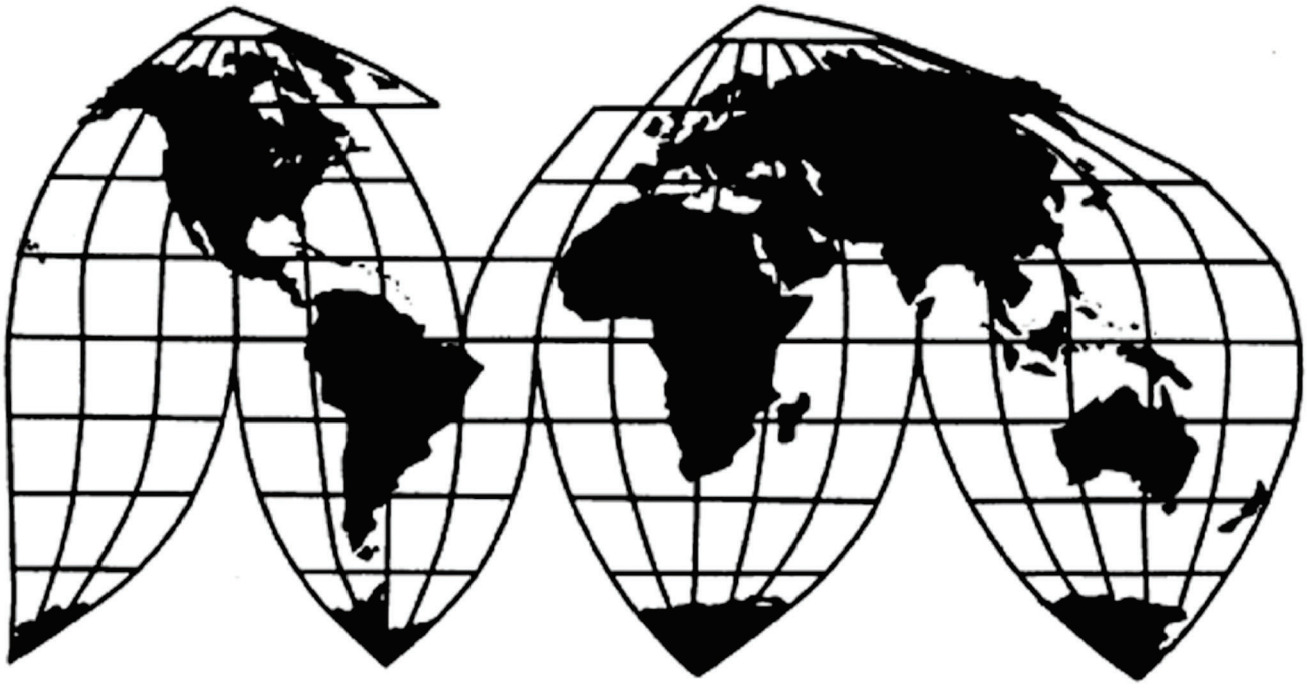
*In the Matter of*

# CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF

Investigation No. 337-TA-1016

**Publication 4957** **September 2019**

**U.S. International Trade Commission**



**Washington, DC 20436**

# U.S. International Trade Commission

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# U.S. International Trade Commission

Washington, DC 20436
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## *In the Matter of*

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**PUBLIC VERSION**

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

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| **In the Matter of**<br><br>**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016 (Modification Proceeding)** |

## COMMISSION OPINION

This opinion sets forth the Commission's final determination in the above-captioned modification proceeding. The Commission has determined that the subject redesigned wireless garage door opener products ("redesigned products") imported and sold by Respondents Techtronic Industries Co. of New Territories, Hong Kong; Techtronic Industries North America, Inc. of Huntville, Maryland; One World Technologies, Inc. of Anderson, South Carolina; OWT Industries, Inc. of Pickens, South Carolina; and ET Technology (Wuxi) Co. of Zhejiang, China (collectively "Techtronic") do not infringe asserted claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent"), and therefore are not covered by the limited exclusion order ("LEO") or cease and desist orders ("CDOs") issued in the underlying investigation. An order modifying the LEO and CDOs to exempt Techtronic's redesigned products will be issued separately.

## I. BACKGROUND

### A. The Underlying Investigation

The Commission instituted the underlying investigation on August 9, 2016, based on a complaint filed by Chamberlain of Elmhurst, Illinois. 81 Fed. Reg. 52713 (Aug. 9, 2016). The complaint alleged a violation of 19 U.S.C. § 1337, as amended ("Section 337"), through the importation, sale for importation, or sale in United States after importation of certain garage door openers that allegedly infringe one or more of the asserted claims of the '319 patent as well as

U.S. Patent Nos. 7,339,336 ("the '336 patent"), and 7,196,611 ("the '611 patent"). *Id.* The '611 patent was withdrawn after institution and terminated from the investigation. Order No. 28 (May 3, 2017), *not rev'd*, Comm'n Notice (May 31, 2017). The notice of investigation named Techtronic as respondents.[1] 81 Fed. Reg. 52713. The Office of Unfair Import Investigations ("OUII") was not named as a party to the investigation. *Id.*

In pertinent part, the '319 patent, as discussed in more detail in Section IV.A, *infra*, is directed to a garage door opener system that includes a motor drive unit with a controller, a wall console with a second controller, and a "digital data bus" that connects the controllers in the motor drive unit and wall console.[2] '319 patent at Abstract, 7:34-39 (claim 1), 8:16-1 (claim 9). Chamberlain accused Techtronic's RYOBI brand GD125, GD200, and GD200A garage door openers of infringing the '319 patent. RX-601C (Huggins) at Q/A 12.

The then-presiding administrative law judge ("ALJ") held a technology tutorial and *Markman* hearing on December 20, 2016, and issued his claim construction order on January 26, 2017. Order No. 13 (Jan. 26, 2017). With respect to the '319 patent, the ALJ construed "wall console" to require the inclusion of "a passive infrared detector." *Id.* at 18. As a result, the ALJ granted Techtronic's motion for summary determination of non-infringement of the '319 patent because the wall console of Techtronic's accused products does not include a passive infrared detector. Order No. 23 (Mar. 27, 2017).

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[1] Ryobi Technologies, Inc. was also initially named as a respondent but was later terminated from the investigation. Order No. 6 (Oct. 17, 2016), *not rev'd*, Comm'n Notice (Nov. 7, 2016).

[2] The '319 patent uses the term "microcontroller" in claim 1 and "controller" in claim 9. The differences between a "microcontroller" and "controller," if any, are not pertinent to the modification proceeding or this final determination. *See* RX-0474C (Lipoff) at Q/A 79 (a microcontroller is a type of controller). For ease of presentation, the Commission will use the term "controller" unless quoting from the claims, the RD, or other document.

On May 1-3, 2017, the ALJ held an evidentiary hearing with respect to the remaining '336 patent. Initial Determination ("ID") at 2 (Oct. 23, 2017). On May 3, 2017, the Commission determined to review the ALJ's claim construction and summary determination of non-infringement of the '319 patent. Comm'n Notice at 2 (May 3, 2017). On review, the Commission construed the claim term "wall console" to have its plain and ordinary meaning as a "wall-mounted control unit," vacated the summary determination of non-infringement, and remanded the '319 patent for further proceedings. *Id.*; Comm'n Op. at 19 (May 5, 2017).

On July 12-13, 2017, the ALJ held a second evidentiary hearing on issues relating to the remanded '319 patent. ID at 2. On October 23, 2017, the ALJ issued a final ID with respect to both the '319 and '336 patents. *Id.* at 5, 294. In pertinent part, the ID finds that Techtronic violated Section 337 by infringing the asserted claims of the '319 patent, but it finds no infringement and hence no violation with respect to the '336 patent. *Id.* at 294.

The Commission did not review, and thereby adopted, the ID's claim construction and infringement findings with respect to the '319 patent and limited its review to invalidity. *See* Comm'n Notice at 3-4 (Dec. 22, 2017). The Commission ultimately affirmed the ID's findings that Respondents failed to show that the '319 patent claims are invalid. Comm'n Notice at 4 (Mar. 23, 2018). The Commission concluded that Techtronic violated Section 337 through the importation, sale for importation, or sale in the United States after importation of garage door openers that infringe asserted claims 1-4, 7-12, 15, and 16 the '319 patent. *Id.* Accordingly, the Commission issued a limited exclusion order ("LEO") and cease and desist orders ("CDOs") prohibiting Techtronic from further importing or selling infringing products in the United States. *See id.*; Comm'n Op. at 34-38 (Mar. 23, 2018). Chamberlain and Techtronic have cross-appealed the Commission's final determination to the U.S. Court of Appeals for the Federal

Circuit, where those appeals are currently pending. *The Chamberlain Group, Inc. v. Int'l Trade Comm'n*, Appeal Nos. 18-2002, 18-2191 (consolidated).

**B. Techtronic's Redesigned Garage Door Opener Products**

In the original Techtronic products at issue in the underlying investigation, the controllers in the indoor keypad (or "wall console") and head unit (or "motor drive unit") communicate with each other via a wired, conductive connection. RX-600C (Lipoff) at Q/A 167-169; RX-601C (Huggins) at Q/A 22, 29, 35-38; RX-261 at ITC-TTI000005832 (wired keypad).[3] This wired connection in the original products satisfied the "digital data bus" limitations of the '319 patent claims, and thus was part of the final determination of infringement. ID at 134-35, 294.

In September 2017, while the investigation was still before the ALJ, Techtronic decided to redesign its garage door openers to avoid infringement by eliminating the wired connection between the controllers that corresponded to the claimed "digital data bus." RX-600C (Lipoff) at Q/A 170-71, 182, 183; RX-601C (Huggins) at Q/A 23-24, 44. Techtronic replaced the original keypad and its wired connection to the motor control unit with a new wireless keypad that communicates via radio frequency signals to a wireless receiver in the motor drive unit. RX-600C (Lipoff) at Q/A 159, 170-71, 176-178, 182-83; RX-601C (Huggins) at Q/A 20-22, 29, 39-42, 64; RX-609 at ITC-MMOD-00000499 (wireless keypad); RX-610; Hr'g Tr. (Lipoff) at 133:2-8. The wireless receiver is connected to the controller in the motor drive unit via two short conductive wires. RX-600C (Lipoff) at Q/A 172-75; RX-601C (Huggins) at Q/A 43, 53-57; RX-616; RX-618; CX-1656C (Davis) at Q/A 52-53.[4] Chamberlain characterizes the connection

[3] Mr. Lipoff is a technical expert for Techtronic. RX-600C (Lipoff) at Q/A 1-3. Mr. Huggins is Senior Vice President of Product Development at One World Technologies, one of the named Techtronic respondents, and was in charge of developing Techtronic's wired and wireless garage door products. RX-601C (Huggins) at Q/A 1-9, 11-13.

[4] Dr. Davis is a technical expert for Chamberlain. CX-1656C (Davis) at Q/A 1-3.

between the controllers in the keypad and motor drive unit in the redesigned products as "part-wired, part-wireless." CX-1656C (Davis) at Q/A 51. Techtronic's redesigned products include its RYOBI brand GD126 and GD201 garage door openers. RX-601C (Huggins) at Q/A 13.

As a result of its redesign, Techtronic's wireless keypad no longer draws electrical power from the motor drive unit via a wired connection, as its original wired keypad did. RX-600C (Lipoff) at Q/A 193-95, 197, 206-09, 213; Hr'g Tr. (Davis) at 201:7-202:15. Techtronic's new wireless keypad is powered instead by replaceable AA batteries. RX-600C (Lipoff) at Q/A 177, 196; RX-0616; RX-0618; Hr'g Tr. (Lipoff) at 126:18-21. Additionally, the new wireless keypad cannot receive data from the head unit. RX-0600C (Lipoff) at Q/A 171 ("Unlike the wired keypad in the Original GDOs [garage door openers] that utilized two-way wired communication between the head unit and keypad, the wireless keypad in the Redesigned GDOs uses wireless, one-way communication. In particular, the wireless keypad broadcasts messages that are picked up by the receiver located at the head unit.").

In March 2018, Techtronic completed its redesign and began selling its wireless garage door openers to Home Depot. RX-601C (Huggins) at Q/A 26-28. Techtronic, however, did not present its redesigned products for adjudication in the underlying investigation. *See* 83 Fed. Reg. at 13517. As a result, neither the ALJ nor the Commission considered during the original investigation whether the controllers in the wall console and motor drive unit in Techtronic's redesigned products are "connected . . . by means of a digital data bus" or whether those redesigned products infringe the '319 patent.

## C. The Modification Proceeding

### 1. Evidentiary proceedings

On August 2, 2018, Techtronic filed a petition with the Commission to institute a modification proceeding, pursuant to 19 U.S.C.§ 1337(k), to determine whether its redesigned

products infringe the '319 patent and are covered by the remedial orders issued in the underlying investigation. Chamberlain filed an opposition to the petition on August 13, 2018.

On September 4, 2018, the Commission issued a notice of its determination to institute the modification proceeding. 83 Fed. Reg. 45676 (Sept. 10, 2018). The Commission delegated the proceeding to the chief administrative law judge ("CALJ"), who assigned it to his own docket. *Id.*; Notice to the Parties (Sept. 5, 2018). OUII was not named as a party to the modification proceeding. 83 Fed. Reg. at 45677.

On September 24, 2018, the CALJ issued a procedural schedule, which included approximately seven weeks for fact and expert discovery and a month for prehearing motions, exhibit submissions, and prehearing briefing. Order No. 40 at 1-2 (Sept. 24, 2018). The CALJ held an evidentiary hearing on December 12, 2018, as scheduled. Recommended Determination ("RD") at 3 (Apr. 22, 2019). Due to the partial shutdown of the federal government in January 2019, the CALJ extended the deadline for issuing the RD from March 11, 2019, to April 22, 2019. Order No. 48 (Jan. 31, 2019). The Commission subsequently extended the target date for completing the modification proceeding to July 22, 2019. Comm'n Notice (Mar. 4, 2019).

**2. The Recommended Determination**

On April 22, 2019, the CALJ issued the subject RD, finding that Techtronic's redesigned products do not infringe because the controllers in the wall console and motor drive unit are not "connected . . . by means of a digital data bus." RD at 34, 38-39, 45-46.

Although the RD extensively reviews the arguments and evidence submitted by the parties, it did not rely on them. *See generally id.* at 1-34, 44. Instead, the RD relies on statements Chamberlain made in a legal brief and expert declaration it submitted during an *inter partes* review ("IPR") of the '319 patent by the U.S. Patent and Trademark Office's ("USPTO")

Patent Trial and Appeal Board ("PTAB"). *Id.* at 38-43 (discussing RD Exhs. A-D).[5] The RD finds that Chamberlain distinguished its invention from U.S. Patent No. 5,530,896 ("Gilbert") (RD Exh. A) by limiting the scope of the term "being connected . . . by means of a digital data bus" to "require[] a physical connection between microcontrollers" in the wall console and motor drive unit. *Id.* at 43 (discussing RD Exhs. C, D); *see also id.* at 42-43 (discussing disavowal of claim scope). Chamberlain, the RD finds, effectively disavowed wireless connections, because "[a] wireless communication path is the opposite of a physical one, involving a host of different structures, protocols, and design considerations." *Id.* at 42-45 (citing RX-600C (Lipoff) at Q/A 223-24). As a result, the RD finds "there can be no dispute that the Redesigned GDOs do not literally infringe the '319 patent as there is no physical connection between the microcontrollers of the 'wall console' and 'motor drive unit.'" *Id.* at 45; *see also id.* at 34, 38-39.

