... including:
a plurality of attribute data objects [ADOs]

* * *

Lowry's ADOs do not represent **merely** underlying data in a database. ADOs contain both information used by application programs and **information regarding their physical interrelationships within a memory**. . . . Thus, **Lowry's claims define functional characteristics of the memory**

Contrary to the PTO's assertion, Lowry does not claim **merely** the information content of a memory. Lowry's data structures, while including data resident in a database, depend only functionally on information content. While the information content affects the exact sequence of bits stored in accordance with Lowry's data structures, **the claims require specific electronic structural elements which impart a physical organization on the information stored in memory**.

* * *

In Lowry's invention, the **stored data** adopt **no** physical "structure" per se. Rather, the **stored data** exist as a collection of bits having information **about relationships between the ADOs**. Yet **this is the essence of electronic structure**.

In re Lowry, 32 F.3d 1579, 1581, 1583 (Fed. Cir. 1994)
(emphases added), cited Reply (Paper 27) at 28

Ground 2

Ground 2: Hunt Renders Obvious Claims 1, 4-6, 8, 11-12, 18-19, 21

Ground	Reference	Basis	Claims	Disputed Issues	Cites
3	Flick-885+ Hunt	103	1-22	Reasons to combine Flick-885 with Hunt's GPS	Pet., 48-52; POR, 57-60; Reply, 1-5; Sur-reply, 21-23
				Secondary considerations	Pet., 75-83; POR, 44-53, 60-62; Reply, 5-16; Sur-reply, 11-21, 23
1	Hunt	102	1, 4-6, 8, 11-12, 18-19, 21	Hunt teaches [1.e] "downloading interface"	Pet., 34-41; POR, 11-31; Reply, 16-28; Sur-reply, 2-9
2	Hunt	103	1, 4-6, 8, 11-12, 18-19, 21	Obvious for Hunt to wirelessly download firmware meeting [1.e] "downloading interface"	Pet., 48; POR, 35-44; Reply, 29-30; Sur-reply, 9-11
				Secondary considerations	Pet., 75-83; POR, 44-53; Reply, 5-16, 30-31; Sur-reply, 11-21

It Would Have Been Routine For A POSA To Update Hunt's Firmware In Hunt's MVCC Through Hunt's Wireless Modem



Petition

B. Element [1.e]

To the extent Hunt's disclosure of programming the system "later" than manufacture (Hunt, 11:5-18) is treated as not expressly disclosing programming the firmware, updating Hunt's *firmware* through its wireless modem and/or wired connection would have been the conventional and obvious way to implement Hunt's post-manufacture programming with a reasonable expectation of success. Miller, ¶355. Firmware updates download enabling data as discussed *supra* §VI.B.6 (Ground 1, [1.e]). Miller, ¶356.

Petition (Paper 3) at 48

Reply

Omega disputes that post-manufacture firmware download was a conventional and obvious way to implement Hunt's disclosure (POR, 35-44) based on the same arguments used against [1.e] for Ground 1. The Board rejected these arguments at institution (D.I., 39-41) and they fail again for the same reasons.

Reply (Paper 27) at 29

Institution Decision

[W]e do not read limitation 1[e] so narrowly as to require that the claimed MVCC be updatable as Patent Owner suggests. *Supra* § IV.C.1.b. But, **even if we were to read limitation 1[e] narrowly**, we agree with Petitioner, on this record and for this Decision, that **it would have been routine for an ordinarily skilled artisan to utilize a programmable computer system for Hunt's vehicle-communication circuit and update it through its downloading interface** (i.e., universal modem adaptor and wireless modem). See, e.g., Pet. 35–36.

As **Hunt itself explains**, it would be "apparent to one of ordinary skill in the art" that some of the disclosed embodiments could be implemented "in many different embodiments of software, firmware, and hardware." Ex. 1023, 10:55–59. Hunt **further explains** that it would be **within a skilled artisan's ordinary skill** to "design software and control hardware to implement the embodiments of the present invention based on the description herein with only a reasonable effort and without undue experimentation." *Id.* at 10:64–11:3. Thus, **we agree with Petitioner, on this record and for this Decision, that an ordinarily skilled artisan was well aware of techniques for updating programming via a downloading interface, and a skilled artisan wishing to utilize a reprogrammable vehicle-communication circuit (e.g., to add new communication modules "later" or post-manufacture) would have been motivated to update that vehicle-communication circuit via Hunt's downloading interface.** Pet. 48; Ex. 1003 ¶¶ 355-356.

We are not persuaded by Patent Owner's arguments to the contrary at this stage of the proceeding. As to Patent Owner's argument that "Petitioners are attempting to use boilerplate to fill in the gaps to tie together disjointed pieces of Hunt," **we find no fault with Petitioner's reliance on Hunt's disclosure for what it says.** Indeed, we find that Hunt's "boilerplate" **provides evidence** that an ordinarily skilled artisan **would have recognized** that there were **many predictable and routine variations** for implementing Hunt's invention. And "[i]f a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, § 103 likely bars its patentability." *KSR*, 550 U.S. at 417; see also, e.g., *Boston Sci. Scimed. Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009). ("Combining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness.").

PO Does Not Dispute Hunt Expressly Describes Firmware Download, Nor That Was Obvious To Update Firmware—Such As To Fix Bugs

Reply

Omega alleges that because the ASIC is “fixed” there is no need for downloading firmware allowing the controller “to generate the vehicle device codes.” POR, 19. If Omega suggests there was no reason to download firmware onto Hunt’s MVCC microprocessor (POR, 18-19) because the supported communication protocols were allegedly “fixed” by ASIC communication circuits 25a-e, that fails for multiple reasons.

First, Hunt expressly describes installing firmware by wireless download at a “later date” than Hunt’s MVCC is manufactured. (Pet., 35-36, 40-41; Hunt, 11:5-18). Thus, Hunt describes downloading the firmware for the initial programming of the MVCC’s microprocessor. Miller, ¶¶308-313, 327-331.

Second, even after Hunt’s MVCC microprocessor had been initially programmed, POSAs understood there were reasons to update its firmware via download (e.g., to fix software bugs) unrelated to adding a capability to support a new protocol or new device codes. Miller-Reply, ¶¶26-29.

Third, Omega admits that Hunt discloses an embodiment where the MVCC comprises a microprocessor that is not on the ASIC, and that it would have been obvious to replace an existing ASIC with a new ASIC to support new communication protocols. POR, 40; EX2010, ¶¶154-155. In that circumstance it would have been obvious to update the microprocessor’s firmware to support the new communication protocol hardware. Miller-Reply, ¶¶30-31.

Reply (Paper 27) at 18-19

Sur-reply

A. POSA Would Not Modify *Hunt* In The Way Proposed By Petitioners

Petitioners contend that since updating firmware, for example, to fix bugs, was known, a POSA would have updated the firmware in *Hunt* similarly to address any bugs. Reply, 18-19. While updating firmware may generally be known, there is simply no relation between any potential firmware updating and the enabling data. POR, 36; see Section I.C above. The *thousands* of permutations derived from the *Hunt* general purpose boilerplate do not support a finding of obviousness. POR, 36-40. Petitioners contend that a POSA would supply an endless number of firmware patches to update the firmware with new capabilities or fix bugs. Reply, 18-19; Ex-1115, 26-29. This argument fails. Capabilities, as they relate to the contended enabling data cannot and would not be updated, as the protocols are fixed in the ASIC. POR, 35-43. Any added capabilities would likely be added to modem functionality, as disclosed by *Hunt*. POR, 39-40. It is not sufficient to contend that a software bug may exist, and, if it did, an update may be performed. POR, 35-43. Any reliance on the broad boilerplate to suggest that the boilerplate renders all permutations predictable and obvious is clearly an improper use of hindsight. POR, 41-42.

Sur-reply (Paper 32) at 10

PO Does Not Dispute Hunt Expressly Describes Firmware Download, Nor That Was Obvious To Update Firmware—Such As To Fix Bugs

Reply

Omega alleges that because the ASIC is “fixed” there is no need for downloading firmware allowing the controller “to generate the vehicle device codes.” POR, 19. If Omega suggests there was no reason to download firmware onto Hunt’s MVCC microprocessor (POR, 18-19) because the supported communication protocols were allegedly “fixed” by ASIC communication circuits 25a-e, that fails for multiple reasons.

* * *

Third, Omega admits that Hunt discloses an embodiment where the MVCC comprises a microprocessor that is not on the ASIC, and that it would have been obvious to replace an existing ASIC with a new ASIC to support new communication protocols. POR, 40; EX2010, ¶¶154-155. In that circumstance it would have been obvious to update the microprocessor’s firmware to support the new communication protocol hardware. Miller-Reply, ¶¶30-31.

Reply (Paper 27) at 18-19

Sur-reply

Petitioners misstate Omega’s arguments with respect to changing the ASIC. Reply, 19. Should a POSA desire to change the ASIC to change the protocols, the firmware that reads and selects the operational protocol would not change. POR, 36, 39. The way *Hunt* selects protocols would not change regardless of how many or which protocols are embodied in the ASIC. *Id.* That is, the POSA recognizes the benefits of the ASIC – that it can be swapped, and without the need for updating any firmware. POR, 36, 39-44. Indeed, Petitioners’ expert acknowledges that once an ASIC is manufactured, there is no download to fix a bug, but instead the entire ASIC must be replaced. Ex-1125, 70:10-17.

Sur-reply (Paper 32) at 10-11

Non-Responsive

Ground 2: Hunt Renders Obvious Claims 1, 4-6, 8, 11-12, 18-19, 21

Ground	Reference	Basis	Claims	Disputed Issues	Cites
3	Flick-885+ Hunt	103	1-22	Reasons to combine Flick-885 with Hunt's GPS	Pet., 48-52; POR, 57-60; Reply, 1-5; Sur-reply, 21-23
				Secondary considerations	Pet., 75-83; POR, 44-53, 60-62; Reply, 5-16; Sur-reply, 11-21, 23
1	Hunt	102	1, 4-6, 8, 11-12, 18-19, 21	Hunt teaches [1.e] "downloading interface"	Pet., 34-41; POR, 11-31; Reply, 16-28; Sur-reply, 2-9
2	Hunt	103	1, 4-6, 8, 11-12, 18-19, 21	Obvious for Hunt to wirelessly download firmware meeting [1.e] "downloading interface"	Pet., 48; POR, 35-44; Reply, 29-30; Sur-reply, 9-11
				Secondary considerations	Pet., 75-83; POR, 44-53; Reply, 5-16, 30-31; Sur-reply, 11-21

Secondary Considerations

Secondary Considerations Fail

No presumption of nexus	Reply, 6-7
No nexus	Reply, 7-8
No relevant admissible evidence of secondary considerations	Reply, 8-16

No Presumption Of Nexus

PO Has Burden To Show Entitlement To A Presumption Of Nexus. It Did Not Even Allege Coextensiveness In The POR.

Reply

a. Unclaimed Features Preclude Coextensiveness.

Omega never meets its burden to show any product allegedly supporting a secondary consideration is coextensive with any challenged claim.

Omega contends CalAmp products “correspond to the claimed invention” (POR, 49) but does not even allege the absence of significant unclaimed features.

Reply (Paper 27) at 6

Lectrosonics v. Zaxcom

Patent Owner does not provide an analysis demonstrating that its products are coextensive (or nearly coextensive) with the challenged claims. We, therefore, find that a presumption of nexus is inappropriate. See Pet. Reply 28–29.

Lectrosonics v. Zaxcom, IPR2018-01129, Paper 33, 33 (Jan. 24, 2020) (precedential), cited Reply (Paper 27) at 7



Fox Factory v. SRAM

As first recognized in *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, a patentee is entitled to a rebuttable presumption of nexus between the asserted evidence of secondary considerations and a patent claim if the patentee shows that the asserted evidence is tied to a specific product and that the product “is the invention disclosed and claimed.” 851 F.2d at 1392 (emphasis added). That is, presuming nexus is appropriate when the patentee shows that the asserted objective evidence is tied to a specific product and that product “embodies the claimed features, and is coextensive with them.” *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000)). Conversely, “[w]hen the thing that is commercially successful is not coextensive with the patented invention—for example, if the patented invention is only a component of a commercially successful machine or process,” the patentee is not entitled to a presumption of nexus. *Demaco*, 851 F.2d at 1392.

* * *

To be sure, we have never held that the existence of one or more unclaimed features, standing alone, means nexus may not be presumed. Indeed, there is rarely a perfect correspondence between the claimed invention and the product. As we explained, the purpose of the coextensiveness requirement is to ensure that nexus is only presumed when the product tied to the evidence of secondary considerations “is the invention disclosed and claimed.” *Demaco*, 851 F.2d at 1392 (emphasis added). Thus, if the unclaimed features amount to nothing more than additional insignificant features, presuming nexus may nevertheless be appropriate.

Fox Factory v. SRAM, 944 F.3d 1366, 1373-1374 (Fed. Cir. 2019), cited Reply (Paper 27) at 7



Coextensiveness Requires PO To Show That The Commercially Successful Product Has No Significant Unclaimed Features



Fox Factory v. SRAM

Reply

Having significant unclaimed features means the products are not coextensive with any claim because coextensiveness requires that a product is “limited” to what is claimed. *Fox Factory*, 944 F.3d at 1373-1374. Without coextensiveness, no presumption of nexus applies. *Id.*, 944 F.3d at 1373.

Reply (Paper 27) at 7



Sur-reply

Reply, p. 6, emphasis original. Petitioners rely on the decision in *Fox Factory, Inc. v. SRAM, LLC*, arguing that the presence of unclaimed features precludes recognition of infringing products as coextensive with the claims. Petitioner’s Reply, p. 7. Yet this argument is directly contrary to the holding in *Fox Factory*, stating: “To be sure, we have never held that the existence of one or more unclaimed features, standing alone, means nexus may not be presumed.” *Fox Factory*, 944 F.3d 1366, 1374 (Fed. Cir. 2019).

Sur-reply (Paper 32) at 15

Conversely, “[w]hen the thing that is commercially successful is not coextensive with the patented invention—for example, if the patented invention is only a component of a commercially successful machine or process,” the patentee is not entitled to a presumption of nexus. *Demaco*, 851 F.2d at 1392.

We have reaffirmed the importance of the “coextensiveness” requirement in subsequent opinions. See, e.g., *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1319 (Fed. Cir. 2015) (“If a product both embodies the claimed features and is coextensive with the claims at issue, a nexus is presumed. In other words, a nexus exists if the commercial success of a product is limited to the features of the claimed invention.” (citation and quotation marks omitted)); *Therasense*, 593 F.3d at 1299. Whether a product is coextensive with the patented invention, and therefore whether a presumption of nexus is appropriate in a given case, is a question of fact.

* * *

To be sure, we have never held that the existence of one or more unclaimed features, standing alone, means nexus may not be presumed. Indeed, there is rarely a perfect correspondence between the claimed invention and the product. As we explained, the purpose of the coextensiveness requirement is to ensure that nexus is only presumed when the product tied to the evidence of secondary considerations “is the invention disclosed and claimed.” *Demaco*, 851 F.2d at 1392 (emphasis added). Thus, if the unclaimed features amount to nothing more than additional insignificant features, presuming nexus may nevertheless be appropriate.

Fox Factory v. SRAM, 944 F.3d 1366, 1373-1374 (Fed. Cir. 2019), cited Reply (Paper 27) at 7

Sur-reply leaves this part out

CalAmp's Unclaimed "KEY FEATURES" Preclude Coextensiveness And Thus Preclude A Presumption Of Nexus

Reply

Omega contends CalAmp products "correspond to the claimed invention" (POR, 49) but does not even allege the absence of significant unclaimed features.

The identified products—CalAmp LMU-3000 and LMU-3030—**include significant unclaimed features** like a "3-axis accelerometer" for "hard braking, cornering" and "impact detection," and an "on-board alert engine PEG (Programmable; Event Generator)." EX2016, 1, 2 ("KEY FEATURES");

EX2017, 1; *CalAmp-II*, 13 F.4th at 1377 ("[T]here is **no question that the LMUs have conventional components that are not the inventive aspects** of the '278 patent."), 1378 ("**It is undisputed** that ['3-axis accelerometer' and 'industry leading on-board alert engine'] **are not inventive aspects** of the asserted ['278 patent] claims[.]"). And *CalAmp-II* precludes Omega from arguing otherwise. *Papst Licensing v. Samsung*, 924 F.3d 1243, 1251 (Fed. Cir. 2019).

Reply (Paper 27) at 6-7

CalAmp-II

As to demand for the entire LMU product, Omega argues that "[a] reasonable jury could have concluded [that] the infringing LMU sales were driven primarily, if not exclusively, by the invention of the '278 patent and determined to apportion minimal, if any, value to any other characteristics," Cross-Appellant's Br. 36[.] . . . We disagree.

According to the record, additional features of the LMUs include, for example, a "3-axis accelerometer," the ability to "detect hard braking, cornering[,] or acceleration," and an "industry leading on-board alert engine." J.A. 21425–26. It is undisputed that these features are not inventive aspects of the asserted claims of the '278 patent.

EX2016

EXPERIENCE THE ADVANTAGE

- Superior GPS & cellular quality
- Built-in cellular and GPS antenna for easy installation
- Built-in OBD-II connector to read vehicle bus data
- Built-in Accelerometer for driver behavior capabilities and impact detection
- Pre-impact data capture capabilities
- Power sleep modes

The LMU-3000 is an economical, full-featured vehicle tracking product designed for easy and reliable installation in automobiles. The LMU-3000 is an ideal solution for automotive insurance, driver behavior management, auto rental and automotive applications when access to the vehicle diagnostics interface (OBD-II) is required.

COMPETITIVE PRICE. COMPETITIVE TECHNOLOGY. COMPETITIVE EDGE

The LMU-3000 full featured tracking unit from CalAmp features a small size, superior GPS design, OBD-II interface, and a 3-axis accelerometer. These features enable the LMU-3000 to access vehicle diagnostic interface data, track vehicle speed and location, **plus detect hard braking, cornering or acceleration**. Superior internal antennas for both cellular and GPS eliminate the need for professional installation and make the LMU-3000 install quick, easy and inexpensive. Messages are transported across the cellular network using enhanced SMS or UDP messaging providing a reliable communications link between the device and your application servers. The LMU-3000 is designed to dramatically reduce cost, power and size while significantly improving field reliability in 12 volt passenger or light-duty vehicles.

FLEXIBILITY

The LMU-3000 employs CalAmp's advanced industry leading on-board alert engine, PEG™ (Programmable Event Generator) to monitor external conditions and support customer-defined exception-based rules to meet your application requirements. PEG monitors the vehicle environment and responds instantaneously to pre-defined threshold conditions related to time, date, motion, location, geo-zone, input and other event combinations. This behavior can be programmed by CalAmp before shipment, at a customer's facility, or over-the-air once the unit has been fielded.

LMU-3000 SPECIFICATIONS

KEY FEATURES

- OBD-II Interface
- Packet data (GPRS, CDMA 1xEV-DO, HSPA) and SMS-based messaging
- Internal cellular and GPS antennas
- Super sensitive GPS (162 dBm tracking)
- Low power sleep mode
- **3-axis accelerometer for driver behavior and impact detection**
- Voltage monitoring and low battery notification
- 20,000 buffered messages
- 32 built-in geo-fences, plus any combination of circle or polygon zones, up to 5400 points
- **PEG™ Exception-Based Rules**
- Automatic, Over-The-Air Unit Configuration on Power-up (PULS™)
- Over-The-Air Firmware Download (PULS™)
- Web-Based Device Management (PULS™)
- Garmin™ FMI compatible interface

EX2016 at 1-2, cited Reply (Paper 27) at 6

EX1021, *Omega v. CalAmp*, 13 F.4th 1361, 1378 (Fed. Cir. 2021), cited Reply (Paper 27) at 6-7



PO Sur-reply Coextensiveness Argument Relies On New Evidence And Expert Testimony Contradicting Coextensiveness

Reply

a. Unclaimed Features Preclude Coextensiveness.