The RD also finds that Techtronic's redesigned products "cannot infringe by doctrine of equivalents as there is no structure within the products that accomplishes the same function or result of a physical connection between microcontrollers, which [Chamberlain] implicitly acknowledges." *Id.* at 45. In the alternative, the RD finds that even if the wireless products were found to practice the same "function" and "result" as a wired connection by communicating digital data between the microcontrollers, the wireless products accomplish those results in a substantially different "way." *Id.*

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[5] The documents from the IPR (IPR2017-00126) addressed in the RD are:

- RD Exh. A: U.S. Patent No. 5,530,896 ("Gilbert," which Techtronic asserted as allegedly invalidating prior art);
- RD Exh. B: Techtronic's Petition for *Inter Partes* Review of U.S. Patent No. 7,161,319;
- RD Exh. C: Patent Owner's [Chamberlain's] Supplemental Response; and
- RD Exh. D: Declaration of Nathaniel J. Davis IV [Chamberlain's technical expert].

Having found that Techtronic's redesigned products do not infringe claims 1 or 9, the RD finds they do not infringe dependent claims 2-4, 7-8, 10-12, 15, and 16. *Id.* at 46. The RD also finds the redesigned products do not infringe claims 7, 8, 15, and 16, literally or by equivalence, for the separate reason that their wireless keypads do not draw power from the motor drive unit "via power conductors of the data bus," as required by claims 7 and 15 and incorporated into dependent claims 8 and 16. *Id.* Techtronic's indoor keypads are powered instead by internal, replaceable AA batteries, which do not perform the same function, way, or result "as power coming through a wired line from an external shared source," according to the RD. *Id.*

The RD "acknowledges that the aforementioned petition for *inter partes* review, Gilbert prior art reference, patent owner supplemental response, and patent owner expert declaration [RD Exhs. A-D] were not included on the parties' exhibit lists, as opposed to other documents from the IPR proceeding which were included." *Id.* at 43. Nonetheless, the RD takes "judicial notice of the facts of what was stated or disclosed in each of these four documents" under Federal Rule of Evidence 201(b), because, in its view, they are "not subject to reasonable dispute." *Id.* (collecting cases). Also, the IPR documents "are of primary relevance to the central issue in this proceeding – the scope of 'being connected . . . by means of a digital data bus – as they are part of the '319 patent's intrinsic record," according to the RD.[6] *Id.* at 44.

The RD concludes that Techtronic's redesigned products do not infringe the '319 patent, either literally or by equivalents. *Id.* at 45-46. The RD recommends "that the limited exclusion

[6] The PTAB ultimately found that claims 1-4, 7, 9-12, and 15 of the '319 patent – but not claims 8 or 16 – are unpatentable under 35 U.S.C. § 103. *See One World Techns., Inc. v. The Chamberlain Group, Inc.*, IPR2017-00126, Final Written Decision at 4, 2018 WL 5310166, at *31 (PTAB Oct. 24, 2018) (public version), *on appeal*, Appeal Nos. 19-1809, 19-1851 (Fed. Cir.) (consolidated). Techtronic sent a copy of that decision to the CALJ on October 17, 2018. Chamberlain objected to Techtronic's submission of the PTAB decision as improper and irrelevant to the modification proceeding in a letter it sent to the CALJ dated October 18, 2018.

order[] and cease and desist orders be modified so as to not apply to Respondents' Redesigned GDOs which lack a physical connection between a microcontroller contained within a 'wall console' and a microcontroller contained within a 'motor drive unit.'" *Id.* at 46.

### 3. Review of the RD

On May 3, 2019, Chamberlain filed objections to the RD, arguing that it was improper to rely on IPR documents that were not in the evidentiary record or on legal arguments contained therein because they are subject to dispute. *See* Complainant's Comments on the Recommended Determination at 3, 8-10 (May 3, 2019) ("Chamberlain's Comments"). Chamberlain further argued that the RD errs in interpreting the IPR documents because Chamberlain purportedly distinguished Gilbert because it did not disclose a digital data format, not because it disclosed a wireless connection, as the RD finds. *Id.* at 3-4, 11-14. Techtronic did not file a reply.

On June 7, 2019, the Commission determined to review the subject RD. *See* Comm'n Notice at 2-3 (June 7, 2019). The Commission asked the parties to brief two questions as to whether a wireless connection is a "conductor," and whether the arguments Chamberlain made in the IPR documents relied on by the ALJ are substantially the same as the arguments it made in other documents from the IPR or elsewhere that were part of the evidentiary record before the Commission. *See id.* The parties filed their initial responses to the Commission's questions on June 20, 2019.[7] The parties filed their replies to each other's responses on June 27, 2019.[8]

[7] *See* Complainant's Response to Request for Written Submissions on the Issues Under Review (June 20, 2019) ("Chamberlain's Resp."); Respondents' Submission Regarding Issues Under Review (June 20, 2019) ("Techtronic's Resp.").

[8] Complainant's Reply to Respondents' Response to Request for Written Submissions on Issues Under Review (June 27, 2019) ("Chamberlain's Reply"); Respondents' Reply to Complainant's Submission Regarding Issues Under Review (June 27, 2019) ("Techtronic's Reply").

## II. STANDARD FOR MODIFICATION OF REMEDIAL ORDERS

Commission Rule 210.76(a)(1) provides that:

> Whenever any person believes that changed conditions of fact or law, or the public interest require that an exclusion order, cease and desist order, or consent order, be modified or set aside, in whole or in part, such person may request, pursuant to section 337(k)(1) of the Tariff Act of 1930, that the Commission make a determination that the conditions which led to the issuance of the exclusion order, cease and desist order, or consent order no longer exist. The Commission may also on its own initiative consider such action. The request shall state the changes desired and the changed circumstances or public interest warranting such action, shall include materials and argument in support thereof, and shall be served on all parties to the investigation in which the exclusion order, cease and desist order, or consent order was issued.

19 C.F.R. § 210.76(a)(1); *see also* 19 U.S.C. § 1337(k).

The party petitioning for modification or rescission of a remedial order bears the burden of proof if that party was previously found to be in violation of Section 337 and is seeking modification of the remedial order(s) issued in that investigation. 19 C.F.R. § 210.76(a)(2). The Commission may grant such relief "on the basis of new evidence or evidence that could not have been presented at the prior proceeding or on grounds that would permit relief from a judgment or order under the Federal Rules of Civil Procedure." *Id.* § 210.76(b).

Upon receipt of a petition, the Commission may institute a proceeding to modify or rescind the remedial order(s). 19 C.F.R. § 210.76(b). The Commission may delegate the matter to the chief ALJ for designation of a presiding ALJ, who may hold a hearing and afford interested persons the opportunity to appear and be heard. *Id.* The ALJ shall then certify a recommended determination to the Commission. *Id.*

The parties may submit comments on the RD, similar to petitioning for review of an ID issued during the violation phase. *Id.* § 210.76(c). The Commission makes its determination as to whether to modify the remedial orders based upon the evidentiary record developed in the modification proceeding. *See id.* § 210.76(b). The Commission will consider the findings and

recommendations in the ALJ's RD in making its determination of whether to modify the remedial orders, but it is not required to defer to those findings, as it does in reviewing factual findings in an ID. *Compare id.* § 210.43(b)(1). The Commission has all the powers it would have in making the initial decision. *See* 5 U.S.C. § 557(b).

## III. RELEVANT LEGAL PRINCIPLES

Section 337 prohibits, *inter alia*, "[t]he importation into the United States, the sale for importation, or the sale within the United States after importation . . . of articles that infringe a valid and enforceable United States patent . . . ." 19 U.S.C. § 1337(a)(1)(B). Infringement is found where an accused product or process practices each and every limitation of a patent claim, either literally or under the doctrine of equivalents. *Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1310-11 (Fed. Cir. 2005).

### A. Claim Construction

The first step of any infringement analysis is to construe, or interpret, disputed terms in the asserted patent claims. *SafeTCare Mfg., Inc. v. Tele-Made, Inc.*, 497 F.3d 1262, 1268 (Fed. Cir. 2007). Claim construction "begin[s] with and remain[s] centered on the language of the claims themselves." *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 830 (Fed. Cir. 2003). Claim terms are normally construed according to their ordinary and customary meaning in the art, as understood by a person of ordinary skill in the art at the time of the invention. *Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788, 796 (Fed. Cir. 2019) (citing *Phillips v. AWH*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*)). In cases where a claim term does not have a particular meaning in the relevant technical art, its construction may involve little more than applying widely accepted meanings of commonly understood words. *Phillips*, 415 F.3d at 1314. But where a claim term has a specialized meaning, it is necessary to determine what a person skilled in the art would have understood the disputed claim language to mean. *Id.*

The Commission looks primarily to intrinsic sources, *i.e.*, the language of the claims themselves, the remainder of the specification (of which the claims are a part), and the patent's prosecution history, to determine the meaning of a claim term and whether the inventor used it in an idiosyncratic manner. *See Continental Circuits*, 915 F.3d at 796. The specification may also indicate whether the inventor intended to give a special meaning to a claim term that differs from its original meaning or, alternatively, to disclaim or disavow some measure of claim scope. *Id.* (discussing *Phillips*, 415 F.3d at 1316). As a general rule, embodiments or examples in the specification may shed light on the meaning of claim terms, but they should not be read into the claims as limitations where it is not necessary to do so. *Markman,* 52 F.3d at 978-79.

The Commission should also consider the patent's prosecution history when it is in evidence, as it provides contemporaneous evidence as to how the inventor and the USPTO understood the term and whether the inventor limited the invention in the course of prosecution by making the claim scope narrower that it might otherwise have been. *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1094-95 (Fed. Cir. 2013) (discussing *Phillips*, 415 F.3d at 1314). An inventor's arguments or amendments may give rise to "prosecution history disclaimer," which precludes the inventor from recapturing through claim construction specific meanings or claim scope that the patentee clearly and unmistakably disclaimed, or surrendered, during prosecution. *See id.*

The Commission may also look to extrinsic evidence, such as expert and inventor testimony, dictionaries, learned treatises, and other evidence external to the patent and its prosecution history, to discern the scope and meaning of a claim term. *Continental Circuits*, 915 F.3d at 799. Extrinsic evidence may also be useful in understanding relevant scientific principles, technical terms, and the state of the art. *Id.* at 796. Nonetheless, extrinsic evidence is

generally regarded as less reliable than intrinsic evidence and cannot be used to override the meaning of claim terms provided by the intrinsic evidence. *Id.* at 799. "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips*, 415 F.3d at 1316.

**B. Infringement**

Patent infringement under Section 337 includes "all forms of infringement, including direct, contributory, and induced infringement." *Suprema Inc. v. Int'l Trade Comm'n*, 796 F.3d 1338, 1352-53 (Fed. Cir. 2015). Infringement requires proof by a preponderance of the evidence. *Spansion*, 629 F.3d at 1349.

After the disputed claim terms have been construed, the next step is to compare the properly construed claim to the allegedly infringing product or process. *SafeTCare*, 497 F.3d at 1268. Literal infringement is found where every limitation of a claim literally reads on, or is found in, the accused product or process. *Duncan Parking Techns., Inc. v. IPS Group, Inc.*, 914 F.3d 1347, 1360 (Fed. Cir. 2019).

If literal infringement is not found, infringement may still be found under the doctrine of equivalents if there is equivalence between the elements of accused product and the claimed elements of the patented invention. *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 21 (1997). Equivalence may be found where the patentee proves, through "particularized testimony and linking argument," that the differences between the claimed invention and the accused product or process are insubstantial. *Advanced Steel Recovery, LLC v. X-Body Equipment, Inc.*, 808 F.3d 1313, 1319 (Fed. Cir. 2015) (quotes omitted). Equivalence may also be found where the evidence shows that the accused product or process performs substantially the same function in substantially the same way to achieve substantially the same

result as the claimed invention. *Gemalto S.A. v. HTC Corp.*, 754 F.3d 1364, 1373 (Fed. Cir. 2014). Equivalence must be applied on a limitation-by-limitation basis, not to "the invention as a whole." *Id.* at 1374 (quoting *Warner-Jenkinson*, 520 U.S. at 29). "Generalized testimony as to the overall similarity between the claims and the accused infringer's product or process will not suffice." *Id.* (quotes omitted).

There are limits to applying the doctrine of equivalents. For example, the "the inherent narrowness of the claim language" in some patents may warrant "little, if any, range of equivalents." *Advanced Steel*, 808 F.3d at 1319-20. Also, the doctrine of equivalents cannot be applied so broadly as to erase, or "vitiate," a specific claim limitation. *Id.* at 1320-21; *Gemalto*, 754 F.3d at 1374 (doctrine of equivalents cannot be used to erase "meaningful structural and functional limitations of the claim"). The doctrine of equivalents also cannot be applied in a manner that would enable the claimed invention "to ensnare prior art." *Id.* (same).

## IV. ANALYSIS

### A. Overview of the '319 Patent

The '319 patent is directed to a garage door opener system comprising a "motor drive unit" (or head unit **24** in Figure 1, below) and a "wall console" (or wall control unit **60**). '319 patent at Abstract, 3:53-55, 4:5-9, Fig. 1. The wall console and motor drive unit both include controllers (**110**, **56**, respectively), which are "connected . . . by means of a digital data bus," according to claims 1 and 9. *Id.* at 4:5-9, 4:29-32, 7:34-39 (claim 1), 8:16-21 (claim 9).

Claim 1 recites the following, with the disputed limitations in underlined italics:

> 1. An improved garage door opener comprising a motor drive unit for opening and closing a garage door, said motor drive unit having a microcontroller and a wall console, said wall console having a microcontroller, *said microcontroller of said motor drive unit being connected to the microcontroller of the wall console by means of a digital data bus*.

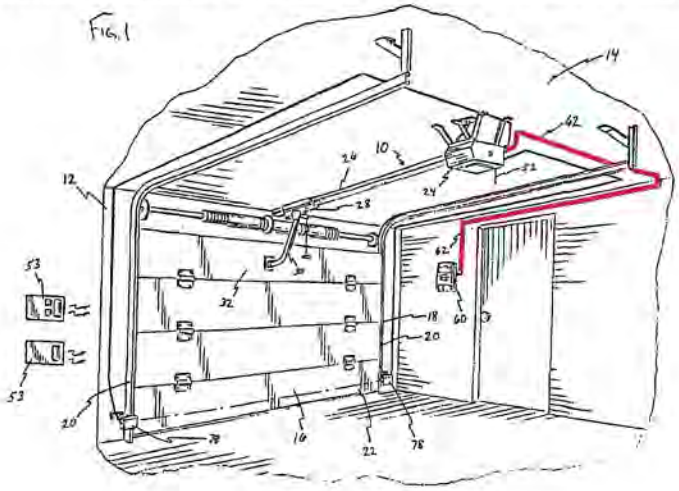
*Id.* at 7:34-39 (emphasis added). Independent claim 9 includes the same highlighted language but replaces "microcontroller" with "controller." *Id.* at 8:16-21.