Omega **never meets its burden** to show any product allegedly supporting a secondary consideration **is coextensive** with any challenged claim.

Omega contends CalAmp products “correspond to the claimed invention” (POR, 49) but **does not even allege the absence of significant unclaimed features.**

Reply (Paper 27) at 6



Sur-reply

For example, the commercial requirements specification for the products expressly state **the purpose of the product is coextensive** with the claims. Ex-2014, ¶136; Ex-2018, p. 4 ... Ex-2019, p. 5

Sur-reply (Paper 32) at 12-13

Not Cited In POR

This Is Not Coextensiveness

PO's Expert Tregillis

36. CalAmp designed its **products that use the '278 Patent's technology** to be compatible with multiple vehicles. The Commercial Requirements Specification for the Accused Products **include capabilities** to support different OBD II protocols, read vehicle IDs, and **automatically detect and configure** the OBD II port.⁴⁰

Significant Unclaimed Feature Precludes Coextensiveness

EX2014, ¶136, cited
Sur-reply (Paper 32) at 12



Fox Factory v. SRAM

As first recognized in *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, a patentee is entitled to a rebuttable presumption of nexus between the asserted evidence of secondary considerations and a patent claim **if the patentee shows** that the asserted evidence is tied to a specific product and **that the product "is the invention disclosed and claimed."** 851 F.2d at 1392 (emphasis added). That is, presuming nexus is appropriate **"when the patentee shows** that the asserted objective evidence is tied to a specific product and that product 'embodies the claimed features, and **is coextensive with them.**' " *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000)). Conversely, **"[w]hen the thing that is commercially successful is not coextensive** with the patented invention—for example, **if the patented invention is only a component of a commercially successful machine or process,"** the patentee is **not entitled** to a presumption of nexus. *Demaco*, 851 F.2d at 1392.

* * *

To be sure, we have never held that the existence of one or more unclaimed features, standing alone, means nexus may not be presumed. Indeed, there is rarely a perfect correspondence between the claimed invention and the product. As we explained, the purpose of the coextensiveness requirement is to ensure that nexus is **only presumed** when the product tied to the evidence of secondary considerations **"is the invention disclosed and claimed."** *Demaco*, 851 F.2d at 1392 (emphasis added). Thus, **if the unclaimed features amount to nothing more than additional insignificant features,** presuming nexus may nevertheless be appropriate.

Fox Factory v. SRAM, 944 F.3d 1366, 1373-1374 (Fed. Cir. 2019),
cited Reply (Paper 27) at 7

PO Sur-reply Coextensiveness Argument Relies On Tregillis, Citing EX2018, Which Recites *Multiple* Significant Unclaimed Features

PO's Expert Tregillis

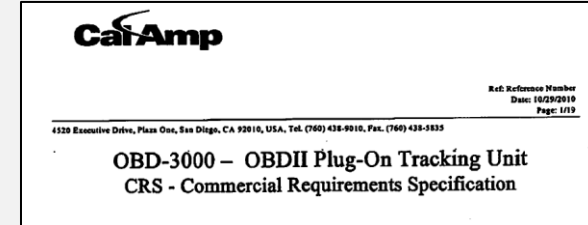
36. CalAmp designed its products that use the '278 Patent's technology to be compatible with multiple vehicles. The Commercial Requirements Specification for the Accused Products include capabilities to support different OBD II protocols, read vehicle IDs, and automatically detect and configure the OBD II port.⁴⁰

⁴⁰ Ex 2018, p. 7; Ex 2019, p. 8.

EX2014, ¶136, cited
Sur-reply (Paper 32) at 12

Significant Unclaimed Feature
Precludes Coextensiveness

EX2018



3.4 Standard Firmware Functions

The firmware for the OBD-3000 product shall be derived from LMU-2600 firmware to fit the OBD-3000 hardware implementation, with OBD II controller interface added. Supported firmware features and functions to include:

- Programmable Event Generator (PEG) processing
- Interface to PULS for remote device management
- Over the Air firmware and configuration update support for both Application and OBD processors
- UDP and SMS communication support
- Internal logging of up to 10,000 events
- Automatic detection and configuration of OBD-II port
- OBD Reporting capabilities to include: (as available on specific vehicles)
 - Vehicle ID (VIN)
 - Current odometer reading
 - Current speed [any PEG related speed triggers should be done using GPS speed]
 - Engine RPMs
 - Battery voltage
 - Engine coolant temperature
 - Accelerator pedal position [no remote start]
 - Brake pedal position [no remote start]
 - Various Diagnostic Trouble Codes (DTCs) with filtering capability
- PEG Triggers and Actions, based on OBD data.
 - Including high/low limit threshold capability
- Engine running status (true/false) based on OBD data
 - Based on OBD activity + RPM
- Impact Detection based on MEMS data (not to be used as true 'crash detection')
- Pre-crash logging of vehicle data
- Acceleration / Deceleration based on GPS data
- Acceleration / Deceleration based on MEMS data

Fig. D1- HW
EM App

EX2018 §3.4, cited EX2014, ¶136 n.40, cited Sur-reply at 12

CalAmp-II Collaterally Estops PO From Arguing That CalAmp Product “Success” Was “Limited To Features Of The Claimed Invention”

Reply

Omega contends CalAmp products “correspond to the claimed invention” (POR, 49) but does not even allege the absence of significant unclaimed features.

* * *

patent] claims[.]”). And *CalAmp-II* precludes Omega from arguing otherwise. *Papst Licensing v. Samsung*, 924 F.3d 1243, 1251 (Fed. Cir. 2019).

Reply (Paper 27) at 6-7

Sur-reply

presumption of a nexus. Instead, Petitioners cited to a Federal Circuit opinion from the CalAmp litigation that focused instead on damages, long after defendant’s validity challenge had been resolved in Omega’s favor. Petitioner’s Reply, p. 6. The fact that the Federal Circuit remanded the question of damages to develop the factual record further does not address whether the claims of the ‘278 patent are coextensive.

Sur-reply (Paper 32) at 16

Fox Factory v. SRAM



Conversely, “[w]hen the thing that is commercially successful is **not coextensive** with the patented invention—for example, **if the patented invention is only a component of a commercially successful machine or process,**” the patentee is **not entitled** to a presumption of nexus. *Demaco*, 851 F.2d at 1392.

* * *

We have reaffirmed the importance of the “coextensiveness” requirement in subsequent opinions. See, e.g., *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1319 (Fed. Cir. 2015) (“If a product both **embodies the claimed features and is coextensive with the claims at issue,** a nexus is presumed. In other words, a nexus exists **if the commercial success of a product is limited to the features of the claimed invention.**” (citation and quotation marks omitted)); *Therasense*, 593 F.3d at 1299.

Fox Factory v. SRAM, 944 F.3d 1366, 1373 (Fed. Cir. 2019),

cited Reply (Paper 27) at 7

CalAmp-II



As to demand for the entire LMU product, **Omega argues that “[a] reasonable jury could have concluded [that] the infringing LMU sales were driven primarily, if not exclusively, by the invention of the ‘278 patent** and determined to apportion minimal, if any, value to any other characteristics,” Cross-Appellant’s Br. 36[.] . . . **We disagree.**



According to the record, additional features of the LMUs include, for example, a “3-axis accelerometer,” the ability to “detect hard braking, cornering[,] or acceleration,” and an “industry leading on-board alert engine.” J.A. 21425–26. **It is undisputed that these features are not inventive aspects of the asserted claims of the ‘278 patent.**

EX1021, *Omega v. CalAmp*, 13 F.4th 1361, 1378 (Fed. Cir. 2021), cited Reply (Paper 27) at 6-7

Sur-reply Ignores Evidence And Federal Circuit Judgment Affirming That “patented invention” Is Only A Component Of CalAmp Products

Reply

Omega contends CalAmp products “correspond to the claimed invention” (POR, 49) but **does not even allege the absence of significant unclaimed features**. The identified products—CalAmp LMU-3000 and LMU-3030—**include significant unclaimed features** like a “3-axis accelerometer” for “hard braking, cornering” and “impact detection,” and an “on-board alert engine PEG (Programmable; Event Generator).” EX2016, 1, 2 (“KEY FEATURES”); EX2017, 1; *CalAmp-II*, 13 F.4th at 1377 (“[T]here is **no question that the LMUs have conventional components that are not the inventive aspects** of the ‘278 patent.”), 1378 (“**It is undisputed** that [‘3-axis accelerometer’ and ‘industry leading on-board alert engine’] **are not inventive aspects** of the asserted [‘278 patent] claims[.]”). And *CalAmp-II* precludes Omega from arguing otherwise. *Papst Licensing v. Samsung*, 924 F.3d 1243, 1251 (Fed. Cir. 2019).

Having significant unclaimed features means the products **are not coextensive** with any claim because coextensiveness requires that a product is “limited” to what is claimed. *Fox Factory*, 944 F.3d at 1373-1374. Without coextensiveness, no presumption of nexus applies. *Id.*, 944 F.3d at 1373.