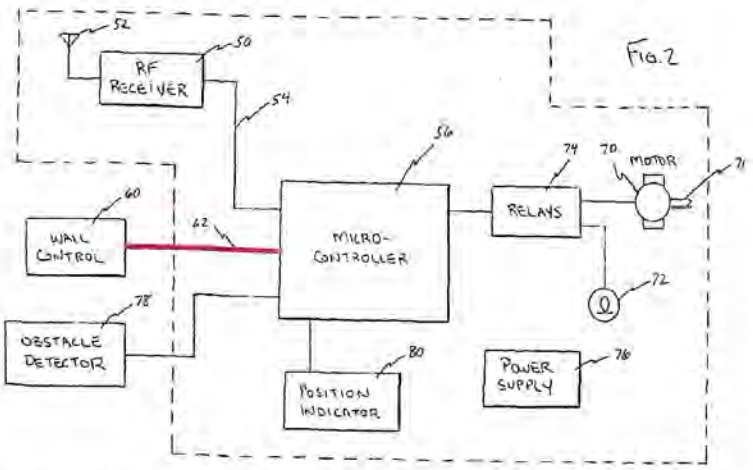
The remaining asserted claims depend on either claim 1 or claim 9. *Id.* at 7:40-8:4 (claims 2-4), 8:11-15 (claims 7, 8), 8:22-31 (claims 10-12), 8:39-43 (claims 15, 16). Dependent claims 7 and 8 depend on claim 1and recite the following:

> 7. The garage door opener according to claim 1 wherein power for the wall console is provided from the drive unit via power conductors of the data bus.
>
> 8. The garage door opener according to claim 7 wherein the power conductors convey both data and power.

*Id.* at 8:11-15. Claims 15 and 16 depend on claim 9 and recite similar limitations. *Id.* at 8:39-43.

The specification does not define or use the term "digital data bus," nor does it explain what it means to be "connected . . . by means of a digital data bus." Instead, the specification refers to "line **62**," or a "wire connection," between the wall console and motor drive unit, which is highlighted in red in Figures 1 and 2, below. *Id.* at Abstract, 2:36-38, 4:5-9, 4:29-32. The specification uses the same term "line" to refer to wired connections between other components in the system as well. *See, e.g., id.* at 4:1-4 (discussing line **54** in Fig. 2), 4:22-24 (discussing line **102** in Fig. 4), 4:44-55 (discussing lines **152**, **160** in Fig. 4). Nowhere does the '319 patent disclose or claim a wireless connection between the wall console and the motor drive unit.






'319 patent, Figs 1, 2 (line 62 highlighted in red).

The only wireless receiver disclosed in the '319 patent is radio frequency receiver **50,** which operates with "radio transmitters **53** which may include portable or keyfob transmitters or keypad transmitters." *Id.* at 3:63-4:4. The radio receiver **50** does not operate with the wall control (or wall console) **60**, nor it is it connected to the wall control console **60**, by either wired or wireless means. *Id.*, Fig. 2. The radio receiver **50** is connected instead to the microcontroller **56** in the head unit by means of a wired connection, identified as line **54**. *Id.* Line **54** is distinct from line **62** and is nowhere identified as a "digital data bus."

The applicants identified the "digital data bus" as line **62** during prosecution of the '319 patent. The patent examiner initially rejected the proposed claims under § 112, stating that "[t]he Examiner could not find any thread of support in the Specification for the filed claims." JX-0008 at CGI_TTI_00043537 (Office Action at 2). The applicants responded to this § 112 rejection by identifying the "digital data bus" as "line **62**," as follows:

> With regard to claim 1 (and similar claim 11)[9] the various components and interconnection are readily apparent and explained in the attached Appendix. With regard to the *term digital data bus*, the applicant includes a definition of "digital" from the Merriam-Webster Online Dictionary. From this definition it is

[9] Proposed claim 11 issued as independent claim 9 in the '319 patent.

clear that *applicant's line* ***62*** conveys data in accordance with definition that is "relating to discrete units."

JX-0008 at CGI_TTI_00043562 (Applicants' Remarks at 5) (emphasis added).

In their Appendix, the applicants included a claim chart that correlated each claim limitation to supporting elements or language in the specification. The applicants repeatedly and consistently identified the claimed "digital data bus" as "bus **62**" or "data bus **62**," as shown in the excerpts below:

**APPENDIX**

| CLAIMS | DESCRIPTION |
|---|---|
| 1. An improved garage door opener comprising | Fig. 1, item 10; paragraph 27 and 28 |
| said microcontroller of said motor drive unit being connected to the microcontroller of the wall console | microcontroller 56 of the drive unit is connected to microcontroller 110 of the wall control 60 via a bus 62 |
| by means of a digital data bus | bus 62 conveys data between microcontrollers 56 and 110 by means of on/off output codes, paragraph 39, see also blocks 750-760, Fig. 12H |
| 7. The garage door opener according to claim 1 comprising apparatus at the wall console for requesting the status of the drive unit via the data bus. | microcontroller 56 controls the status of a light 72 (paragraph 30) and the microcontroller 110 of the wall console requests the status of the light via the data bus 62 (paragraph 38, line 39) |
| 10. The garage door opener according to claim 9 wherein the power conductors convey both data and power. | As discussed above, bus 62 conveys both data and power to the microcontroller 110. |

JX-0008 at CGI_TTI_00043564-65; *see also* RX-600C (Lipoff) at Q/A 87, 121. The applicants did not identify any other lines or connections in the '319 patent as a "bus" or "digital data bus."

The ID found that Techtronic's original wired garage door openers infringe asserted claims 1-4, 7-12, 15, and 16 of the '319 patent. ID at 294. In so holding, the ID construed

"digital data bus" as "a conductor or group of conductors which conveys digital data." *Id.* at 123. The ID construed "controller" as "any type of control device." *Id.* at 124. The ID construed "motor drive unit" as a "unit where a driven motor resides," which may equal or include the "head unit" in the specification, but which is not necessarily limited to "a component to drive a motor," as Techtronic argued. *Id.* at 124, 127-28.

## B. Analysis and Determination

Having considered the RD, the parties' submissions, the '319 patent, and other evidence of record, the Commission finds that Techtronic's redesigned products do not infringe the '319 patent because the controller in the indoor wireless keypad (what Chamberlain identifies as the claimed "wall console") and controller in the motor drive unit are not "connected . . . by means of a digital data bus," as required by the claims. The Commission's conclusion follows directly from the claim language, teachings, and prosecution history of the '319 patent, the ID's construction of "digital data bus," the undisputed facts regarding Techtronic's redesigned products, and other evidence of record.

### 1. Independent claims 1 and 9

#### a. "connected . . . by means of a digital data bus"

Independent claims 1 and 9 both require the "microcontroller [or controller] of said motor drive unit being connected to the microcontroller [or controller] of the wall console by means of a digital data bus." '319 patent at 7:37-39 (claim 1), 8:19-21 (claim 9). The ID construes "digital data bus" to have its plain and ordinary meaning of "a conductor or group of conductors which conveys digital data." ID at 123. No party disputes this construction of "digital data bus."

The parties also do not dispute the structure or operation of the wired or wireless portions of Techtronic's redesigned products. RD at 38. In particular, the parties agree that the wireless connection between the controller in Techtronic's new wireless keypad and the wireless receiver

connected to the motor drive unit is not a "conductor." Chamberlain acknowledges that a "conductor" in the context of the '319 patent is a material that conducts electricity. Chamberlain's Resp. at 1-2. Chamberlain concedes that the wireless portion of the controller-to-controller connection in Techtronic's redesigned products conveys signals by means of electromagnetic radiation, and thus "is not a 'conductor' of electricity." *See id.* at 1-2, 4, 15. Chamberlain's technical expert, Dr. Davis, similarly testified that there is no wired connection (*i.e.*, conductor) between the controller in Techtronic's wireless keypad and a controller in the head unit. Hr'g Tr. (Davis) at 200:1-20. Techtronic's technical expert, Mr. Lipoff, agreed that the wireless portion of the redesigned products is not a conductor because "[a]ir is not a conductor . . . . In fact, it's an insulator." *See* Hr'g Tr. (Lipoff) at 135:22-136:18.

Given that there is no conductor in the wireless portion of Techtronic's redesigned products, the Commission finds that the controllers in the wireless keypad and the motor control unit are not "connected . . . by means of a digital data bus," as required by claims 1 and 9 and their dependent claims. *See id.* at 145:20-146:7; RX-600C (Lipoff) at Q/A 182-85; '319 patent at 7:37-39 (claim 1), 8:19-21 (claim 9). The Commission thus finds that Techtronic's redesigned products do not literally infringe any of the asserted claims of the '319 patent, albeit on different grounds than those relied upon in the RD. *See* RD at 34, 38-45.

The Commission finds that the redesigned products do not infringe the asserted claims under the doctrine of equivalents. Techtronic removed the wired connection between the indoor keypad and motor drive unit in its original products and replaced it with a wireless transmitter in the indoor keypad and wireless receiver connected to the motor drive unit. *See* RX-600C (Lipoff) at Q/A 159, 170-71, 176-78; RX-601C (Huggins) at Q/A 20-24, 29-33, 39-44, 55. The wireless transmitter and wireless receiver communicate via radio frequencies, using physical

principles that are substantially different than electrical conduction through a wire. *See* RX-600C (Lipoff) at Q/A 218-24. Given that a "digital data bus" requires a conductor or its equivalent, infringement could be found only by reading the term "connected . . . by means of a digital data bus" out of the claim, which is improper. *See Advanced Steel Recovery*, 808 F.3d at 1320-21. In other words, no reasonable fact-finder could find the wireless connection to be substantially the same as communicating data through an electrically conductive wire. *See id.*

Techtronic's redesigned products also fail the function-way-result test for finding infringement under the doctrine of equivalents. *See id.* The "digital data bus" is supposed to "connect[]" the controllers in the wall console and motor drive unit to communicate digital data. *See* '319 patent at 7:37-39 (claim 1), 8:19-21 (claim 9). Even if the wireless connection might be found to perform substantially the same function of "connect[ing]" the wireless keypad and wireless receiver in the motor drive unit, as required by the claim, it does not perform that function in substantially the same way as a wired system, nor does it accomplish substantially the same result. RX-600C (Lipoff) at Q/A 219-26. Techtronic's redesigned products require not only a new wireless transmitter and wireless receiver, but also new firmware, protocols, a radio frequency allocation, and other components and applications that are not used in, or relevant to, a wired system. *Id.* at Q/A 159-60, 171; RX-601C (Huggins) at Q/A 20-22, 29-33. Techtronic's wireless system is no longer capable of two-way digital data transmissions; it can no longer draw power or data from the motor drive unit; and it relies on radio frequency transmissions rather than electromagnetic conduction through a wire to connect the wall console and motor drive unit. *Id.* Accordingly, Techtronic's redesigned products do not satisfy either the "way" or "result" prongs and thus do not infringe under the function-way-result test of equivalents. *See Gemalto,*

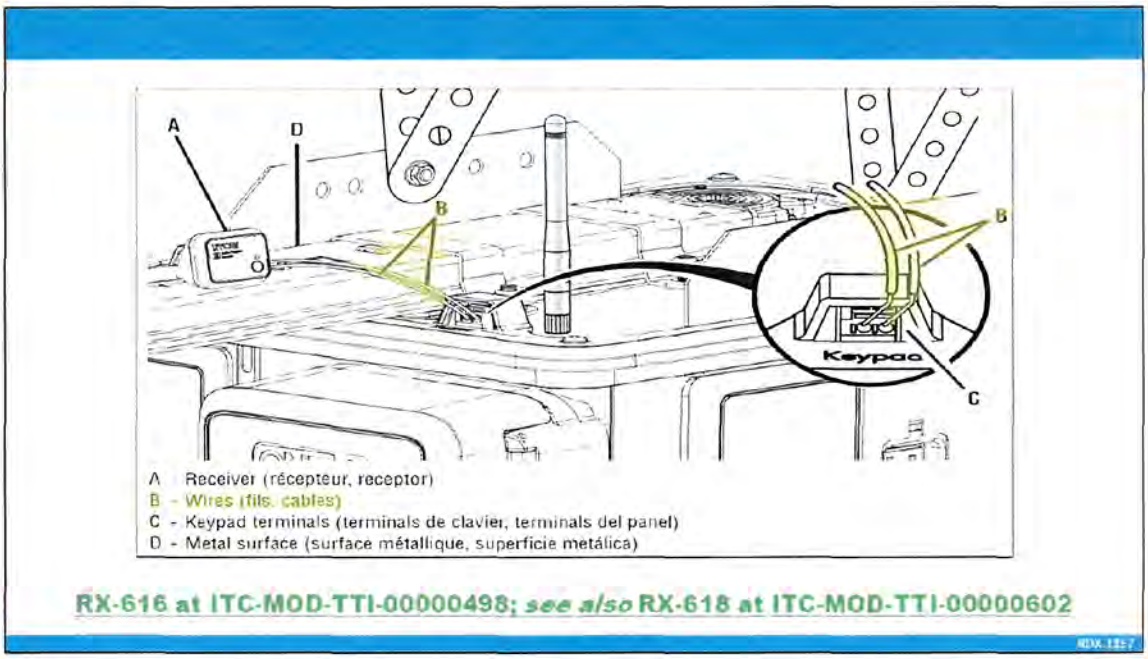
754 F.3d at 1373 (an accused product that performs the same function and achieves the same result does not infringe if it achieves the result in a substantially different way (cites omitted)).

In sum, the wireless connection in Techtronic's redesigned products does not practice "being connected . . . by means of a digital data bus [or conductor]," either literally or under the doctrine of equivalents. Techtronic's redesigned products do not infringe the '319 patent.

**b. Chamberlain's "part-wired, part-wireless" theory**

Chamberlain concedes that the wireless portion of Techtronic's redesigned products is not a "digital data bus," yet it contends that Techtronic's redesigned products are not entirely wireless. Rather, Chamberlain characterizes Techtronic's redesigned products as "part-wired, part-wireless," in that they include a "wireless" connection between the wireless keypad and the wireless receiver and a short "wired" connection between the wireless receiver and the motor drive unit. *See, e.g.,* Chamberlain's Resp. at 1, 4-6, 14; Chamberlain's Reply at 6.

Chamberlain contends that the wireless receiver in Techtronic's redesigned products is a "physically separate component" from the claimed "motor drive unit," and thus is not part of that motor drive unit, as Techtronic argued. *Compare* Chamberlain's Resp. at 7-8 *with* Hr'g Tr. (Lipoff) at 133:9-135:19, 136:19-139:20, 140:11-141:12, 142:14-24 (arguing that the wireless receiver is part of the head unit). Chamberlain further contends that the short "wired portion" that connects the wireless receiver to the motor drive unit is a "conductor" and transmits digital data. *Id.* at 2, 4-6 (citing *inter alia* Hr'g Tr. (Huggins) at 94:6-23; CX-1656C (Davis) at Q/A 86-91, 93, 95; Hr'g Tr. (Lipoff) at 126:22-127:12, 129:16-130:7; CX-1773C (McNabb Dep. Tr.) at 67:10-68:5). Chamberlain argues that this "wired portion" in Techtronic's redesigned products, as shown in the figure below, is sufficient to establish that the controllers in the wall console and head unit are "connected . . . by means of a digital data bus." *Id.* at 2, 4-5.




RX-600C (Lipoff) at Q/A 173 (wires connecting wireless receiver to motor drive unit are identified as "B"; highlighting added for identification).

The Commission disagrees. The claims state that the controllers in the wall console and motor drive are "connected . . . *by means of* a digital data bus," *i.e.*, ". . . *by means of* a 'conductor or group of conductors which conveys digital data'" under the ID's construction. '319 patent at 7:37-39 (claim 1), 8:19-21 (claim 9) (emphasis added); ID at 123. The claims do *not* use broader language, such as "connected . . . by means *comprising* a digital data bus," to denote that the controller-to-controller connection need only *include* a "digital data bus [or conductor]," as opposed to consisting substantially entirely of a conductive connection. *See* RX-600C (Lipoff) at Q/A 220, 223. Thus, the plain and ordinary meaning of the claim language does not support Chamberlain's theory that only a small portion of the entire controller-to-controller connection needs to be conducting to satisfy the "digital data bus" limitation.

Furthermore, Techtronic's redesigned products are more accurately characterized as "substantially all wireless, substantially not wired," and not "part-wired, part-wireless," as

Chamberlain contends. The wireless portion of the controller-to-controller pathway (perhaps several meters in length, depending on the size and configuration of the garage) constitutes substantially the entire controller-to-controller connection, whereas the wired connection between the wireless receiver and the controller in the head unit is much shorter (perhaps only a few centimeters in length). *Compare* '319 patent, Fig. 1 (line 62) *with* CX-1656C (Davis) at Q/A 51, 89, 93; RX-616; RX-618. But under Chamberlain's theory, any electrical conductor, even a trace on a circuit board, could be a "digital data bus," no matter how small it is in relation to the entire controller-to-controller connection. *See* Hr'g Tr. (Davis) at 197:6-197:19. Such an approach would be unreasonable because any "wireless" device includes at least some internal wires or conductors, which would erase any meaningful distinction between wired and wireless products. *See id.* at 197:20-199:21; RX-600C (Lipoff) at Q/A 149; RX-601C (Huggins) at Q/A 54 (a "wireless" system does not have an "end-to-end hard-wired connection").

The Commission's interpretation of "being connected by means of a digital data bus" is also supported by the teachings of the '319 patent. Chamberlain has not identified any passage or figure in the '319 patent that discloses a wireless or partially wireless connection between the controller in the wall console and the controller in the motor drive unit. Instead, the '319 patent describes the controller-to-controller connection solely in terms of a physical, electrically conductive wire, *i.e.*, line **62**, as shown in Figures 1 and 2, reproduced earlier. '319 patent, Figs. 1, 2. In other passages as well, the '319 patent speaks only of a wired or conductive pathway between the controllers. *See, e.g., id.* at 2:36-38 ("The microcontroller also communicates *over the lines* carrying the normal wall control switch signals with a microcontroller in a head unit of the garage door operator."); 4:5-9 ("A wall control unit **60** embodying the present invention, as will be seen in more detail hereafter, communicates *over a line* ***62*** with the head unit

microcontroller **56** to effect control of a garage door operator motor **70** and a light **72** via relay logic **74** connected to the microcontroller **56**."); 4:29-32 ("The microcontroller **110** provides an output at line **112** *to the line **62***, which is connected to the microcontroller in the GDO head.") (emphasis added).[10] The Abstract similarly refers to the wall console sending signals "over a wire connection" to the head unit to operate the garage door opener. *Id.* at Abstract.

Chamberlain's expert, Dr. Davis, agreed that the '319 patent discloses only a single embodiment, and that this sole embodiment has "a fully wired connection [line **62**] between the wall console and the head unit." Hr'g Tr. (Davis) at 186:21-187:5. Dr. Davis further agreed that the '319 patent does not disclose any "wireless communication between a wall console and a head unit" or a "part-wired, part-wireless digital data bus." *Id.* at 187:6-24, 188:9-13. Dr. Davis and Techtronic's expert, Mr. Lipoff, also agreed that the "digital data bus" corresponds to "line **62**" in the specification. RX-600C (Lipoff) at Q/A 85-86, 121, 156; CX-1656C (Davis) at Q/A 21. Thus, there is no basis in the claim language or teachings of the '319 patent to find that "being connected . . . by means of a digital data bus" may cover a wireless system of the kind used in Techtronic's redesigned products.

The only wireless components disclosed in the '319 patent are the radio receiver **50** in the head unit and the radio transmitters **53** ("which may include portable or keyfob transmitters or keypad transmitters") with which it operates. '319 patent at 3:63-4:1. Radio receiver **50** is connected to the microcontroller **56** in the head unit via a separate line – line **54**. *Id.* at 4:1-9,

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[10] The '319 patent consistently uses the term "line" to refer to wired, not wireless, connections between other components as well. *See, e.g.,* '319 patent at 4:1-4, Fig. 2 ("line **54**" connects microcontroller **56** to the radio receiver **50** in the head unit); 4:22-24, Fig. 4 ("output line **102**" connects a passive infrared detector **100** to a differential amplifier **104** in the wall console); 4:44-55, Fig. 4 ("lines" **152**, **160** connect the comparator **150** of an ambient light sensor **140** to the microcontroller **110** in the head unit). Neither the '319 patent nor its prosecution history identifies any of these other lines as a "digital data bus" (apart from line **62**, discussed *supra*).

Fig. 2. Line **54** is distinct from line **62** (or bus **62**), which connects the wall console **60** to the microcontroller **56**. *See id.*; JX-0008 at CGI_TTI_00043562; CGI_TTI_00043564-65 (substituting "bus **62**" for "line **62**"). Unlike line **62**, line **54** is not connected to the wall console **60**, nor is it ever identified as a "bus" or "digital data bus" in either the '319 patent or its prosecution history. *See* '319 patent, Fig. 2; JX-0008 at CGI_TTI_00043562-65. Radio receiver **50**, moreover, does not communicate with the wall console **60**, nor are its radio communications with the portable transmitters ever referred to as being "connected . . . by means of a digital data bus." '319 patent at 4:5-9, Fig. 2. Thus, not even the limited teachings in the '319 patent regarding its radio frequency components support Chamberlain's theory that a partly wired or partly wireless connection can satisfy "being connected . . . by means of a digital data bus."

The prosecution history also supports finding that the "digital data bus" corresponds to a physical line, or wire, connecting the wall console to the head unit. The applicants, in order to overcome a § 112 rejection, identified the claimed "digital data bus" as "bus **62** [which] conveys data between microcontrollers **56** and **110** . . . . " JX-0008 at CGI_TTI_00043564 (discussed in RX-600C (Lipoff) Q/A 87). The applicants also stated that "line **62** conveys data . . . ." *Id.* at CGI_TTI_0043562; *see also* '319 patent, Figs. 1, 2. These passages show that the applicants used the terms "bus" and "line" interchangeably and used both terms to refer specifically to the electrically conductive wire that connects the wall console to the head unit. RX-600C (Lipoff) at Q/A 87, 121, 156. Nowhere in the prosecution history did the applicants suggest that a "digital data bus" can include a wireless connection, or that the '319 patent discloses or claims any wireless connections between the controllers in the wall console and motor drive unit. *See id.* at Q/A 154-156.

For these reasons, the Commission finds that the wired connection between the wireless receiver and the motor drive unit does not suffice to establish that the controller in the motor drive unit and the controller in the indoor keypad are "connected . . . by means of a digital data bus," when almost the entire controller-to-controller connection is provided by means of wireless radio frequency connection between the wireless transmitter in the indoor keypad and the wireless receiver connected to the motor drive unit. The parties agree that this wireless connection is not a "conductor," and hence is not a "digital data bus."

**c. Chamberlain's "opto-isolators" theory**

The Commission further finds that Chamberlain's reliance on the ID's discussion of opto-isolators in the underlying investigation is misplaced, as the ID does not support finding that Techtronic's redesigned products infringe the '319 patent. *See* Chamberlain's Resp. at 2, 7; Chamberlain's Reply at 4-5 (discussing ID at 133-35; RD at 44).

By way of background, the head unit in Techtronic's original wired products included multiple circuit boards and subsystems that handled various aspects of the garage door opener's functionality. RX-474C (Lipoff) at Q/A 69 (violation phase). Mr. Lipoff explained that the so-named GDO Board subsystem controlled the garage door motor, monitored motor current and motion and safety sensors during door operation, and communicated with the outdoor keypad and car remotes, among other functions. *Id.* at Q/A 69, 72. The GDO Board also communicated with a second board, the Wi-Fi Board, which communicated with a home network to enable system control via smart phone, with the GDO Board for status and control information, with various software modules, and with the indoor keypad for "key presses." *Id.* at Q/A 69, 74.

Separate controllers were located in both the GDO Board and the Wi-Fi Board. *Id.* at Q/A 71, 73; ID at 129-30. Techtronic argued that only the controller in the GDO Subsystem, and not the controller in the Wi-Fi board, could be the claimed "controller of said motor drive unit,"

because the GDO controller was the only one that operated the garage door. *Id.* at 130-31; *see also* RX-474C (Lipoff) at Q/A 92, 102-118 (violation phase). Techtronic argued that the controller in the Wi-Fi board could not be the claimed "controller of said motor drive unit" because it only passed information from the indoor keypad to the GDO microcontroller without actually operating the garage door. ID at 131; RX-474C (Lipoff) at Q/A 103-110, 113.

Having drawn this distinction between the two controllers, Techtronic further asserted that only the controller in the Wi-Fi Board, and not the controller in the GDO Subsystem, had a direct conductive connection to the controller in the indoor keypad (wall console). *Id.* at 129-31, 134-35; RX-600C (Lipoff) at Q/A 147. The conductive connection to the GDO Subsystem, according to Techtronic, was interrupted by opto-isolators that lay between the Wi-Fi Board and the GDO Board. ID at 129, 134-35. Opto-isolators are devices that convert electrical energy into light (*e.g.*, using a light emitting diode) and transmit that light across a non-conductive gap to an optical receiver (*e.g.*, a photodiode), which converts the light back into electrical energy. Hr'g Tr. (Davis) at 839:25-840:12 (violation phase). Opto-isolators enable two circuits to communicate with each other while keeping them electrically isolated in order to reduce noise, spurious signals, and damage from potential voltage spikes. *See id.* at 840:13-10; CX-1322C (McNabb Dep.) at 92:1-93:14 (violation phase); RX-474C (Lipoff) at Q/A 103, 113 (violation phase). Techtronic's expert, Mr. Lipoff, testified that opto-isolators are "the opposite of conductors" because they are "designed to break the conduction." Hr'g Tr. (Lipoff) at 1036:17-1037:9 (violation phase). According to the ID, Techtronic argued during the underlying investigation that the "intentional break" in the conductive connection created by the opto-isolators was sufficient to defeat infringement, because the controller in the wall console is not

"connected" to the relevant controller in the motor drive unit (*i.e.*, the GDO Subsystem) "by means of a digital data bus," or conductor. ID at 129, 134-35; RX-474C (Lipoff) at Q/A 113-19.

The ID rejects both arguments. First, the ID finds that either the controller in the Wi-Fi Board or the controller in the GDO Board can satisfy the limitation requiring a "controller" in the "motor drive unit" because the ID broadly construed "motor drive unit" as the "unit where the motor resides." ID at 129-30, 133-35. The ID does not limit "motor drive unit" "to exactly that structure, subsystem, electrical board, etc. that controls the motor," as Techtronic argued. *Id.* at 133-34. Thus, the ID finds that Techtronic's original wired products literally infringe the '319 patent because there is a conductive connection between the controller in the wall console and the controller in the Wi-Fi Board in the motor drive unit, regardless of any break in the conductive path to the controller in the GDO Subsystem. *Id.*; RX-600C (Lipoff) at Q/A 147.

Second, and of more relevance to the current discussion, the ID rejects Techtronic's argument that there is no infringement because the opto-isolators between the Wi-Fi Board and the GDO Board broke the conductive connection between the controller in the wall console and the controller in the GDO Board. ID at 135. After reiterating that the conductive connection between the microcontrollers in the wall console and Wi-Fi Board was sufficient to satisfy the "digital data bus" limitation, the ID finds in the alternative:

> Even under Respondents' interpretation of "motor drive unit," the ["digital data bus"] limitation is still met. The presence of opto-isolators does not negate the presence of "conductors" also in the communication link, which is all the claim requires. It has not been alleged the entire end-to-end link is optical or non-conducting, which would create a colorable argument. The same logic applies for the alleged interruption caused by the Wi-Fi Board.

*Id.* The ID concludes that Techtronic's wired products infringe the '319 patent. *Id.*

Chamberlain extends the ID's discussion of opto-isolators to argue that the short conductive wires that connect the wireless receiver to the motor drive unit in Techtronic's

redesigned products are sufficient to demonstrate "the presence of 'conductors' . . . in the communication link, which is all the claim requires." *See* Chamberlain's Resp. at 2, 7. Chamberlain argues that just as "a break in the conductors due to the presence of a gap [the opto-isolators] does not negate the presence of conductors as the claim requires" in the original wired products, "the presence of the wireless segment does not take the Redesigned GDOs outside the scope of the '319 Patent." *See id.* at 2. On this basis, Chamberlain argues that Techtronic's purportedly "part-wired, part-wireless" redesigned products infringe the '319 patent, regardless of the wireless connection between the indoor keypad and wireless receiver in the motor control unit. *See id.* at 2, 7. Chamberlain further claims that its position is supported by the RD, which finds that "Respondents' non-infringement position in this [modification] proceeding was already considered and rejected by the ALJ in the violation phase" of the underlying investigation. *Id.* at 7 (quoting RD at 44).

The Commission finds that Chamberlain's argument lacks merit. The ID is directed only to Techtronic's original wired products because Techtronic did not disclose its wireless products while the underlying investigation was before the ALJ or the Commission.[11] The passage in question is only "addressing the distinct situation of optical communication between two circuit boards located *within* the head unit" of Techtronic's wired products, and "did not address or even consider a system that uses a wireless keypad to wirelessly transmit signals to a receiver at the head unit." RX-600C (Lipoff) at Q/A 147 (emphasis in original). Thus, the "presence of

[11] For this reason, the Commission rejects Techtronic's attempt to dismiss the ID's discussion of opto-isolators as mere *dicta*. *See* Techtronic's Reply at 8. The ID directed its analysis solely to the wired products that were at issue during the underlying investigation, and discussed the opto-isolators only as an alternative basis for finding infringement. ID at 135 (assuming Techtronic's construction of "motor drive unit" was correct). The ID's analysis is not directed to Techtronic's wireless products or to wireless communications in general because Techtronic did not disclose its redesigned products to the Commission until after the underlying investigation had concluded.

'conductors'" in the passage quoted above is a reference to the *wired connection* between the controller in the original keypad and the head unit in the original products. This wired connection accounted for virtually the entire conductive connection between the controller in the original keypad and the controller in the GDO board in the motor drive unit, as represented, for example, by line **62** in Figure 1 of the '319 patent. By comparison, the conductive break in the opto-isolators was substantially smaller, even orders of magnitude smaller, than the wired connection, because the opto-isolators were located between the two circuit boards in the motor drive unit.[12] RX-474C (Lipoff) at Q/A 113 (violation phase); RX-600C (Lipoff) at Q/A 147-48. It was only in the context of this *wired* system that the ID found that "[t]he presence of opto-isolators does not negate the presence of 'conductors' [the wired connection] also in the communication link, which is all the claim requires." ID at 135.

The Commission finds no basis to extend this finding to Techtronic's redesigned products or to draw any parallel between the conductive break in the opto-isolators and the wireless portion of Techtronic's redesigned products, as Chamberlain argues. In fact, Techtronic's wireless products present practically the opposite situation as that posed by the wired products addressed in the ID. Whereas the conductive break in the opto-isolators accounted for only a *small fraction* of the entire controller-to-controller connection in the original wired products, the wireless portion of Techtronic's redesigned products now accounts for *virtually the entire controller-to-controller connection*. It is the *wired* portion in the redesigned products, not the wireless portion or the non-conducting optical gap in the opto-isolators, that now accounts for

[12] Techtronic's reply represents, albeit without support, that the conductive gap in the opto-isolators is of the order of a "nanometer-wide." Techtronic's Reply at 8.

only a small fraction of the total controller-to-controller connection, as discussed earlier. *See* RX-600C (Lipoff) at Q/A 173 (reproducing figure from RX-616, *supra*).

Notably, in the passage immediately following the one cited by Chamberlain, the ID goes on to state that "[i]t has not been alleged the entire end-to-end link is optical or non-conducting, which would create a colorable argument [of non-infringement]." ID at 135. Yet this is the very circumstance presented by Techtronic's redesigned products, where virtually "the entire end-to-end link is . . . non-conducting," *i.e.*, wireless, as Chamberlain itself admits. Chamberlain's Resp. at 1-2, 4, 15; *see also* Hr'g Tr. (Davis) at 200:1-20; Hr'g Tr. (Lipoff) at 135:22-136:18. The distinction Chamberlain attempts to draw between an "entirely wireless" connection and a "part-wired, part-wireless" connection is not meaningful either, for the reasons discussed earlier.