Reply (Paper 27) at 6-7



Sur-reply

Non-Responsive

This is not a case where the infringing product is not coextensive, such as where “the patented invention is only a component of a commercially successful machine or process.” *Demaco Corp. v. F. Von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). All independent claims of the ‘278 patent recite “a

Sur-reply (Paper 32) at 14

Sur-reply *Polaris* Argument Ignores Significant Unclaimed Features In CalAmp Products That Preclude Coextensiveness

Reply

Omega contends CalAmp products “correspond to the claimed invention” (POR, 49) but **does not even allege the absence of significant unclaimed features**. The identified products—CalAmp LMU-3000 and LMU-3030—**include significant unclaimed features** like a “3-axis accelerometer” for “hard braking, cornering” and “impact detection,” and an “on-board alert engine PEG (Programmable; Event Generator).” EX2016, 1, 2 (“KEY FEATURES”); EX2017, 1; *CalAmp-II*, 13 F.4th at 1377 (“[T]here is **no question that the LMUs have conventional components that are not the inventive aspects** of the ’278 patent.”), 1378 (“**It is undisputed** that [‘3-axis accelerometer’ and ‘industry leading on-board alert engine’] **are not inventive aspects** of the asserted [‘278 patent] claims[.]”). And *CalAmp-II* precludes Omega from arguing otherwise. *Papst Licensing v. Samsung*, 924 F.3d 1243, 1251 (Fed. Cir. 2019).

Having significant unclaimed features means the products **are not coextensive** with any claim because coextensiveness requires that a product is “limited” to what is claimed. *Fox Factory*, 944 F.3d at 1373-1374. Without coextensiveness, no presumption of nexus applies. *Id.*, 944 F.3d at 1373.

Reply (Paper 27) at 7

Sur-reply

In contrast to *Fox Factory*, where the Omega described certain unclaimed features as “critical,” there is no such evidence here. Rather, **this case is more akin to *Polaris***, where the Federal Circuit confirmed that **unrebutted evidence** showing the claims are coextensive with the product **establishes the presumption** of a nexus. 882 F.3d at 1073. **Directly relevant to Petitioner’s argument is that the Federal**

Sur-reply (Paper 32) at 15



Polaris v. Arctic Cat

According to Polaris, its expert performed a proper and complete analysis of the evidence of commercial success by

- X [1] reviewing the patent and claims,
- X [2] inspecting the RZR vehicles,
- X [3] studying literature relating to these vehicles, and
- X [4] comparing the vehicles to the claims.
- X Polaris further points out that [5] **neither Arctic Cat nor its experts disputed these conclusions.**



Polaris Indus. v. Arctic Cat, 882 F.3d 1056, 1071 (Fed. Cir. 2018) (numbering added)

No Nexus

PO Fails To Meet **Its Burden** To Show Nexus Because It Relies On Features That **Were Known In The Art**



Lectrosonics v. Zaxcom

However, “[a] finding that a presumption of nexus is inappropriate does not end the inquiry into secondary considerations.” *Fox Factory*, 944 F.3d at 1375. “To the contrary, the patent owner is still afforded an opportunity to prove nexus by showing that the evidence of secondary considerations is the ‘direct result of the unique characteristics of the claimed invention.’” *Id.* at 1373–74 (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). “Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention,” meaning that “there must be a nexus to some aspect of the claim not already in the prior art.” *In re Kao*, 639 F.3d 1057, 1068–69 (Fed. Cir. 2011) (emphasis in original). On the other hand, there is no requirement that “objective

Lectrosonics v. Zaxcom, IPR2018-01129, Paper 33, at 33 (Jan. 24, 2020) (precedential), cited Reply (Paper 27) at 7



a. Nexus

As described above, for objective indicia of nonobviousness to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention. *ClassCo*, 838 F.3d at 1220; see Section II.D.5.b.ii. A patentee is entitled to a presumption of

Lectrosonics v. Zaxcom, IPR2018-01129, (Paper 33) at 61 (Jan. 24, 2020) (precedential) (cited Reply at 7)

Reply

b. Known Features Preclude Nexus.

Nexus cannot turn on features known in the art. *In re Kao*, 639 F.3d 1057, 1068-1069 (Fed. Cir. 2011) (“[T]here must be a nexus to some aspect of the claim not already in the prior art.”); *Lectrosonics v. Zaxcom*, IPR2018-01129, Paper 33, 33, 61 (Jan. 24, 2020) (precedential). Nexus must rely on claim 1 (the broadest claim) because Omega makes no distinction among challenged claims (POR, 60-62). Hunt anticipates claim 1 (Pet., 10-41; *infra*, §II); excepting [1.a] (*supra* §I; Pet., 53-68) Flick-885 meets all limitations in claim 1—including [1.e], the sole limitation that Omega (wrongly) contends Hunt lacks. The claimed subject matter was known and cannot support nexus.

Reply (Paper 27) at 7

PO's Sur-reply Misrepresents *Kao* and Ignores *Lectrosonics*

Reply

b. Known Features Preclude Nexus.

Nexus cannot turn on features known in the art. *In re Kao*, 639 F.3d 1057,

1068-1069 (Fed. Cir. 2011) (“[T]here must be a nexus *to some aspect of the claim not already in the prior art*.”); *Lectrosonics v. Zaxcom*, IPR2018-01129, Paper 33, 33, 61 (Jan. 24, 2020) (precedential). Nexus must rely on claim 1 (the broadest claim) because Omega makes no distinction among challenged claims (POR, 60-62). Hunt *anticipates* claim 1 (Pet., 10-41; *infra*, §II); excepting [1.a] (*supra* §I; Pet., 53-68) Flick-885 meets all limitations in claim 1—including [1.e], the sole limitation that Omega (wrongly) contends Hunt lacks. The claimed subject matter was known and cannot support nexus.

Reply (Paper 27) at 7

Sur-reply

Petitioners argue that the nexus “cannot turn on features known in the art,” citing *In re Kao*, 639 F.3d 1057, 1068-1069 (Fed. Cir. 2011). Petitioner’s Reply, p.

7. However, the holding in *Kao* (quoted by Petitioner) related solely to unexpected results, which would not be “unexpected” where already found in the prior art. *See*

Sur-reply (Paper 32) at 16-17



In re Kao

Evidence of secondary considerations must be reasonably commensurate with the scope of the claims. *See In re Tiffin*, 58 CCPA 1420, 448 F.2d 791, 792 (1971); *In re Hiniker*, 150 F.3d 1362, 1369 (Fed. Cir.1998). * * *

But there is a more fundamental requirement that must be met before secondary considerations can carry the day. “For objective evidence of secondary considerations to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010) (quotation omitted). Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention. *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed.Cir.2011) (“If commercial success is due to an element in the prior art, no nexus exists.”); *Ormco Corp.*, 463 F.3d at 1312 (“[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent.”)[.]



In re Kao, 639 F.3d 1057, 1068 (Fed. Cir. 2011),
cited Reply (Paper 27) at 7

PO's Sur-reply Argument On "Claimed Invention As A Whole" Depends On Its Failed Late Coextensiveness Argument

Sur-reply

development. A nexus for the commercial success, as well as the related recognition of customer need, market demand, and no viable work around, all tie directly to infringing products that are coextensive with the '278 patent claims at issue here.

* * *

id. Instead, "there is no requirement that 'objective evidence must be tied exclusively to claim elements that are not disclosed in a particular prior art reference in order for that evidence to carry substantial weight.'" *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1331 (Fed. Cir. 2016). Petitioners' arguments that the secondary considerations were known in the art should be disregarded as both unsupported by evidence and inconsistent with the law, which recognizes the claimed invention as a whole can provide proof of a nexus, as is evidenced from the secondary consideration evidence presented by Omega.

Sur-reply (Paper 32) at 16-17



WBIP v. Kohler

WBIP argues that it is the claimed combination which results in a low-carbon monoxide emission marine gen-set which is the "merits of the claimed invention."

WBIP v. Kohler, 829 F.3d 1317, 1331 (Fed. Cir. 2016), cited Sur-reply (Paper 32) at 17



LMU-3000 SPECIFICATIONS

CalAmp

KEY FEATURES

- OBD-II interface
- Packet data (GPRS, CDMA, iGTT, or HSPA) and SMS-based messaging
- Internal cellular and GPS antennas
- Super sensitive GPS (-162 dBm tracking)
- Low power sleep mode
- 3-axis accelerometer for driver behavior and impact detection
- Voltage monitoring and low battery notification
- 20,000 buffered messages
- 32 built-in geo-fences, plus any combination of circle or polygon zones, up to 5400 points
- PEG™ Exception-Based Rules
- Automatic, Over-The-Air Unit Configuration on Power up (PULS™)
- Over-The-Air Firmware Download (PULS™)
- Web-Based Device Management (PULS™)
- Garmin™ FMI compatible interface

EX2016 at 1-2, cited Reply (Paper 27) at 6

Reply

Known

Omega alleges combining "a vehicle position determining device and a multi-vehicle compatible controller" was "not obvious" (POR, 62). Yet Hunt indisputably disclosed this. Pet., 13-15 (limitation [1.a]), 17-23 (limitation [1.c]).