For all these reasons, the Commission finds that Techtronic's redesigned products do not infringe independent claims 1 or 9 of the '319 patent, either literally or under the doctrine of equivalents, because the controllers in the wireless keypad and the motor drive unit are not "connected . . . by means of a digital data bus" (*i.e.*, a conductor or group of conductors).

**2. Dependent claims 2-4, 7-8, 10-12, 15, and 16**

The remaining asserted claims – claims 2-4, 7-8, 10-12, 15, and 16 – each depend on either claim 1 or claim 9. '319 patent at 7:40-8:4 (claims 2-4), 8:11-15 (claims 7, 8), 8:22-32 (claims 10-12), 8:39-43 (claims 15, 16). Given that claims 1 and 9 are not infringed, the asserted dependent claims also are not infringed, either literally or under the doctrine of equivalents. *Ferring B.V. v. Watson Labs., Inc.*, 764 F.3d 1401, 1411 (Fed. Cir. 2014).

Dependent claims 7, 8, 15, and 16 also are not infringed for another, separate reason. Claim 7 and 15 both require that "power conductors of the data bus" provide power to the wall console from the motor drive unit. '319 patent at 8:11-13 (claim 7), 8:39-41 (claim 15). Claims

8 and 16, which depend on claims 7 and 15, respectively, require that the power conductors "convey both data and power" to the wall console. *Id.* at 8:14-15 (claim 8), 8:42-43 (claim 16).

Apart from non-infringement of claims 1 and 9, the Commission finds that the redesigned products do not infringe claims 7 and 15, literally or by equivalents, for the separate reason that Techtronic's new wireless keypad does not derive power from the motor drive unit via a digital data bus [conductor], as the claims require. RD at 46. Instead, the new wireless keypad is powered by internal, replaceable AA batteries. *Id.*; RX-0600C (Lipoff) at Q/A 177, 227-30.

Chamberlain's counter-arguments are unavailing because they conflate the wireless receiver with the keypad and because the evidence it cites in support of its argument fails to provide a sufficient explanation of why the differences between the asserted claims and the redesigned products are insubstantial. *See AquaTex Indus., Inc. v. Techniche Sols.*, 479 F.3d 1320, 1328-29 (Fed. Cir. 2007). Additionally, finding infringement under the doctrine of equivalents would vitiate the claim, because providing power through disposable batteries is diametrically different from providing power via a dedicated hardwire. *See Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1356 (Fed. Cir. 2012) ("courts properly refuse to apply the doctrine of equivalents 'where the accused device contain[s] the antithesis of the claimed structure'" (quoting *Planet Bingo, LLC v. GameTech Intern., Inc.*, 472 F.3d 1338, 1345 (Fed. Cir. 2006)); *see also* RX-0600C (Lipoff) at Q/A 177, 224, 230.

For these reasons, claims 7 and 15 are not infringed, either literally or by equivalents, for reasons separate from the disposition of claims 1 and 9. Because claims 7 and 15 are not infringed, Techtronic's redesigned products also do not infringe claims 8 and 16, which depend on claims 7 and 15, respectively. *Ferring*, 764 F.3d at 1411.

Claims 8 and 16 are also not infringed for the additional reason that the wireless keypad in Techtronic's redesigned products does not receive data from the head unit via a digital data bus, as required by the claims. RX-0600C (Lipoff) at Q/A 171. The new wireless keypad can only transmit messages to the head unit, but it cannot receive messages. *See id.*

### 3. The IPR documents considered in the RD

The Commission's non-infringement determination does not rest on any consideration of the IPR documents (RD Exhs. A-D) that provided the basis for the RD's findings. The RD acknowledges that those documents were not included on the parties' exhibit lists. RD at 43. Although at least portions of the record of the IPR proceeding are considered part of the intrinsic record of the '319 patent, the parties to this modification proceeding were not provided the opportunity to respond to or explain the specific IPR documents upon which the RD rests during the hearing, in their briefs, or at any time before the RD issued. *See* 5 U.S.C. §§ 556(d), 556(e), 557(c); FED. R. EVID. 201(e) ("On timely request, a party is entitled to be heard on the propriety of taking judicial notice and the nature of the fact to be noticed."); *see also* Chamberlain's Comments at 3, 8-10. Putting aside the applicability of judicial notice for the IPR documents in question – which are being cited for legal arguments or legal contentions contained therein – in light of our analysis above and the lack of the opportunity for parties to comment, the Commission does not rely on these documents for its determination.

Accordingly, the Commission vacates the portion of the RD (pp. 38-43) that relies upon documents that were not part of the evidentiary record of this modification proceeding or the underlying investigation and strikes those documents (RD Exhs. A-D) from the record.

## V. CONCLUSION

For the foregoing reasons, the Commission finds that Techtronic's redesigned products do not infringe the '319 patent, either literally or under the doctrine of equivalents, and thus are

not subject to the limited exclusion order and cease and desist orders issued in the underlying investigation. The Commission will issue a separate order modifying the LEO and CDOs accordingly. The Commission also vacates the portion of the RD (pp. 38-43) that relies upon documents that were not in the record of the modification proceeding or the underlying investigation and strikes those documents (RD Exhs. A-D) from the record.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: October 1, 2019

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **Opinion, Commission** has been served upon the following parties as indicated, on **October 1, 2019.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

Joseph V. Colaianni, Jr., Esq.
**FISH & RICHARDSON PC**
1000 Maine Avenue, SW
Suite 1000
Washington, DC 20024

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
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**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

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**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| | |
|---|---|
| **In the Matter of**<br><br>**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016**<br>**(Modification Proceeding)** |

# NOTICE OF THE COMMISSION'S FINAL DETERMINATION IN A MODIFICATION PROCEEDING; TERMINATION OF THE MODIFICATION PROCEEDING

**AGENCY**: U.S. International Trade Commission.

**ACTION**: Notice.

**SUMMARY**: Notice is hereby given that the U.S. International Trade Commission ("Commission") has determined to modify the remedial orders issued in the underlying investigation to exempt Respondents' redesigned wireless garage door opener products as non-infringing. The above-captioned modification proceeding is hereby terminated.

**FOR FURTHER INFORMATION CONTACT:** Carl P. Bretscher, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW, Washington, D.C. 20436, telephone (202) 205-2382. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW, Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at *https://www.usitc.gov.* The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov.* Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

**SUPPLEMENTARY INFORMATION**: The Commission instituted the underlying investigation on August 9, 2016, based on a complaint filed by The Chamberlain Group, Inc. ("Chamberlain") of Elmhurst, Illinois. 81 FR 52713 (Aug. 9, 2016). The complaint alleged a violation of 19 U.S.C. 1337, as amended ("Section 337"), in the importation, sale for importation, or sale in United States after importation of certain access control systems and components thereof that allegedly infringe one or more claims of U.S. Patent Nos. 7,161,319 ("the '319 patent"), 7,339,336 ("the '336 patent"), and 7,196,611 ("the '611 patent"). The '611 patent was subsequently withdrawn and terminated from the investigation. Order No. 28 (May 3, 2017), *not rev'd*, Comm'n Notice (May 31, 2017).

The notice of investigation named Techtronic Industries Co., Techtronic Industries North America, Inc., One World Technologies, Inc., and OWT Industries, Inc., and ET Technology (Wuxi) Co. (collectively "Techtronic") among the respondents. 81 FR 52713. Ryobi Technologies, Inc. was initially named as a respondent but was later terminated. Order No. 6

(Oct. 17, 2016), *not rev'd*, Comm'n Notice (Nov. 7, 2016). The Office of Unfair Import Investigations ("OUII") was not named as a party to the investigation. 81 FR 52713.

On October 23, 2017, the then-presiding administrative law judge ("ALJ") issued a final initial determination ("ID") in the underlying investigation, finding that Techtronic violated Section 337 by importing and selling garage door openers that infringe asserted claims 1-4, 7-12, 15, and 16 of the '319 patent. ID at 294. The ID found no infringement and hence no violation with respect to the '336 patent. *Id.* The ID found none of the claims invalid as obvious, but found claim 34 of the '336 patent invalid under 35 U.S.C. 101 ("Section 101").

The Commission did not review, and thereby adopted, the ID's findings on infringement but determined to review the ALJ's findings on invalidity. 82 FR 61792 (Dec. 29, 2017). The Commission ultimately affirmed the ID's finding that none of the claims is invalid as obvious and took no position on invalidity under Section 101. Comm'n Op. at 34-38 (Mar. 23, 2018). The Commission found a violation of Section 337 by reason of infringement of the '319 patent but not the '336 patent, and issued a limited exclusion order and cease and desist orders against Techtronic. 83 FR 13517 (Mar. 29, 2018). Chamberlain and Techtronic have cross-appealed the Commission's final determination to the U.S. Court of Appeals for the Federal Circuit. *The Chamberlain Group, Inc. v. International Trade Comm'n*, Appeal Nos. 18-2002, 18-2191 (consolidated).

On August 2, 2018, Techtronic filed a petition to institute a modification proceeding, pursuant to 19 U.S.C. § 1337(k), to determine whether its redesigned wireless garage door openers infringe the '319 patent and are covered by the remedial orders issued in the underlying investigation. Chamberlain filed its opposition to the petition on August 13, 2018.

On September 4, 2018, the Commission issued a notice of its determination to institute the modification proceeding. 83 FR 45676 (Sept. 10, 2018). OUII was not named as a party to the modification proceeding. *Id.*

After a period for fact and expert discovery, motions, and pre-hearing briefing, the chief administrative law judge ("CALJ") held an evidentiary hearing on December 12, 2018, on the issues raised by the parties. The parties filed their post-hearing briefs on December 21, 2018, and their reply briefs on January 30, 2019. In view of the partial shutdown of the federal government in January 2019, the CALJ issued an ID to revise the procedural schedule and extend the deadline for issuance of the RD from March 11, 2019, to April 22, 2019. Order No. 48 (Jan. 31, 2019). The Commission subsequently extended the target date for completion of this modification proceeding to July 22, 2019. Comm'n Notice (Mar. 4, 2019).

On April 22, 2019, the CALJ issued his RD, finding that Techtronic's redesigned garage door openers do not infringe the '319 patent and recommending that the remedial orders be modified to exempt Techtronic's non-infringing products. On May 3, 2019, Chamberlain filed comments on the RD asking the Commission to review and reverse the subject RD. Techtronic did not file a reply to Chamberlain's comments.

On June 7, 2019, the Commission determined to review the subject RD and asked the parties to submit additional briefing. Comm'n Notice at 2-3 (June 7, 2019). The parties filed their initial responses on June 20, 20-19, and their reply briefs on June 27, 2019.

Having considered the parties' submissions, the RD, and the evidence of record, the Commission has determined that Techtronic's redesigned wireless products do not infringe the '319 patent and thus are not covered by the remedial orders issued in the underlying investigation. The Commission has further determined to modify the limited exclusion order and cease and desist orders issued in that investigation to exempt Techtronic's non-infringing products. A separate modification order will be issued herewith.

The authority for the Commission's determination is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: July 22, 2019

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on **July 22, 2019.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

Joseph V. Colaianni, Jr., Esq.
**FISH & RICHARDSON PC**
1000 Maine Avenue, SW
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Washington, DC 20024

☐ Via Hand Delivery
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☐ Via First Class Mail
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**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
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☐ Via First Class Mail
☐ Other: _____

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| | |
|---|---|
| **In the Matter of**<br><br>**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016 (Modification Proceeding)** |

# NOTICE OF COMMISSION DETERMINATION TO REVIEW A RECOMMENDED DETERMINATION; SCHEDULE FOR FILING WRITTEN SUBMISSIONS ON THE ISSUES UNDER REVIEW

**AGENCY**: U.S. International Trade Commission.

**ACTION**: Notice.

**SUMMARY**: Notice is hereby given that the U.S. International Trade Commission ("Commission") has determined to review the Recommended Determination ("RD") issued in the above-captioned modification proceeding.

**FOR FURTHER INFORMATION CONTACT:** Carl P. Bretscher, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW, Washington, D.C. 20436, telephone (202) 205-2382. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW, Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at *https://www.usitc.gov.* The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov.* Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

**SUPPLEMENTARY INFORMATION**: The Commission instituted the underlying investigation on August 9, 2016, based on a complaint filed by The Chamberlain Group, Inc. ("Chamberlain") of Elmhurst, Illinois. 81 FR 52713 (Aug. 9, 2016). The complaint alleged a violation of 19 U.S.C. 1337, as amended ("Section 337"), in the importation, sale for importation, or sale in United States after importation of certain access control systems and components thereof that allegedly infringe one or more claims of U.S. Patent No. 7,161,319 ("the '319 patent") and U.S. Patent No. 7,339,336 ("the '336 patent"). A third patent, U.S. Patent No. 7,196,611, was initially asserted but later terminated from the investigation. Order No. 28 (*not reviewed*, Comm'n Notice (May 31, 2017)).

The notice of investigation named Techtronic Industries Co., Techtronic Industries North America, Inc., One World Technologies, Inc., and OWT Industries, Inc., and ET Technology (Wuxi) Co. (collectively "Techtronic") among the respondents. Ryobi Technologies, Inc. was

initially named as a respondent but was later terminated. Order No. 6 (*not reviewed*, Comm'n Notice (Nov. 7, 2016)). The Office of Unfair Import Investigations was not named as a party.

On October 23, 2017, the then-presiding administrative law judge ("ALJ") issued a final initial determination ("ID") in the original investigation, in which he found that Techtronic violated Section 337 by importing garage door openers that infringe the asserted claims of the '319 patent. The ID found no infringement and hence no violation with respect to the '336 patent. The ID found none of the claims invalid as obvious, but found claim 34 of the '336 patent invalid under 35 U.S.C. 101 ("Section 101").

On December 22, 2017, the Commission determined to review in part the ALJ's findings on non-obviousness but not infringement. 82 FR 61792 (Dec. 29, 2017). The Commission ultimately affirmed the ID's finding that none of the claims is invalid as obvious and took no position on invalidity under Section 101. The Commission found a violation of Section 337 by reason of infringement of the '319 patent but not the '336 patent, and issued a limited exclusion order and cease and desist orders against Techtronic. 83 FR 13517 (Mar. 29, 2018); Comm'n Op. at 1-2, 13-31, 35-36 (Mar. 23, 2018). Chamberlain and Techtronic have cross-appealed the Commission's final determination to the U.S. Court of Appeals for the Federal Circuit. *The Chamberlain Group, Inc. v. International Trade Comm'n*, Appeal Nos. 18-2002, 18-2191 (consolidated).

On August 2, 2018, Techtronic filed a petition with the Commission to institute a modification proceeding to determine whether its redesigned wireless garage door openers infringe the '319 patent and are covered by the Commission's remedial orders. Chamberlain filed its opposition to the petition on August 13, 2018. On September 4, 2018, the Commission issued a notice of its determination to institute the modification proceeding. 83 FR 45676 (Sept. 10, 2018); Comm'n Order (Sept. 9, 2018).

On December 12, 2018, the chief administrative law judge ("CALJ") held an evidentiary hearing on the issues raised by the parties. The parties filed their post-hearing briefs on December 21, 2018, and their reply briefs on January 30, 2019. In view of the partial shutdown of the federal government in January 2019, the CALJ issued an ID (Order No. 48) on January 31, 2019, to revise the procedural schedule and extend the deadline for issuance of the RD from March 11, 2019, to April 22, 2019. The Commission determined not to review the ID and extended the target date for completion of this modification proceeding to July 22, 2019. Comm'n Notice (Mar. 5, 2019).