Reply (Paper 27) at 7

PO Fails To Show “some aspect of the claim not already in the prior art” That Supports An Alleged Secondary Consideration

Lectrosonics v. Zaxcom

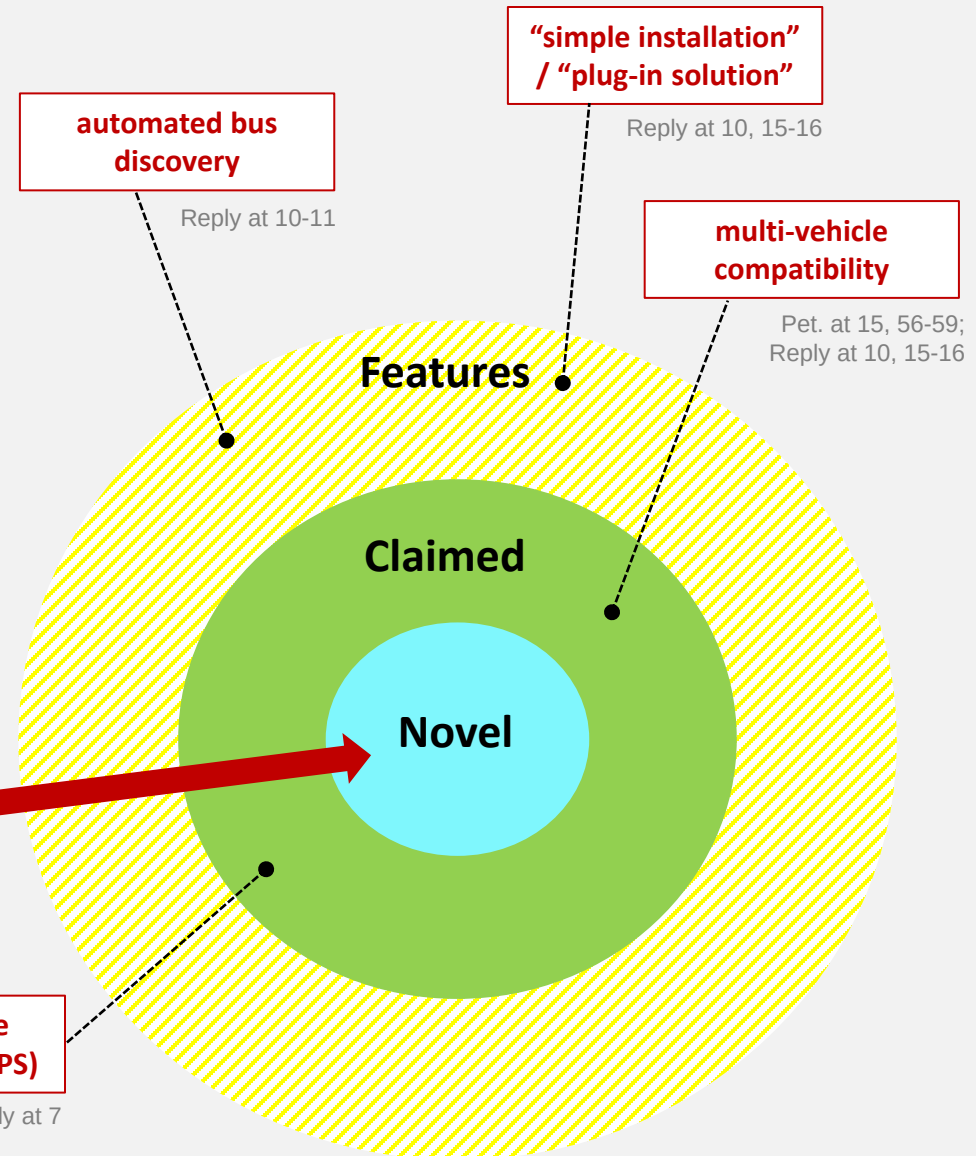
However, “[a] finding that a presumption of nexus is inappropriate does not end the inquiry into secondary considerations.” *Fox Factory*, 944 F.3d at 1375. “To the contrary, the patent owner is still afforded an opportunity to prove nexus by showing that the evidence of secondary considerations is the ‘direct result of the unique characteristics of the claimed invention.’” *Id.* at 1373–74 (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). “Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention,” meaning that “there must be a nexus to some aspect of the claim not already in the prior art.” *In re Kao*, 639 F.3d 1057, 1068–69 (Fed. Cir. 2011) (emphasis in original). On the other hand, there is no requirement that “objective

Lectrosonics v. Zaxcom, IPR2018-01129, Paper 33, at 33 (Jan. 24, 2020) (precedential), cited Reply (Paper 27) at 7

NEXUS

“claimed and novel”

“there must be a nexus to some aspect of the claim not already in the prior art”



PO Fails Its Burden To Show Nexus



Lectrosonics v. Zaxcom

140 (Fed. Cir. 1996)). “Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention,” meaning that “there must be a nexus to some aspect of the claim not already in the prior art.” *In re Kao*, 639 F.3d 1057, 1068–69 (Fed. Cir. 2011) (emphasis in original). On the other hand, there is no requirement that “objective

Lectrosonics v. Zaxcom, IPR2018-01129, Paper 33, at 33 (Jan. 24, 2020) (precedential), cited Reply (Paper 27) at 7

Secondary Consideration Lacks Nexus	Known	Unclaimed	Hearsay	Slide	Reply
“customer need and limited value... without the invention”					
Combining GPS and MVCC	x			51	7
Multi-vehicle compatibility	x		x	51	10, 15-16
“simple installation” / “plug-in solution”	x	x	x	52	10, 15-16
Automated bus discovery	x	x	x	53	10-11
Commercial Success	x	x		54	6-7
Copying	x		x	39, 56	9-10, 15
Licensing	x			55	14

PO Fails To Meet **Its Burden** To Show Nexus Because It Relies On Features That **Were Known In The Art**

Combining GPS and MVCC was **known**

2022-003758 at 14 (Ex-1017); Ex-2010, ¶200. When the secondary considerations evidence is properly weighed with respect to the proposed combination of *Flick885* and *Hunt*, particularly the adding of a vehicle position determining device and a multi-vehicle compatible controller for cooperating with the vehicle position determining device to send vehicle position data, the claims of the '278 Patent are not obvious. Ex-2010, ¶201. Petitioners suggest slapping GPS functionality from

POR (Paper 15) at 62

Multi-vehicle compatibility was **known**

Petitioner's characterization of the Patent Owner's evidence of secondary considerations of non-obviousness as "phantom" is flawed. Ex-2010, ¶41. The evidence of secondary considerations includes testimony from an infringer's employees in litigation involving the '278 Patent, describing the '278 Patent as providing important features sought by its customers and increasing the value of their product – and recognizing it included technology they could not design around. D.I. 297-1, 26:11-20 (Ex-2004); D.I. 297-4, 45:3-19, 46:25-47:19 (Ex-2005); D.I. 297-5, 64:15-24, 102:16-103:13, 155:4-13 (Ex-2006); Ex-2010, ¶41; Ex-2014, ¶¶31-44. Much of the evidence of secondary considerations was already twice

POR at 2-3, relying on inadmissible hearsay in EX2005; see also POR at 47, 51-52, citing inadmissible hearsay in EX2005

Reply

Known

Omega alleges combining "a vehicle position determining device and a multi-vehicle compatible controller" was "not obvious" (POR, 62). Yet Hunt indisputably disclosed this. Pet., 13-15 (limitation [1.a]), 17-23 (limitation [1.c]).

Reply (Paper 27) at 7

Reply

Known

Second, McAlexander cites testimony concerning **known** product features, which cannot support nexus for any secondary consideration. *Supra* §I.B.2.

- EX2005, 46:25-47:19, concerns **known** multi-vehicle compatibility. EX1001, 2:17-37 (admitting known); Pet., 22 (Hunt discloses), 56-59 (Flick-885 discloses).

Reply (Paper 27) at 10

vi. Customer need

Omega's customer need arguments fail because there is no nexus. Omega's alleged "customer need" relies on "multi-vehicle databus compatibility in a vehicle tracking system." POR, 50-51. Omega's "simple installation and enhanced capability" (POR, 50) is unexplained but appears to mean "a self-contained box that just plugs into an existing [OBD-II] connector[.]" EX2006, 41:5-12. These features were known (*supra* §I.B.2.b) and cannot provide nexus.

Reply (Paper 27) at 15-16

PO Fails To Meet **Its Burden** To Show Nexus Because It Relies On (**Unclaimed**) Features That **Were Known In The Art**

unclaimed

“simple installation” / “plug-in solution” was **known**

Petitioner’s characterization of the Patent Owner’s evidence of secondary considerations of non-obviousness as “phantom” is flawed. Ex-2010, ¶41. The evidence of secondary considerations includes testimony from an infringer’s employees in litigation involving the ‘278 Patent, describing the ‘278 Patent as providing important features sought by its customers and increasing the value of their product – and recognizing it included technology they could not design around. D.I. 297-1, 26:11-20 (Ex-2004); D.I. 297-4, 45:3-19, 46:25-47:19 (Ex-2005); D.I. 297-5, 64:15-24, 102:16-103:13, 155:4-13 (Ex-2006); Ex-2010, ¶41; Ex-2014, ¶¶31-44. Much of the evidence of secondary considerations was already twice

POR at 2-3, relying on inadmissible hearsay in EX2005; see also POR at 47, 51-52 citing inadmissible hearsay in EX2005



Lectrosonics v. Zaxcom

140 (Fed. Cir. 1996)). “Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention,” meaning that “there must be a nexus to some aspect of the claim not already in the prior art.” *In re Kao*, 639 F.3d 1057, 1068–69 (Fed. Cir. 2011) (emphasis in original). On the other hand, there is no requirement that “objective

Lectrosonics v. Zaxcom, IPR2018-01129, Paper 33, at 33 (Jan. 24, 2020) (precedential), cited Reply (Paper 27) at 7

Reply

Known

- EX2006, 64:15-24, concerns a **known** “plug-in solution.” Hunt, Fig. 1B (interface 23 to OBD-II port); EX1072, 18, Fig. 8 (OBD connector to vehicle bus); EX1070, §§86.1806-04(h) (“OBD system shall provide standardized access”), 86.1806-04(h)(1)(iv) (connection interface requirements for “Diagnostic Connector”); Miller, ¶73; Miller-Reply, ¶¶19-23; EX2014, ¶29 (“standard includes a data port”).

Reply (Paper 27) at 10

vi. Customer need

Omega’s customer need arguments fail because there is no nexus. Omega’s alleged “customer need” relies on “multi-vehicle databus compatibility in a vehicle tracking system.” POR, 50-51. Omega’s “simple installation and enhanced capability” (POR, 50) is unexplained but appears to mean “a self-contained box that just plugs into an existing [OBD-II] connector[.]” EX2006, 41:5-12. These features were known (*supra* §I.B.2.b) and cannot provide nexus.