On April 22, 2019, the CALJ issued the subject RD recommending modification of the remedial orders so that they do not apply to Techtronic's redesigned garage door openers. The CALJ, in making this recommendation, took judicial notice of briefs and other legal documents that were submitted during the U.S. Patent and Trademark Office's *inter partes* review ("IPR") of the subject '319 patent but were not admitted into the record in the present proceeding. On May 3, 2019, Chamberlain filed its comments on the RD asking the Commission to review and reverse the subject RD. Techtronic did not file a reply to Chamberlain's comments.

The Commission has determined to review the subject RD. The Commission asks the parties to provide additional briefing on the following issues regarding the '319 patent:

A. Please explain whether the wireless connection between the wall console and head unit in Techtronic's redesigned garage door openers is "a conductor or group of conductors which convey[s] digital data," which is the present construction of a "digital data bus."

B. Explain whether the arguments Chamberlain made regarding the digital data bus and wireless connections in the documents from the *inter partes* review ("IPR") (RD Exs. A-D), as discussed in the RD at 39-45, are substantially the same as the arguments Chamberlain made about those subjects in documents in this investigation's evidentiary record from earlier in the IPR proceedings, during the patent's prosecution history, or elsewhere. If those arguments are substantially different, explain how they differ from Chamberlain's earlier arguments.

The parties are asked to brief only the discrete issues identified above, with reference to the applicable law and evidentiary record. The parties are not to brief any other issues on review, which have already been adequately presented in the parties' previous filings. For each argument presented, the parties' submissions should set forth whether and/or how that argument was presented and preserved in the proceedings before the CALJ or ALJ, in conformity with the CALJ's Ground Rules (Order No. 38), with citations to the record. For purposes of this review, the parties may cite only to material that was included in the evidentiary record submitted in the underlying investigation or modification proceeding.

Written submissions must be filed no later than the close of business on June 20, 2019. Reply submissions must be filed no later than the close of business on June 27, 2019. Opening submissions are limited to 25 pages. Reply submissions are limited to 20 pages. No further submissions on any of these issues will be permitted unless otherwise ordered by the Commission.

Persons filing written submissions must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day, pursuant to section 210.4(f) of the Commission's Rule of Practice and Procedure (19 CFR 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1016 (Modification Proceeding)") in a prominent place on the cover page and/or first page. (*See* Handbook for Electronic Filing Procedures, *https://www.usitc.gov/documents/handbook_on_filing_procedures.pdf*). Persons with questions regarding filing should contact the Secretary (202-205-2000).

Any person desiring to submit a document to the Commission in confidence must request confidential treatment. All such requests should be directed to the Secretary to the Commission and include a full statement of the reasons why the Commission should grant such treatment. *See* 19 CFR 201.6. Documents for which confidential treatment by the Commission is properly sought will be treated accordingly. All information, including confidential business information and documents for which confidential treatment is properly sought, submitted to the Commission for purposes of this Investigation may be disclosed to and used: (i) by the Commission, its employees and Offices, and contract personnel (a) for developing or maintaining the records of this or a related proceeding, or (b) in internal investigations, audits, reviews, and evaluations

relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or (ii) by U.S. government employees and contract personnel[1] solely for cybersecurity purposes. All non-confidential written submissions will be available for public inspection at the Office of the Secretary and on EDIS.

The authority for the Commission's determination is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: June 7, 2019

[1] All contract personnel will sign appropriate nondisclosure agreements.

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on **June 7, 2019.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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Suite 1000
Washington, DC 20024

☐ Via Hand Delivery
☐ Via Express Delivery
☒ Via First Class Mail
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**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

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☒ Via First Class Mail
☐ Other: _____

*Public Version*

**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**Washington, D.C.**

| **In the Matter of** | **Inv. No. 337-TA-1016** |
|---|---|
| **CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **(Modification Proceeding)** |

# RECOMMENDED DETERMINATION

(April 22, 2019)

## I. BACKGROUND

On March 23, 2018, the Commission issued a limited exclusion order and cease and desist orders in the above-captioned investigation. The limited exclusion order prohibits the unlicensed entry of access control systems and components thereof: (1) manufactured by or on behalf of Respondents Techtronic Industries Co. Ltd.; Techtronic Industries North America Inc.; One World Technologies, Inc.; OWT Industries, Inc.; and Et Technology (Wuxi) Co., Ltd. (collectively, "Respondents"); and (2) covered by one or more of claims 1-4, 7-15, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent"). (*See* Limited Exclusion Order, EDIS Doc. No. 639784 (March 23, 2018).) The cease and desist orders: (1) were directed to Techtronic Industries Co. Ltd., Techtronic Industries North America Inc., OWT Industries, Inc., and One World Technologies, Inc.; and (2) order the aforementioned respondents from importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for access control systems and components thereof covered by one or more of claims 1-4, 7-15, 15, and 16 of the '319 patent. (*See* Cease and Desist Orders, EDIS Doc. Nos. 639775, 639780, 639779, 639770 (March 23, 2018).)

Subsequently, on August 2, 2018, Respondents petitioned the Commission for a modification proceeding to "determine whether the redesigned models of the Ryobi® Ultra-Quiet Garage Door Opener and components thereof (the 'Redesigned GDOs') are covered by the Limited Exclusion Order ('LEO') and Cease-and-Desist Orders ('CDO') (collectively, the 'Remedial Orders') issued by the Commission in the above-captioned Investigation" (hereafter, "Petition"). (EDIS Doc. No. 652005 at 1.) On the same day, Respondents filed a supplement to their petition to "apprise the Commission of the results of proceedings before Customs regarding Respondents' redesigned garage door openers." (EDIS Doc. No. 652000 at 1.)

On August 13, 2018, CGI filed its opposition to Respondents' Petition. (EDIS Doc. No. 652865.) On August 21, 2018, Respondents moved for leave to reply to CGI's opposition (EDIS Doc. No. 653554), and on August 30, 2018, moved for leave to file a second supplement intended to "apprise the Commission of inconsistent statements made by Complainant just days ago in connection with IPR proceedings regarding the '319 patent" (EDIS Doc. No. 654366 at 1.)

In its Order of September 5, 2018, the Commission instituted the present modification proceeding "to determine what, if any, modifications to the limited exclusion order and/or the cease and desist orders issued in this investigation are appropriate." (EDIS Doc. No. 654670.) The Commission further ordered:

> The presiding Administrative Law Judge may conduct appropriate proceedings and issue a recommended determination on modification of the limited exclusion order and cease and desist order. The recommended determination shall issue within (6) months after the publication of notice of this Order in the Federal Register.
>
> The ALJ, in his/her discretion, may conduct any proceedings he/she deems necessary, including issuing a protective order, seeking documents, ordering discovery, taking evidence, holding hearings, and seeking documents from other agencies consistent with Commission rules to issue the recommended determination on modification of the remedial orders.

(*Id.*) Also on September 5, 2018, the modification proceeding was assigned to the undersigned. (EDIS Doc. No. 654822), and its institution was published in the Federal Register on September 10, 2018. *See* 83 Fed. Reg. 45676-7. On September 24, 2018, the undersigned set a procedural schedule for the proceeding, which included a discovery period followed by an evidentiary hearing on December 12-13, 2018, and a Recommended Determination deadline of March 11, 2019. (*See* Order No. 40.)

Shortly after institution, on September 13, 2018, Respondents moved the Commission for a partial stay of the limited exclusion and cease and desist orders based on perceived inconsistencies in statements made by CGI regarding '319 patent claim coverage in separate proceedings before the United States Patent and Trademark Office ("USPTO") and Customs and Border Patrol ("CBP"). (EDIS Doc. No. 655616 at 1-2.) On September 24, 2018, CGI filed its opposition to Respondents' motion. (EDIS Doc. No. 656673.) In turn, on September 28, 2018, Respondents moved for leave to file a reply to CGI's opposition (EDIS Doc. No. 657207.) The Commission denied Respondents' motion on October 10, 2018. (EDIS Doc. No. 658497.)

Per the procedural schedule, the undersigned held an evidentiary hearing on December 12, 2018. On December 21, 2018, the parties filed their initial post-hearing briefs, and on January 30-31, 2019, filed their reply post-hearing briefs. On January 31, 2019, Respondents moved (1016-062) to strike certain portions of CGI's post-hearing brief for failure to comply with previous Order No. 46 and Ground Rule 9.2. The undersigned granted-in-part Respondents' motion on February 12, 2019 with Order No. 49, and ordered CGI to file a revised post-hearing brief which it did on February 14, 2019.[1] Also on January 31, 2019, the undersigned extended the

[1] For convenience, the briefs submitted by the Parties are referred to hereafter as:

deadline for the recommended determination to April 22, 2019 in light of the government shutdown (Order No. 48) which was not reviewed by the Commission (EDIS Doc. No. 668944).

Apart from this proceeding, and as referenced above, Respondents petitioned the USPTO for *inter partes* review ("IPR") of the '319 patent on October 25, 2016 (IPR2017-00126, Dkt. No. 1), which instituted on May 4, 2017 (*see* RIB at 4; IPR2017-00126, Dkt. No. 8). On October 17, 2018, Respondents filed a letter informing the undersigned that the Patent Trial and Appeal Board ("PTAB") of the USPTO had issued its Final Written Decision finding that claims 1-4, 7, 9-12, and 15 of the '319 are invalid. (EDIS Doc. No. 659129.) Respondents' letter attached a copy of that decision as Exhibit A. The next day, October 18, 2018, CGI filed a responsive letter contending, *inter alia*, the Final Written Decision is irrelevant to the present modification proceeding. (EDIS Doc. No. 659288 at 1.)

Additionally, and as referenced in their first supplement to the petition for this modification proceeding, Respondents approached the Intellectual Property Rights Branch ("IPRB") of CBP following the issuance of the limited exclusion and cease and desist orders for an administrative ruling that the Redesigned GDOs are not covered by these remedial orders. (*See* EDIS Doc. No. 652000 at 1.) The supplement reports that the IPRB issued its final ruling on July 20, 2018, finding that the Redesigned GDOs are subject to those remedial orders. During the evidentiary hearing of December 12, 2018, counsel informed the undersigned that Respondents

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|---|---|
| CIB | CGI's Revised Initial Post-Hearing Brief |
| CRB | CGI's Reply Post-Hearing Brief |
| RIB | Respondents' Initial Post-Hearing Brief |
| RRB | Respondents' Reply Post-Hearing Brief |
| Hr'g Tr. | Evidentiary Hearing transcript |

appealed the IPRB ruling to the Court of International Trade ("CIT") (Hr'g Tr. at 65:21-23, 66:20-67:2); and, in connection with their initial post-hearing brief filed on December 21, 2018, Respondents informed the undersigned that the CIT, on December 14, 2018, issued a preliminary injunction ordering CBP to release a shipment of detained Redesigned GDOs based on a determination that these products do not infringe the "connected . . . by means of a digital data bus" claim limitation of the '319 patent (*see* RIB at 4-5). Respondents' reply post-hearing brief, filed January 30, 2019, attached the confidential version of the CIT's December 14, 2018 decision as an appendix. (RRB, Appendix A.)

## II. DISCUSSION

The Commission's Rules provide that:

> Whenever any person believes that changed conditions of fact or law, or the public interest, require that an exclusion order, cease and desist order, or consent order be modified or set aside, in whole or in part, such person may request, pursuant to section 337(k)(1) of the Tariff Act of 1930, that the Commission make a determination that the conditions which led to the issuance of an exclusion order, cease and desist order, or consent order no longer exist. The Commission may also on its own initiative consider such action.

19 C.F.R. § 210.76(a)(1). The Commission may then institute, and delegate to an administrative law judge, a proceeding to modify or rescind the exclusion order, cease and desist order, or consent order. 19 C.F.R. § 210.76(b). The decision of the administrative law judge shall be in the form of a recommended determination. *Id.*

In its petition to the Commission, Respondents' argued that changed conditions of fact warranted modifying the limited exclusion and cease and desist orders against them. Specifically, Respondents argued:

> The '319 patent describes a *wired* connection between a wall-mounted control unit in a garage and the motorized "head unit" on the ceiling which drives the door to

> open or close. The redesigned products avoid the patent claims—and are thus outside the scope of the exclusion orders—because the wall unit and head units communicate via a *wireless* connection.

(EDIS Doc. No. 651995 at 5 (emphasis in original).) Respondents rested their position in part on the perception that:

> At both the ITC and during parallel *inter partes* proceedings, Complainant made clear that only a wired connection between the wall console and the head unit would infringe the '319 patent and that a wireless connection would not infringe. As such, according to Complainant's unambiguous positions in prior proceedings, a wireless system such as that in the redesign product cannot infringe.

(*Id.* at 6; *see id.* at 7-8.) Respondents repeat this overall contention in their post-hearing briefing:

> Undisputed evidence shows the Redesigned GDOs use a wireless keypad and wireless communications between the keypad and the overhead unit. There are no conductors that extend from a microcontroller in the keypad to a microcontroller in the overhead unit. The Redesigned GDOs do not infringe the '319 patent.

(RIB at 1.)

Regarding the changed circumstance surrounding their products, Respondents explain:

> The Original GDOs' at issue in the violation phase had a fully wired connection between a microcontroller on the Wi-Fi board located inside the head unit and the indoor keypad's microcontroller. RX-600C (Lipoff) at Q&A 162; *see also id.* at Q&A 164-69 (discussing circuit diagrams); RX-601C (Huggins) at Q&A 35, 37-38; RX-235C; RX-252C; RX-694C; RX-261 at ITC-TTI00005832; Hr'g Tr. (Davis) 199:22-25. The Original GDOs implemented a two-way communication design, allowing the keypad to send information to the head unit (*e.g.*, in response to a keypress), and the head unit to send signals to the indoor keypad (*e.g.*, acknowledgement signals).

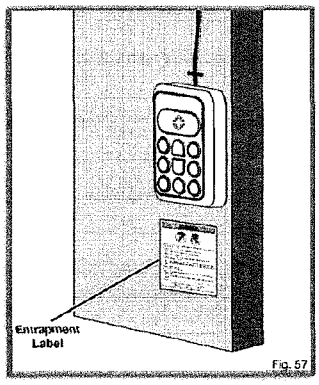
(*Id.* at 6.) Respondents continue:

> Based on CGI's statements that the '319 patent does not cover wireless communications or a wireless keypad design, the redesign eliminated the previous indoor keypad and the wired connection between the head unit's controller and the indoor keypad's controller, and instead implemented a wireless keypad that uses RF to wirelessly transmit information to a new wireless receiver located at the head unit. RX-601C (Huggins) at Q&A 20- 22, 35-44; *see also* RX-261 at ITC-TTI000005832 (old wired keypad); RX-609 at ITC-MOD- 00000499 (new wireless keypad); RX-616, RX-618 (new keypad manuals); RX-610.

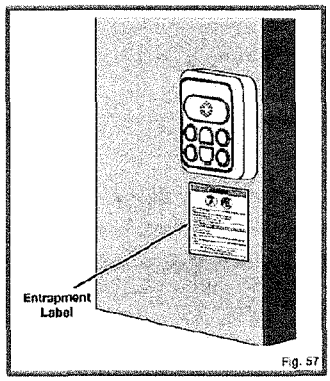
> The Redesigned GDOs' new wireless indoor keypad is designed to be mounted onto the wall of the garage, and powered by two AA batteries that the user must insert into the back of the keypad. RX-600C (Lipoff) at Q&A 176-77; RX-601C (Huggins) at Q&A 20, 40-41; RX-616, RX-618 (installation manuals); RX-610; RDX-1206 (illustrating RX-616, RX-618, RX-610). Because the indoor keypad uses RF signals to communicate to the wireless receiver, there is no wired connection between the wireless indoor keypad and any other component, including the wireless receiver. RX-600C (Lipoff) at Q&A 178; RX-601C (Huggins) at Q&A 39, 42-48; RX- 617C, RX-619C (new keypad circuit diagrams); Hr'g Tr. (Davis) at 200:16-20 (admitting there is no wired connection between the controllers in the keypad and head unit).