Reply (Paper 27) at 15-16; see also Petition at 80

unclaimed

PO Fails To Meet **Its Burden** To Show Nexus Because It Relies On (**Unclaimed**) Features That **Were Known In The Art**

unclaimed

Automated bus discovery was **known**— and **standardized**

Petitioner's characterization of the Patent Owner's evidence of secondary considerations of non-obviousness as "phantom" is flawed. Ex-2010, ¶41. The evidence of secondary considerations includes testimony from an infringer's employees in litigation involving the '278 Patent, describing the '278 Patent as providing important features sought by its customers and increasing the value of their product – and recognizing it included technology they could not design around. D.I. 297-1, 26:11-20 (Ex-2004); D.I. 297-4, 45:3-19, 46:25-47:19 (Ex-2005); D.I. 297-5, 64:15-24, 102:16-103:13, 155:4-13 (Ex-2006); Ex-2010, ¶41; Ex-2014, ¶¶31-44. Much of the evidence of secondary considerations was already twice

POR at 2-3, relying on inadmissible hearsay in EX2005; see also POR at 47, 51-52 citing inadmissible hearsay in EX2005



Lectrosonics v. Zaxcom

140 (Fed. Cir. 1996)). "Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention," meaning that "there must be a nexus to some aspect of the claim not already in the prior art." *In re Kao*, 639 F.3d 1057, 1068–69 (Fed. Cir. 2011) (emphasis in original). On the other hand, there is no requirement that "objective

Lectrosonics v. Zaxcom, IPR2018-01129, Paper 33, at 33 (Jan. 24, 2020) (precedential), cited Reply (Paper 27) at 7

Reply

Known

- EX2006, 102:16-103:13 concerns automated bus protocol discovery standardized in SAE J1978 before the '278 patent was filed. EX1052, 5-6; Miller, ¶¶87-97.

Reply (Paper 27) at 10-11

unclaimed

Unclaimed Features Preclude Nexus For “Commercial Success”

unclaimed

Reply

Even without blocking patents Omega failed to show nexus. *Supra* §I.B.2.

Without nexus infringing sales are irrelevant. *Id.* Unclaimed features like competitive pricing (EX2017, 1) or those touted in CalAmp’s marketing (*supra* §I.B.2.a; EX1124, 73:24-74:20, 75:10-76:7) preclude nexus.

Reply (Paper 27) at 14

PO’s Expert Tregillis

Q. And it's your opinion that the '278 patent provides an easy and efficient way to deploy the geofence; is that right?

A. That's correct.

Q. What's a geofence?

A. Geo refers to geography and fence is a boundary. So if you have a boundary that is defined in a tracking system, there will be a notification when a vehicle goes outside that fence.

* * *

Q. So the '278 patent does not claim deploying a geofence, does it?

A. I don't know about that. I'd have to take a look at it. But I don't think it does. I don't think I saw the word "geofence" in the '278 patent.

Omega contends CalAmp products “correspond to the claimed invention” (POR, 49) but does not even allege the absence of significant unclaimed features.

The identified products—CalAmp LMU-3000 and LMU-3030—include significant unclaimed features like a “3-axis accelerometer” for “hard braking, cornering” and “impact detection,” and an “on-board alert engine PEG (Programmable; Event Generator).” EX2016, 1, 2 (“KEY FEATURES”); EX2017, 1; *CalAmp-II*, 13 F.4th at 1377 (“[T]here is no question that the LMUs have conventional components that are not the inventive aspects of the '278 patent.”), 1378 (“It is undisputed that [‘3-axis accelerometer’ and ‘industry leading on-board alert engine’] are not inventive aspects of the asserted [‘278 patent] claims[.]”). And *CalAmp-II* precludes Omega from arguing otherwise. *Papst Licensing v. Samsung*, 924 F.3d 1243, 1251 (Fed. Cir. 2019).

Reply (Paper 27) at 6-7

Tregillis Dep. Tr. (EX1124) at 73:24-74:20

Licensing Prior Art Patents Does Not Support Nexus

Reply

Known

of the challenged claims is contrary to law (Pet., 81-83) that Omega ignores. And licenses taken on prior art patents lack nexus because those prior art inventions were known. POR, 47 (citing EX2014, ¶¶18-20); *supra* §I.B.2.b.

Reply (Paper 27) at 14

Irrelevant Hearsay Also Does Not Meet **PO's Burden** To Show Nexus (And Is Inadmissible)

PO's Expert McAlexander

200. Compelling evidence of secondary considerations, most of which is already recognized and confirmed twice by the PTAB, has been presented. This evidence, which was already considered by this Board on multiple occasions, included licensing, commercial success, copying by others, customer need, and limited value for accused products without the invention. See *Ex Parte Flick*, Appeal 2022-003758 at 14 (Ex-1017); D.I. 297-1, 26:11-20 (Ex. 2003); D.I. 297-4, 45:3-19, 46:25-47:19 (Ex. 2004); D.I. 297-5, 64:15-24, 102:16-103:13, 155:4-13 (Ex. 2005).

McAlexander Decl. (EX2010) at ¶200, cited POR at 62, relying on **inadmissible hearsay** in **EX2004** (cited as EX2003), **EX2005** (cited as EX2004), and **EX2006** (cited as EX2005); see also POR at 3, 47 (citing **inadmissible hearsay**)

Reply

Omega identifies **no evidence of efforts to replicate a specific product** and does not even try to distinguish the Petition's caselaw. Omega mischaracterizes **third-party deposition testimony** as CalAmp **"admitting to copying."** POR, 47 (citing **EX2004-2006**). The deponents **did not admit to copying anything**. The testimony **has no relevance** to any secondary considerations. *Supra* §I.B.3.a.ii. The cited testimony **is also hearsay** for which no exception applies and warrants no weight. *Denso v. Collision Avoidance Technologies*, IPR2017-01715, Paper 27, 30 (Jan. 22, 2019).

Reply (Paper 27) at 15

Reply

McAlexander's testimony **and the hearsay it cites (EX2004-EX2006)** further fail to support non-obviousness for at least two reasons.

First, the relied-upon evidence is **irrelevant** to obviousness:

- **EX2004, 26:11-20**, concerns third party license terms. Omega never explains how these license terms evidence non-obviousness for any claim. *Parus*, 70 F.4th at 1371-1372. They do not.
- **EX2005, 45:3-19**, concerns whether a third-party (CalAmp) pursued "alternative designs" to avoid unidentified patent claims. **This does not establish copying of anything, let alone the '278 patent**. The witness had no memory of which among at least 30 claims across 4 patents were considered for design-arounds, and never identified a claim challenged here. EX2005, 44:23-45:2.
- **EX2006, 155:4-13**, concerns third-party CalAmp branding an "LMU-3030" as "LMU-3050" in Europe, while manufacturing in China and testing in the U.S. **Omega never explains how this has any relevance to a claimed feature or evidences non-obviousness**. *Parus*, 70 F.4th at 1371-1372. It has none.

Reply (Paper 27) at 9-10

No Evidence Of Secondary Considerations

Reexam Findings Over Different References Are Not Evidence, Are Not Binding, Are Not Relevant

Institution Decision

Moreover, for the reasons explained below with respect to Petitioner's alleged grounds of unpatentability for obviousness, we determine that Hunt—either alone or in combination with Flick '885—provides strong evidence of unpatentability based on the record before us at this stage of the proceeding. *Infra* § IV.C. This evidence may weigh differently against Patent Owner's evidence of secondary considerations than the other prior art weighed in previous cases. "Obviousness is ultimately a legal determination, and a strong showing of obviousness may stand even in the face of considerable evidence of secondary considerations." *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1374 (Fed. Cir. 2018). Thus, while we do not second guess our colleagues' decisions that Patent Owner's evidence of secondary considerations either outweighed or "further weigh[ed]" against the Examiner's evidence of obviousness based on other prior art, we cannot say the same at this stage of the proceeding based on Hunt and Flick '885.

D.I. (Paper 11) at 18-19

 Non-Responsive

Sur-reply (Paper 32) at 17

Reply

Omega's POR rehearses arguments the Board rejected at institution. Omega repeatedly argues that the '278 patent survived prior challenges but ignores that *none* involved Hunt or Flick-885+Hunt, *none* included a reference like Hunt that explicitly taught combining GPS vehicle tracking with a controller in a single unit, and *none* bind the Board or Petitioners.

Reply (Paper 27) at 1

i. *Ex parte* appeal decisions

Non-obviousness decisions in *ex parte* appeals involving *different* prior art are irrelevant to obviousness in this proceeding. D.I., 19. Omega ignores this.

Arguing non-obviousness over Hunt, Omega simply quotes language apparently from EX1017. POR, 45-47. This adds nothing to the record at institution and does nothing to alter the *Graham* analysis demonstrating obviousness over *Hunt* (Ground 2) and *Flick-885+Hunt* (Ground 3).

Reply (Paper 27) at 11

Sur-reply

2. Other Board Decision On the '278 Patent

Petitioners argue Board decisions in regarding patentability of the '278 patent are "not *evidence*." Petitioner's Reply, p. 8. Omega has highlighted the fact that, in five separate reexaminations, the Patent Office has considered the patentability of the '278 patent. In several of those proceedings, evidence of secondary considerations was considered and relied on. While Petitioners have argued Board

PO's Misleading Sur-reply Argument On RX4 (90/014,419) Does Not Change Any Patentability Analysis Herein

Sur-reply (Mar. 8, 2024)

considerations was considered and relied on. While Petitioners have argued Board decisions that consider different art are irrelevant (*id.*), the most recent decision in *Ex Parte* reexamination, application 90/014,419, confirmed the patentability of the '278 patent, this time with express consideration of the ongoing IPRs and the combination of *Hunt* and the *Flick885* (Paper 24), and cited evidence of secondary considerations in confirming the patentability of the '278 patent.⁴ Omega has

* * *

⁴ Petitioners filed the prosecution histories for all five reexaminations at EX1005-EX1009. However, as acknowledged by both parties in mandatory notices (Papers 24, 25 and 31), *Ex Parte* reexamination 4 (90/014,419) has continued. As noted in Papers 24, the Patent Office confirmed the patentability of the claims of the '278 patent over all art cited herein (as reflected in the IDS forms referenced therein), including '133 to *Hunt* and the *Flick '885* patents. Paper 24. To the extent not already before this Board, Omega requests the Board take official notice of the proceedings referenced by both parties. See, e.g., *Data Engine Techs. LLC. V. Google LLC*, 906 F.3d 999, 1008 n. 2 (Fed. Cir. 2018) (prosecution histories are subject to judicial notice); FRE 201; 37 C.F.R. 42.62.