(*Id.*) The nature of the Redesigned Products is best shown by the following imagery included in the testimony of Respondents' expert, Mr. Lipoff:

**Old GDO Design**

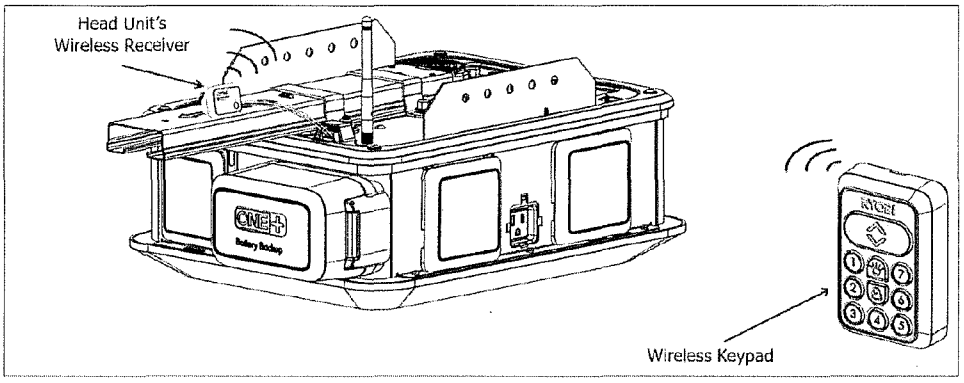



**Redesigned GDOs**



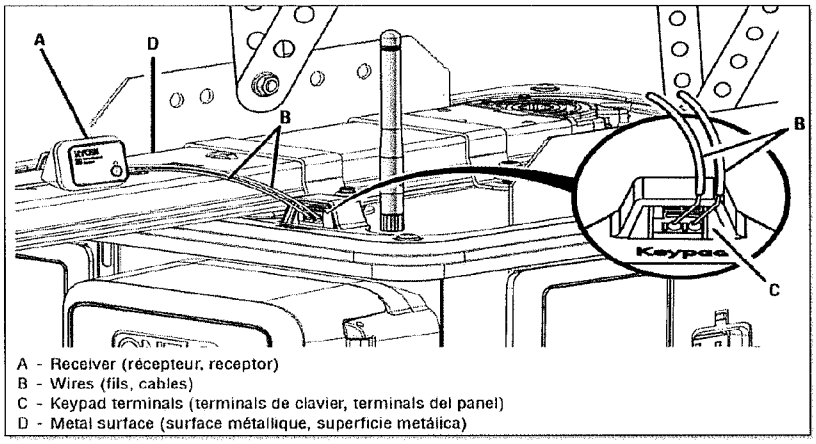

**RX-261 at ITC-TTI00005832; RX-609 at ITC-MOD-00000499**

(RX-0600C at Q171 (citing RDX-1153; RX-0261 at -5832; RX-0609 at -499));




**RX-614; RX-616**

(*Id.* at Q178 (citing RDX-1161; RX-0614; RX-0616));




RX-614 at ITC-MOD-TTI-00000542; *see also* RX-609 at ITC-MOD-TTI-00000469

(*Id.* at Q173 (citing RDX-1157; RX-0614 at -542; RX-0609 at -469); *see* CX-1656C at Q51). As shown, these products include an indoor keypad which communicates wirelessly with a receiver attached to the head unit, where the receiver is attached to the head unit through a pair of wires. Thus, there is no physical, wired, connection between the indoor keypad and the head unit. (*See id.* at Q85; CX-1656C at Q51, 54, 62.)

Accordingly, Respondents' non-infringement position is based in the contention that the '319 patent claims require a fully wired connection between the claimed microcontrollers or controllers through the limitation "said microcontroller [or controller] of said motor drive unit being connected to the microcontroller [or controller] of the wall console by means of a digital data bus." (*See* RIB at 9-10; '319 patent at cls. 1, 9.) Respondents acknowledge the previously determined construction of "digital data bus" as "a conductor or group of conductors which conveys digital data" (*id.* at 8 (citing Initial Determination on Violation, Inv. No. 337-TA-1016 at 121-128 (October 23, 2017) (hereafter, "1016 ID"))) but argue the present non-infringement question turns on the claim language "being connected . . . by means of a digital data bus" (*id.* at

8-9). Respondents contend this "being connected . . . by means of a digital data bus" language has yet to be construed. (*Id.* at 25 ("[t]he plain and ordinary meaning of the unconstrued claim language . . . requires a conductor or group of conductors which conveys digital data that extends from the microcontroller [or controller] in the motor drive unit to the microcontroller [or controller] in the wall console").)

In support of their interpretation of "being connected . . . by means of a digital data bus" as requiring a fully-wired connection, Respondents rely heavily on various statements made by CGI and its expert during the original investigation on violation, the *inter partes* review proceedings before the PTAB, evidence intrinsic to the '319 patent itself such as its specification, claims, and prosecution history, as well as other extrinsic evidence. (*See id.* at 9-10.)

Specifically, and regarding the violation phase of the investigation, Respondents point to testimony from CGI's corporate witness and '319 patent inventor, Mr. Fitzgibbon, that "the '319 patent is directed to a 'wire connected digital data bus.'" (*Id.* at 11 (citing RX-0691C at 270:20-271:3; RX-0600C at Q74).) Respondents also point to testimony from CGI's expert witness, Dr. Davis, at the prior evidentiary hearing and prior deposition, reproduced below:

> Q. You'll agree with me that the '319 patent does not claim a wirelessly connected wall console; correct?
>
> A. That's correct.
>
> Q. And, in fact, the '319 patent claims are limited to a wired connection between the microcontroller of the wall console and the microcontroller of the motor drive unit; correct?
>
> A. Yes.

(*id.* (citing RX-0700 at 1079:13-20);

> Q. Sorry. Is the connection between the microcontroller of the wall console and the microcontroller of the motor drive unit a wired connection?

A. That's what's envisioned, I believe.

Q. And that's – when you say "that's what's envisioned," the claim covers a wired connection between the two microcontrollers.

A. I believe it does.

Q. And it doesn't include wireless, such as RF communication. Correct?

A. No.

Q. And how do you know that?

A. I don't see that supported in the claim language.

(*id.* at 11-12 (citing RX-0695C at 88:8-89 [sic])). Respondents claim "Dr. Davis's rebuttal also distinguished the prior art transmitters because they were not 'physically connected to the head-end of the [GDO] with a digital data bus.'" (*Id.* at 13 (citing RX-0702C at Q232; RX-0600C at Q79).)

Respondents further cite statements from CGI itself as contained in its pre and post-hearing briefing from the violation phase that "'all '319 patent claims relate to wired digital communications between a garage door opener's wall console and head unit'" (*id.* at 12 (citing RX-0628C at 5; RX-0629C at 4-5; RX-0600C at Q75-76)) and "prior art's wireless transmitters were 'irrelevant' to the claims because they are not 'wired to the head unit, which claims 1 and 9 also require of the 'wall console'" (*id.* (citing RX-0628C at 67; RX-0600C at Q77)). Respondents argue CGI now seeks to reclaim this claim scope to cover the Redesigned GDOs—which is inconsistent and improper. (*Id.* at 13 (citing *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001); RX-0600C at Q81-82).) Respondents contend CGI "should be estopped from arguing that the wireless keypad and its wireless communication with the head unit

infringe the '319 patent" (*id.*), and note that additional examples of such statements are discussed in the expert witness statement of Mr. Lipoff (*see id.* at 11 (referring to RX-0600C at Q67-81)).

Respondents also rely on statements made during *inter partes* review of the '319 patent before the PTAB and argue they should be considered intrinsic evidence as to the meaning of "being connected . . . by means of a digital data bus." (*Id.* at 13-14 (citing, *inter alia*, *Aylus Networks, Inc. v. Apple, Inc.*, 856 F.3d 1353, 1362 (Fed. Cir. 2017); *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004); *Hockerson-Halberstadt v. Avia Grp. Int'l*, 222 F.3d 951, 957 (Fed. Cir. 2000)).) In that proceeding, Respondents allege CGI's expert admitted "that 'sending wireless signals would *not* qualify as conveying signals over a 'digital data bus' as required by the '319 patent, and the claims do not cover a wireless keypad.'" (*Id.* at 14.) Specifically, Respondents cite the following from the expert's deposition:

> Q. So within the confines of the '319 patent, would sending signals, digital signals using radio frequency or other wireless means, be conveying digital signals over a digital data bus?
>
> A. In my opinion, no.

(*id.* at 14-15 (citing RX-0606 at 65:3-8; RX-0600C at Q68)); and characterize other statements as "clearly admit[ting] that wireless outdoor keypads in traditional garage door openers are not covered by the '319 patent" (*id.* at 15 (citing RX-0606 at 126:25-127:15, 127:19-128:4; RX-0600C at Q69-71)). Respondents highlight similar statements from CGI's counsel during oral argument before the PTAB, where it was allegedly "confirmed [that] a wireless remote transmitter, even if mounted to a wall, would not qualify as a wall console because 'it's not attached to anything'" (*id.* (citing RX-0605 at 28:21-29:16)) and that a wireless remote transmitter attached to a wall "would not be connected by means of a digital data bus, as required by the patent, because it is not

'connected directly through a digital data bus to the head unit'" (*id.* (citing (RX-0605 at 29:10-16; RX-0600C at Q73)).

Respondents reason, through their expert, that these statements constitute "clear and unmistakable representations that the '319 patent's claims are limited to a fully wired connection between a controller in a wall-mounted control unit and a second controller in a motor drive unit, and do not cover wireless communications or a wireless keypad, such as that utilized by the Redesigned GDOs." (*Id.* at 15-16 (citing RX-0600C at Q68-73, 83, 89).) Respondents contend "[t]hese statements must be considered when determining the proper construction of the claims." (*Id.* at 21 (citing *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1336 (Fed. Cir. 2011); *Aylus Networks*, 856 F.3d at 1361; *Hockerson-Halberstadt*, 222 F.3d at 957).) Respondents also remark that "[t]he PTAB found that Dr. Davis's statements were an admission that wireless keypads are not covered by the '319 patent because 'a wireless keypad does not communicate with a motor drive unit over a wired communications link.'" (*Id.* at 15 (citing RX-0704C at 77).)

Respondents then turn to more traditional intrinsic evidence, such as the specification, claims, and pre-IPR prosecution history of the '319 patent, to support their interpretation of "being connected . . . by means of a digital data bus." Respondents observe that a fully wired connection is the only "digital data bus" disclosed in the '319 patent (*id.* at 16 (citing '319 patent at 4:5-9, 4:29-32, Figs. 1, 2; RX-0600C at Q85; Hr'g Tr. at 186:21-187:5, 188:9-13)) and argue it is the only connection "consistent with the 'present invention' disclosed in the specification, which states that the ability to 'quickly and easily retrofit' existing garage door openers with a fully wired connection with its new wall console is 'a principal aspect of the present invention'" (*id.* (citing '319 patent at 2:64-67, 2:4-8; RX-0600C at Q86; Hr'g Tr. at 199:22-25); *see id.* at 17-18 (citing JX-0008 at 43535-64; RX-0600C at Q87-89)).

Turning to extrinsic evidence, Respondents rely on their expert for an opinion that the plain and ordinary meaning of "connect" is to "bring together or into contact" based on various dictionaries. (*Id.* at 18 (citing RX-0600C at Q94; RX-0705; RX-0706; RX-0707).) Similarly, Respondents argue through their expert that the claim term "by means of" "specifies the structure that is doing the 'connecting'"—the "digital data bus." (*Id.* (citing RX-0600C at Q94).) Thus, Respondents and their expert contend "connected . . . by means of a digital data bus" "requires a conductor or group of conductors which conveys digital data *that extends* from the microcontroller [or controller] in the motor drive unit to the microcontroller [or controller] in the wall console." (*Id.* (citing RX-0600C at Q94) (emphasis added).)

Respondents continue to argue that should "being connected . . . by means of a digital data bus" be found to be ambiguous after all intrinsic evidence is considered, then the claims should be construed not to read on the prior art. (*Id.* (citing *Ruckus Wireless, Inc. v. Innovative Wireless Sols., LLC*, 824 F.3d 999, 1004 (Fed. Cir. 2016)).) Under this circumstance, according to Respondents, "being connected . . . by means of a digital data bus" cannot simply require "the presence of some conductor at any point in the communication pathway between the microcontrollers [or controllers] of the motor drive unit and wall console" because it would "run the asserted claims straight into the prior art." (*Id.* at 19 (citing RX-0600C at Q92-93, 95-138).) Regarding the prior 1016 ID, Respondents contend that any comments therein which may appear to support this broader construction are in fact *dicta* and not controlling under *Orenshteyn v. Citrix Sys., Inc.*, 691 F.3d 1356, 1361 (Fed. Cir. 2012) and *Thomson, S.A. v. Quixote Corp.*, 166 F.3d 1172, 1176 n.5 (Fed. Cir. 1999). (*See id.* at 21-22 (referring to 1016 ID at 134-135).) Respondents explain:

The ALJ's comments regarding opto-isolators addressed a distinct situation of

> optical communication between two circuit boards located *within* the head unit; the ALJ did not address—or even consider—a system that uses a wireless keypad to wirelessly transmit signals to a receiver at the head unit.
>
> . . . .
>
> In particular, during the violation phase, Respondents argued that the "motor drive unit" was not the entire head unit, but rather was limited to the particular controller located within the Original GDOs' head unit that controlled the motor, on the "GDO Board." ID at 134-35; Hr'g Tr. (Lipoff) at 130:21-131:5; RX-600C (Lipoff) at Q&A 147. Respondents further argued that there was no wired connection extending from the microcontroller on the GDO Board (*i.e.*, part of the "motor drive unit" under Respondent's then-proposed construction) to the microcontroller of the wall console because an optical component was used to communicate data between the GDO Board and the Wi-Fi Board. RX-600C (Lipoff) at Q&A 147. The ALJ rejected these arguments because he interpreted the "motor drive unit" to be coextensive with, or at least include, the entire head unit.
>
> . . . .
>
> After finding infringement, however, ALJ Pender continued on and commented that, even under Respondents' interpretation, the presence of "opto-isolators does not negate the presence of 'conductors' also in the communication link, which is all the claim requires." ID at 135. Mr. Lipoff explained that the ALJ's *dicta* statements are unclear because he did not explain the rationale for his comments. rationale for his comments. RX-600C (Lipoff) at Q&A 147. "For example, he did not specify what 'communication link' he was referring to—*e.g.*, the communication link between the GDO Board's controller and Wi-Fi Board's controller, between the wall console and head unit, between the wall console and GDO Board controller, *etc.*" *Id.* Mr. Lipoff explained that "[t]he term 'communication link' is not found in the claims or elsewhere in ALJ Pender's infringement discussion and is unclear what he was referring to." *Id.* Mr. Lipoff also testified that it was likely ALJ Pender was discussing the wired "link between the wired wall console and the head unit, not the communications link that I cite as the non-infringement position"—*i.e.*, the link between the controllers within the head unit. Hr'g Tr. (Lipoff) at 155:14-156:10. In either event, the ALJ's comments were not issued as part of any claim construction that he adopted. RX-600C (Lipoff) at Q&A 148. Thus, the ALJ's *dicta* comments certainly were not "adopted by the Commission," as CGI and Dr. Davis suggest. *See* Hr'g Tr. (Davis) at 180:1-9, 181:2-25.