Sur-reply (Paper 32) at 17-18, 18 n.4; *id.* at 1, 9-10, 22-23 (similar)

Institution Decision (Feb. 21, 2024) *Verizon v. Omega*, IPR2023-01162

⁴ In its Supplemental Mandatory Notice, filed January 3, 2024, Patent Owner notes that *Ex Parte* Reexamination No. 90/014,419, which was granted in part on July 27, 2023, resulted in issuance of a certificate on January 2, 2024, confirming all claims patentable. Paper 9, 2–3. Patent Owner represents that the Examiner confirmed patentability over the *Flick '885* and *Flick '561* patents at issue here. *Id.* We have reviewed the Notice of Intent to Issue *Ex Parte* Reexamination Certificate, mailed January 12, 2024, and note that neither *Flick '885* nor *Flick '561* are mentioned therein; rather, the basis for this reexamination was obviousness over U.S. Patent No. 5,719,551 to *Flick*. *Flick '885* and *Flick '561* were, however, each individually cited in an IDS, along with dozens of other references, but we have no indication that such references were substantively considered by the Examiner, alone or in combination. Moreover, the Examiner's statement of reasons for allowance is reliance on evidence of secondary considerations made of record in previous reexamination proceedings, which we address *infra* Section IV.C.1.c). Accordingly, this recent development does not change our analysis herein.

Verizon v. Omega, IPR2023-01162, Paper 12 (D.I.), 15 n.4 (Feb. 21, 2024)

MPEP §§ 2256, 2656

Where patents, publications, and other such documents are submitted by a party (patent owner or requester) in compliance with the requirements of the rules, the requisite degree of consideration to be given to such information will be normally limited by the degree to which the party filing the information citation has explained the content and relevance of the document. The initials of the examiner placed adjacent to the citations on the form PTO/SB/08 or its equivalent, without an indication to the contrary in the record, do not signify that the document has been considered by the examiner any further than to the extent noted above.



Jury Findings In A Case Not Involving Petitioners, With Different Prior Art, Are Not Evidence, Are Not Binding, Are Not Relevant

Reply

ii. *CalAmp* Verdicts

Omega cites *CalAmp* jury verdicts reporting jury findings. POR, 47-50 (citing EX1027-EX1028).² Those findings—in a forum where the patent enjoyed a presumption of validity inapplicable here—are not evidence. The juries never considered patentability over Hunt or Flick-885+Hunt. The findings and verdicts do not bind the Board or Petitioners.

Reply (Paper 27) at 11-12

Sur-reply

Petitioners argue that Omega-CalAmp verdicts (filed by Petitioners) are not relevant. Petitioners' Reply, p. 11-12. Both verdicts reflected findings that the CalAmp products discussed above infringe numerous claims of the '278 patent. Petitioners argue it is "incredible" that Omega relies on these verdicts, given that the second verdict was vacated and remanded for a third trial. *Id.* However, the salient

Sur-reply (Paper 32) at 20

Non-Responsive

EX1027

5. Which of the following factors that tend to indicate nonobviousness, if any, has been established by the evidence with respect to the claimed invention (write the word "yes" in the blank below to any question that you answer "yes" to):

EX1027 at 9, cited Reply at 12

Reply

Furthermore, for EX1027, jury form question 5 concerned licensing (POR, 48), commercial success (POR, 49), and copying (POR, 50) "with respect to the claimed invention" (EX1027, 9) in a case with thirty claims in four patents (EX1027, 2-6). Unlike the jury's specific infringement findings for particular claims, *id.*, the jury's responses are untethered from any '278 patent claim. For those additional reasons EX1027 fails to support Omega's non-obviousness arguments.

Reply (Paper 27) at 12

No Response

Copying Evidence Fails Even Ignoring Lack Of Nexus

Petition

D. No Evidence Of Copying

“[C]opying requires **evidence** of efforts to replicate a specific product[.]” *Wyers*, 616 F.3d at 1246. **An infringement verdict is not evidence of copying.** *Id.* (“Not every competing product that arguably falls within the scope of a patent is evidence of copying; otherwise, every infringement suit would automatically confirm the nonobviousness of the patent.”) (citation omitted).

In reexamination, Omega argued copying but provided no **evidence**. Instead, Omega pointed to a jury finding—in a verdict involving **four patents** (including Flick-727 and Flick-885)—that found “others cop[ie]d the claimed invention” but did not identify what “invention” was copied and did not identify the ’278 patent. Ex. 1015, 42-43; Ex. 1027, 9. The Board must evaluate copying based on **evidence**. There is no **evidence** anyone copied the ’278 patent.

Petition (Paper 3) at 80-81

Reply

The Petition explained that an infringement verdict (POR, 50) does not evidence copying. Pet., 80-81 (*citing Wyers*, 616 F.3d at 1246). **Omega has no answer.**

Omega identifies **no evidence of efforts to replicate a specific product and does not even try to distinguish the Petition’s caselaw.** Omega **mischaracterizes third-party deposition testimony** as CalAmp “admitting to copying.” POR, 47 (*citing EX2004-2006*). The deponents did not admit to copying **anything**. The testimony has no relevance to any secondary considerations. *Supra* §I.B.3.a.ii. The **cited testimony is also hearsay** for which no exception applies and warrants no weight. *Denso v. Collision Avoidance Technologies*, IPR2017-01715, Paper 27, 30 (Jan. 22, 2019).

Reply (Paper 27) at 15

Sur-reply

the licenses. Similarly, while Petitioners argue **the jury’s findings** of copying was untethered to any particular patent (Petitioners’ Reply, p. 12), this ignores the evidence presented to the jury (and in these proceedings) referenced in the Tregillis declaration that CalAmp had no design alternatives and admitted it would be harder to avoid claim 13 of the ’278 patent. **Ex-2014, ¶44**. The evidence of secondary considerations is well-documented and tied directly to the ’278 patent multiple ways. As recognized by the Patent Office in a recent *ex parte* decision, this evidence overcomes an obviousness challenge relying on the art of Petitioners.

Sur-reply (Paper 32) at 21

Non-Responsive

Inadmissible Hearsay

- **EX2005, 45:3-19**, concerns whether a third-party (CalAmp) pursued “alternative designs” to avoid unidentified patent claims. **This does not establish copying of anything, let alone the ’278 patent.** The **witness had no memory** of which among at least 30 claims across 4 patents were considered for design-arounds, and **never identified a claim challenged here.** EX2005, 44:23-45:2.

Reply (Paper 27) at 9-10

Licensing Evidence Fails Even Ignoring Lack Of Nexus

Petition

That leaves two plausibly relevant agreements: (1) one licensing the application as part of an *86-patent portfolio* while *settling litigation* on other patents (Ex. 1090, 1-2, 10-12); and (2) another licensing the '278 patent in a *54-patent portfolio* (Ex. 1091, 9-10). **These are not probative of nonobviousness.** *Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 838 (Fed. Cir. 2015) (“[T]he Board’s finding that the evidence of licensing should not be afforded much weight was reasonable” where license covered several patents.); *Iron Grip Barbell v. USA Sports*, 392 F.3d 1317, 1324 (Fed. Cir. 2004) (licenses taken to settle litigation have no probative value on non-obviousness “because it is often cheaper to take licenses than to defend infringement suits”) (cleaned up).

Petition (Paper 3) at 82

Reply

Omega ignores the Petition’s caselaw (Pet., 81-83) establishing that settlements and portfolio licenses are irrelevant to non-obviousness.

Reply (Paper 27) at 13

Sur-reply

2014, ¶¶18-20. Petitioners cite cases holding that where licenses encompass multiple patents, such evidence may be afforded less weight, but neither states such evidence is to be disregarded. Moreover, as Mr. Tregillis pointed out in his deposition, when

Sur-reply (Paper 32) at 20-21

Licensing Evidence Fails

Reply

iii. Licensing

Omega cites six licenses (EX1090-1093, 2020-2021) it contends “included” the ’278 patent. POR, 47, citing EX2014, ¶¶18-20; EX2014, ¶18 n.1 (identifying licenses). None license the ’278 patent by itself. Four are settlement agreements (EX1090, 1092, 2020-2021) and five are portfolio licenses (EX1090-1093, 2021), each covering at least 45 patents and applications. EX2014, ¶18; EX1124, 64:12-66:11 (settlements), 66:12-67:20 (portfolios). No portfolio royalty rate can be tied to the ’278 patent. EX1124, 71:10-15, 73:14-17.

Reply (Paper 27) at 12

No Response

Exhibit	Number patents/applications
1090	86
1091	54
1092	47
1093	45
2021	83

Omega ignores the Petition’s caselaw (Pet., 81-83) establishing that settlements and portfolio licenses are irrelevant to non-obviousness.

Some Omega exhibits suffer additional problems. EX2021 was signed before the ’278 patent was even filed (EX2021, 9). EX1124, 42:2-43:4. EX2020 is irrelevant because it settled two litigations on nine Omega patents (EX2020, 1) and does not license the ’278 (EX2020, 6). EX1124, 60:11-62:11.

Omega also ignores the Petition’s explanation (Pet., 82 n.5) that EX1092-EX1093 exclude the ’278 patent by excluding “claim(s)... relating to... vehicle GPS tracking technology” (EX1092, 1; EX1093, 1). All ’278 claims recite a “vehicle positioning determining device” (limitation [1.a]) that includes GPS (claim 11) and “relate to” vehicle “GPS tracking technology.” EX2014, ¶43 (’278 covers “Tracker technology”); EX2021, 45 (“Exhibit G” classifying ancestor ’561 patent as a “GPS Patent”), §5, 4-5 (classifying ancestor ’561 patent as a “tracker patent”); EX1124, 50:11-51:15, 56:4-57:4, 77:2-80:16.

Reply (Paper 27) at 13

PO Misrepresents Alleged Revenue For *Entire Portfolio* As Revenue Attributable To Two Portfolio Licenses For '278 Patent

Reply

Omega's reliance on a jury finding that "others accept[ed] licenses *under patents* because of merits *of the claimed invention*" (POR, 48, citing EX1027) is misplaced. The jury finding concerned *thirty* claims in *four* patents. Licensing "other asserted patents" beyond the '278 patent is irrelevant. Omega's suggestion that the jury found that settlement and portfolio licenses establish non-obviousness of the challenged claims is contrary to law (Pet., 81-83) that Omega ignores. And licenses taken on prior art patents lack nexus because those prior art inventions were known. POR, 47 (citing EX2014, ¶¶18-20); *supra* §I.B.2.b.

Reply (Paper 27) at 13-14

No Response

No Response

PO's Expert Tregillis

19. All told, licenses to Omega's patents have generated more than \$70MM in license fees, in all forms (e.g., initial and running royalty payments).²

EX2014 ¶19, cited Sur-reply (Paper 32) at 20

Non-Responsive

Sur-reply

Petitioners' Reply, pp. 12, 14-15. The '278 patent was included in various licenses encompassing multiple patents that generated more than \$70MM in royalties. Ex-2014, ¶¶18-20. Petitioners cite cases holding that where licenses encompass multiple patents, such evidence may be afforded less weight, but neither states such evidence is to be disregarded. Moreover, as Mr. Tregillis pointed out in his deposition, when the '278 patent was the last patent in various licenses to expire, the same royalty rate remained (Ex-1124, 73:1-13), supporting the conclusion that value is reflected by the licenses. Similarly, while Petitioners argue the jury's findings of copying was

Sur-reply (Paper 32) at 20-21

Federal Circuit Rejected Argument That Patented Invention Drove Commercial Success Of CalAmp Products

CalAmp-II



As to demand for the entire LMU product, **Omega argues that “[a] reasonable jury could have concluded [that] the infringing LMU sales were driven primarily, if not exclusively, by the invention of the ’278 patent** and determined to apportion minimal, if any, value to any other characteristics,” Cross-Appellant’s Br. 36[.] . . . **We disagree.**

According to the record, additional features of the LMUs include, for example, a “3-axis accelerometer,” the ability to “detect hard braking, cornering[,] or acceleration,” and an “industry leading on-board alert engine.” J.A. 21425–26. **It is undisputed that these features are not inventive aspects of the asserted claims of the ’278 patent.**

EX1021, *Omega v. CalAmp*, 13 F.4th 1361, 1378 (Fed. Cir. 2021), cited Reply (Paper 27) at 6-7

Blocking Patents Mean “Inference Of Non-Obviousness From Commercial Success Is Weak”

Petition

2. Omega’s Blocking Patents Preclude Commercial Success

“A blocking patent is an earlier patent that prevents practice of a later invention[.]” *Chemours Company v. Daikin Industries*, 4 F.4th 1370, 1378-1379 (Fed. Cir. 2021) (collecting cases); *Acorda Therapeutics v. Roxane Laboratories*, 903 F.3d 1310, 1337 (Fed. Cir. 2018) (same). Omega’s Flick-885 and Flick-727 (Ex. 1064, issued 2010) are blocking patents because each issued before the ’278 patent, and in *CalAmp*, Omega argued—and the jury found—the same three products infringed the **later** ’278 patent and the **earlier** Flick-885 and Flick-727. Ex. 1028, 4-5 (’278 patent), 2-3 (Flick-885); Ex. 1027, 4 (Flick-727). The Federal Circuit affirmed. *CalAmp-II*, 13 F.4th at 1382 (’278 patent)⁴; *CalAmp-I*, 920 F.3d at 1344, 1353 (’727 patent); *see also* Ex. 1065, 94-124 (’278 patent), 71-79 (Flick-885), 81-92 (Flick-727). Omega is estopped from arguing otherwise. *Trustees*, 593 F.3d at 1353–1354.

Flick-885 and Flick-727 eviscerate Omega’s alleged commercial success because “a blocking patent may deter non-owners and non-licensees from investing the resources needed to make, develop, and market such a later,

⁴ The Federal Circuit vacated as moot the jury’s finding that CalAmp customers directly infringed the ’885 patent because Omega never appealed the judgment of no inducement by CalAmp. *CalAmp-II*, 13 F.4th at 1369.

Non-Responsive

“blocked” invention.” *Chemours*, 4 F.4th at 1379 (cleaned up). “Where market entry by others was precluded [due to blocking patents], the inference of non-obviousness... from evidence of commercial success, is weak.” *Galderma Laboratories v. Tolmar*, 737 F.3d 731, 740 (Fed. Cir. 2013); *Solvay USA v. WorldSource Enterprises*, PGR2019-00046, Paper 45, 36 (Aug. 10, 2020) (“We... give less weight to Patent Owner’s evidence of alleged commercial success because it does not account for potential blocking patents[.]”), *affirmed*, No. 2021-1041 (Fed. Cir. June 10, 2022).

Petition (Paper 3) at 78-79

Reply

Furthermore, the Petition explained that blocking patents preclude Omega’s commercial success arguments (Pet., 78-79) and Omega’s reliance on infringing sales. POR, 49-50. Omega does not dispute there were blocking patents and ignores the Petition’s caselaw.

Reply (Paper 27) at 14

Sur-reply

**Waived Untimely
Footnote Argument**

³ Petitioners criticize the evidence of commercial success based on “blocking patents” it identifies as the *Flick885* and *Flick ’727* patents. However, the jury did not award damages for any units of the *Flick885* patent (which was expired before the verdict), and separately awarded damages for a single unit under the ’727 patent rather than all units at issue in the case. As such, Petitioners’ blocking patent theory is without merit.

Sur-reply (Paper 32) at 14 n.3

Hunt's Appliance Does Not Require An ASIC

Reply

1. Hunt Does Not Require An ASIC.

Omega misrepresents Hunt as limited to a “system in the form of a single ASIC.” POR, 17. Hunt does not require an ASIC.

Hunt's vehicle-communication modules can “implement” communication protocols using an ASIC “*or using transistors or conventional circuit elements.*” Hunt, 9:41-44; *id.*, claim 35 (no ASIC). As Omega's expert admits, Hunt Figures 6-7 show “logic diagrams” that “implement” communication protocol *physical layers* using *off-the-shelf* transceiver components *instead of* an ASIC. EX1123, 112:2-4, 125:21-127:2; Hunt, 2:6-11, 9:28-35, Fig. 6 (J1850 VPWM and PWM), 8:14-29, Table 1 (describing “managing communication protocols” in terms of *physical layer* parameters baud rate and pulse width); EX1118-EX1121; Miller-Reply, ¶¶50-58.

Reply (Paper 27) at 22

Hunt

9141-2, CAN, Keyword 2000, and J1708. These protocols can be implemented using integrated silicon-based solutions (e.g., a custom ASIC), or using transistors or conventional circuit elements. Similarly, hardware architectures other

Hunt (EX1023) at 9:41-44, cited Reply at 22

PO Ignores Hunt's Disclosure That Its ASIC Includes A Microprocessor That Is Programmed

POR

b) The Hunt ASIC Cannot Operate on Downloaded Enabling Data

An ASIC is an integrated circuit chip, programmed during manufacture, which has been custom built or fabricated for a specific use rather than a generic use. Ex-2010, ¶72. Logic gates are masked and then wired at the factory to perform specific functions. Ex-2010, ¶72. These structures and functions cannot be changed once the ASIC is manufactured. Ex-2010, ¶72.

POR (Paper 15) at 17

Reply

2. Hunt's ASIC Is Programmable By Firmware/Software Because It Includes A Microprocessor.

Omega's focus on Hunt's ASIC being "programmed" into circuit elements patterned at manufacture (EX2010, ¶¶74, 81; EX1123, 95:17-97:6) is obfuscation because it ignores that an ASIC that includes a processor is programmable by software/firmware that the ASIC's processor executes. EX1123, 93:19-95:2; Miller-Reply, ¶¶69-73. Omega bases argument that Hunt's ASIC cannot be "updated" by firmware/software (POR, 17-19) on its expert's erroneous assertion that an ASIC does not include a microprocessor (EX1123, 90:24-91:5, 91:14-18). **But Hunt explicitly says its ASIC may include a microprocessor.** Hunt, 3:50-51, 16:32-34 (claim 63). Hunt's microprocessors are programmed. Pet., 35-36, 40-41; EX1123, 94:11-17. This contradicts Omega's argument that Hunt's ASIC cannot be "programmed" to run firmware/software.

Reply (Paper 27) at 25-26

Hunt

In another aspect, the invention provides a single ASIC that features (1) a microprocessor; (2) a vehicle-communication circuit containing multiple vehicle-communication modules; (3) a GPS module; and (4) a wireless transmitter. In embodiments, the ASIC additionally includes a multiplexing circuit configured to switch electrical communication from one vehicle-communication module to another.

Hunt (EX1023) at 3:50-57, cited Reply at 26

63. A single ASIC, comprising:

- (a) a microprocessor;
- (b) a vehicle-communication circuit in electrical communication with the microprocessor and comprising modules that each manage a vehicle-communication protocol; and
- (c) a wireless transmitter configured to transmit data collected by the vehicle-communication circuit.

Hunt (EX1023) at 16:32-40, claim 63, cited Reply at 26