(*Id.*) Respondents add that even if the presiding ALJ's comments are considered for their substance, they do not support part-wired, part-wireless claim scope for "being connected . . . by means of a digital data bus" because it would effectively read out that limitation from the claims

because, as explained by Respondents' expert, "any system, including wireless systems, will have a conductor at some point in the communication pathway between two controllers in separate components." (*See id.* at 23-24 (citing RX-0600C at Q149-153; Hr'g Tr. at 197:7-10, 197:13-19, 197:20-198:18).)

Accordingly, under their interpretation of "being connected . . . by means of a digital data bus," Respondents conclude their Redesigned GDOs do not infringe claims 1 and 9 of the '319 patent, either literally or by doctrine of equivalents. (*See id.* at 24-29.)

For literal infringement, Respondents state "[t]he Redesigned GDOs do not meet this limitation because they use a wireless indoor keypad that is not 'connected . . . by means of a digital data bus' to *any* other component of the GDOs." (*Id.* at 25 (emphasis in original).) Respondents allege "Dr. Davis conceded this wireless link is not a 'digital data bus,' and that 'the controller in the keypad is not physically connected via a dedicated wired connection to any controller in the head unit.'" (*Id.* at 26 (citing Hr'g Tr. at 191:11-192:2, 200:16-20).) Respondents further clarify that, "[f]or the purposes of this proceeding, [they] are not disputing the remaining claim elements" of claims 1 and 9 (*id.* at 25, n.5.); and that dependent claims 7, 8, 15, and 16 are also not literally met as they recite "power for the wall console is provided from the drive unit" and it is undisputed the Redesigned GDO wireless keypads are battery powered (*id.* at 26 (citing Hr'g Tr. at 202:10-15, 203:10-15; RX-0600C at Q193-196, 206-209; RX-0601C at Q40-41; RX-0616; RX-0618).)

For doctrine of equivalents, Respondents first argue that CGI is estopped from arguing that the claims cover a wireless keypad based on the statements it made before the PTAB. (*Id.* at 27 (citing RX-0600C at Q68-73, 217-218, 230, 234).) Regardless, Respondents argue the

"functions," under a function-way-result test, are not substantially the same because the claimed function is not, as CGI contends, to "accomplish[] digital communications between the microcontroller of the motor drive unit and the microcontroller of the wall console" (*id.* (citing CX-1656C at Q94-95)), but rather to "'connect the controller (microcontroller) in the motor drive unit to the controller (microcontroller) in the wall console.'" (*Id.* (citing RX-0600C at Q220-221).) Accordingly, according to Respondents, "[t]he Redesigned GDOs do not perform this function because there is no digital data bus that connects the indoor keypad's microcontroller to any other component, let alone the motor drive unit controller." (*Id.* (citing RX-0600C at Q220-221).) Respondents suggest finding otherwise would vitiate the "being connected . . . by means of a digital data bus" claim language. (*Id.* (citing *Lockheed Martin Corp. v. Space Systems/Loral, Inc.*, 324 F.3d 1308, 1321 (Fed. Cir. 2003)).) Respondents also contend "the '319 patent describes its wired digital data bus connection as allowing for two-way, digital communication between the wall console and motor drive unit, and for the motor drive unit to supply power to the wall console" whereas the Redesigned GDOs are only enabled to allow one-way communication from the wall console to the head unit. (*Id.* at 27-28 (citing RX-0600C at Q221; RX-0520C at 262:22-263:3, 276:2-280:5; Hr'g Tr. at 186:21-187:1).)

Respondents make a similar argument with the respect to the way the function is accomplished and the result. In the "way" context, Respondents describe the patent claims as requiring "a connection that *is* by a digital data bus" whereas the Redesigned GDOs "do not have a 'digital data bus' connecting the microcontrollers of the indoor keypad and motor drive unit, and instead use a wireless indoor keypad that broadcasts signals received by a wireless receiver at the head unit." (*Id.* at 28 (citations omitted) (emphasis in original).) In the "result" context,

Respondents describe the 319 patent's result as "'having the controller (microcontroller) in the motor drive unit and the controller (microcontroller) in the wall console *be connected* by a digital data bus'" (*id.* at 29 (citing RX-0600C at Q225) (emphasis in original)), but "the Redesigned GDOs cannot produce this result, as there is no 'connection . . . by means of a digital data bus' between the wall console's microcontroller and any microcontroller in the head unit" (*id.* (citing (citing RX-0600C at Q225-226; Hr'g Tr. at 201:6-202:15; RX-0601C at Q41, 63-64)).

Finally, Respondents add that there can be no infringement for doctrine of equivalents for dependent claims. (*Id.* at 29-30.) Respondents argue, through their expert, that the claimed function of claims 7, 8, 15, and 16 "'actually requires supplying power to the wall console from the motor drive unit via power conductors of the wired connection, not merely 'components of the communication path, as CGI suggests.'" (*Id.* at 30 (citing RX-0600C at Q228, 232).) As the "Redesigned GDOs' indoor keypad is battery powered and gets no power from the head unit," Respondents argue, they "do not perform anything like the claimed function, let alone in the same way, and to find infringement under the doctrine of equivalents 'would entirely vitiate the limitations of claims 7, 8, 15, and 16." (*Id.* (citing Hr'g Tr. at 202:10-15; *Lockheed*, 324 F.3d at 1321).) Respondents present the same argument regarding the "result" of the claim limitation, in that the "result" must be the wall console being powered from the motor drive unit—a circumstance "undisputedly" not found in the Redesigned GDOs. (*See id.*)

In their reply brief, Respondents reference how "[t]hree bodies have now considered whether the '319 patent covers wireless keypads, as used in the Redesigned GDOs: (i) the PTAB, (ii) Customs' IPRB branch, and (iii) the CIT" and "[t]he PTAB and CIT both agreed with

Respondents that—particularly in light of CGI's numerous admissions—the '319 patent cannot be read to cover wireless keypads." (RRB at 2.) In particular, Respondents remark:

> Although Customs initially sided with CGI, the CIT reversed that decision, finding that Customs failed to consider CGI's prior statements or prosecution history disclaimer and lacked "'thoroughness, logic and expertness' with respect to [TTi's] contentions[.]" *One World Techs. Inc. v. U.S.*, No. 18-cv-200, ECF 071, 082 at 15 (C.I.T. Dec. 14, 2018) (*See* Appendix).

(*Id.*) Respondents add "[a]lthough CGI criticizes the CIT decision, it notably fails to identify any specific error in the CIT's claim construction or its analysis of the Redesigned GDOs." (*Id.* (citing CIB at 6).) Respondents contend "[t]he CIT and PTAB decisions are important, persuasive evidence regarding the import of CGI's prior admissions and of the proper construction of the disputed claim language." (*Id.* at 3.)

Respondents then turn to CGI's description of the scope of "being connected . . . by means of a digital data bus" as covering a "so-called 'part-wired, part-wireless digital data bus'" and argue this is "a made-up term that has no meaning in the art." (*Id.* at 4.) Respondents fault this interpretation as it would mean "the digital data bus need not actually connect the controllers, and instead the claims are satisfied so long as there is a conductor at *any* point in the communication pathway between the motor drive unit's and wall console's controllers." (*Id.* (citing CIB at 23; Hr'g Tr. at 189:17-190:6; CX-1656C at Q51-54); *see id.* at 9 (alleging a communication link with no conductors whatsoever is impossible).)

Regarding the determinations made in the violation phase, Respondents dispute that this claim construction issue was already decided and note that CGI's expert "conceded the terms 'connected' or 'by means of' have not been construed." (*See id.* at 5 (citing Hr'g Tr. at 175:23-176:7, 184:14-22; 1016 ID at 120-128).) Respondents also allege "[d]uring the violation phase,

CGI and Dr. Davis distinguished the prior art by repeatedly arguing that the '319 patent claims are limited to a wired connection between the wall console and head unit and do not cover wireless keypads." (*Id.* (citing RX-0600C at Q67-83).) Specifically, Respondents explain:

> CGI obtained the Remedial Orders after arguing the '319 patent claims are broad enough to cover the Original GDOs' fully wired indoor keypad design but narrow enough to render the prior art's wireless keypads, as shown by *Doppelt* and *Doppelt U.K.*'s external keypads, "irrelevant." *See* RX-628C (CGI Viol. PreHB) at 67 ("[*Doppelt*'s] wireless remote transmitters are irrelevant to these requirements, they are by their very nature not wall consoles, *nor are they wired to the head unit*, which claims 1 and 9 also require of the 'wall console.'") (emphasis added); RX-600C at Q&A 113-22. To distinguish the prior art, CGI argued that the '319 patent claims are "limited to a wired connection between the microcontroller of the wall console and the microcontroller of the motor drive unit," RX-700, ITC Hr'g Tr. (July 13, 2017) (Davis) at 1079:13-20 (emphasis added), and do *not* cover "remote key pad[s]" that are "connected by RF," RX-606 (Davis) at 126:25-127:15 (emphasis added).

(*Id.* at 5-6 (emphasis in original).)

Regarding that portion of the 1016 ID which discussed opto-isolators, Respondents contend the subject non-infringement argument "was premised on its proposed construction for 'motor drive unit,' which would have encompassed just the particular subsystem that drives the motion [sic], and which the ALJ rejected in favor of a construction that encompasses at least the entire head unit." (*Id.* at 7 (citing 1016 ID at 124-128).) Regardless, Respondents continue, "the ALJ's comments were not necessary to his infringement finding and do not support CGI's contention that the ALJ adopted a so-called 'part-wired, part-wireless' construction for 'digital data bus.'" (*Id.*) Respondents also suggest, through their expert, that the presiding ALJ's comments on the opto-isolators was in reference to the link "'from the wall console to the head unit'" and not any link internal the GDOs' head units. (*See id.* at 8 (citing RX-0600C at Q147; Hr'g Tr. at 159:2-14, 161:5-8).)

Regarding intrinsic evidence on the meaning of "being connected . . . by means of a digital data bus," Respondents dispute the applicability of CGI's cited decisions that construed "connect" to mean both direct and indirect linkages as the present issue does not concern an indirect-direct connection question; but rather, "whether the language of the '319 patent claims . . . can properly be construed to cover wireless connections so long as there is a conductor somewhere in the system, as CGI alleges." (*See id.* at 10 (citing CIB at 16; *Skedco, Inc. v. Strategic Operations, Inc.*, 685 F. App'x 956, 961 (Fed. Cir. 2017), *MEMS Tech. Berhad v. ITC*, 447 F. App'x 142, 151 (Fed. Cir. 2011)).) Respondents also observe that CGI's initial post-hearing brief fails to address either of its pre-IPR prosecution history statements or its, and its expert's, statements made during the IPR. (*Id.* at 11 (citing CIB at 17).) Respondents reason this evidence "is unrebutted." (*Id.*; *see id.* at 12-14.)

Respondents then address the relevance of the prior art on claim construction and dispute that their expert's statement, "there is nothing in the claim that I regard as being ambiguous" (Hr'g Tr. at 163:11-16), meant anything more than "the claims unambiguously support Respondents' construction" (RRB at 11 (citing RX-0600C at Q64)). Respondents continue, however, that if the undersigned "believes there is any support for CGI's reading" then there must be sufficient ambiguity in the meaning of the term so as to consider an interpretation that would not read on the prior art. (*Id.* (citing *Ruckus*, 824 F.3d at 1004).) When considered, Respondents argue "[i]t is undisputed that the prior art wireless keypads communicated digital data from a controller in an external keypad (sometimes referred to as a 'transmitter') to a controller in a head unit over a wireless communication pathway that included a conductor or group of conductors" which is "precisely Respondents' redesign." (*Id.* at 13 (citing RX-0600C at Q69-80, 108-23).)

Finally, Respondents consider those facts surrounding the Redesigned GDOs which CGI alleges show "being connected . . . by means of a digital data bus" continues to be met. Respondents argue each alleged fact, related to the manner in which the indoor keypad and wireless receiver attached to the head unit communicate, "is irrelevant to the claims." (*Id.* at 15 (citing CIB at 23).) In particular, Respondents argue "CGI and Dr. Davis have repeatedly conceded that sending digital data using wireless RF signals is not conveying data by means of a digital data bus." (*Id.* (citations omitted).) Respondents contend this is not an issue of when additional elements are added to a claimed invention, as CGI alleges, but rather that there can be no literal infringement when even one claim limitation missing from the accused device. (*See id.* at 16-17 (citing, *inter alia*, CIB at 24; *MicroStrategy Inc. v. Bus. Objects, S.A.*, 429 F.3d 1344, 1352 (Fed. Cir. 2005); *Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1415 (Fed. Cir. 2000)).) For this reason, Respondents conclude the Redesigned GDOs do not literally infringe either of claims 1 or 9, or claims 2-4, 7, 8, 10-12, 15, or 16 depending therefrom. (*Id.* at 17.) Respondents also note "CGI does not dispute that the Redesigned GDOs do not literally infringe dependent claims 7, 8, 15, and 16." (*Id.* (citing CIB at 28-30; Hr'g Tr. at 203:10-15).) Under doctrine of equivalents for these dependent claims, Respondents repeat their position that CGI is estopped from arguing equivalence based on statements made before the PTAB, and even if allowed, are insufficiently supported by conclusory testimony from CGI's expert and otherwise fail due to a misidentification of the function, way, and result achieved from the "being connected . . . by means of a digital data bus" limitation. (*See id.* at 18-20.)

In its post-hearing briefing, CGI describes the central issue as "[d]oes the claimed 'digital data bus' cover a part-wired, part-wireless connection between a wall console and a motor drive

unit of a garage door opener system?" (CIB at 1.) CGI contends the 1016 ID addressed this exact issue through its discussion of opto-isolators (*id.* (citing 1016 ID at 135)) and that Respondents' Redesigned GDOs "still include[] a break in the wired connection located between the wall console and the microcontroller of motor drive unit [sic], and this break is no different from an infringement perspective form the break in the infringing GDOs" (*id.* at 1-2 (citing Hr'g Tr. at 49:13-24, 132:17-133:1, 146:22-25, 207:24-209:14)). CGI argues "[w]hile TTI has the burden of showing that 'changed conditions of fact or law' have occurred such that the Chief ALJ should modify the Limited Exclusion Order granted by the Commission, 19 C.F.R. § 210.76(a), TTI cannot meet their burden here." (*Id.* at 2.) Specifically, CGI contends the wireless receiver attached to the head unit is attached "with a pair of wires—to the exact same terminals as the infringing head units. Thus, Respondents' Redesigned GDOs infringe the '319 patent claims and properly fall within the scope of the remedial orders" meaning "[n]o modification of the remedial orders is appropriate or necessary." (*Id.* at 3.)

CGI then addresses portions of the procedural history between the parties and in particular, the CIT decision referenced above. (*See id.* at 6.) CGI urges the decision should be given no weight because: [1] CGI was denied intervenor status and was therefore not a party to the case; [2] the decision otherwise only evaluated infringement under a likelihood of success standard; and [3] "the decision is silent as to the issue here: whether TTI's non-infringement argument is the same failed opto-isolator argument TTI relied upon during the violation phase." (*See id.*)

Turning back to the Redesigned GDOs, CGI notes "[t]he only relevant change between the infringing GD200 and the Redesigned GD201 is the substitution of a wireless receiver between the original indoor keypad and the head unit." (*Id.* at 8 (citing Hr'g Tr. at 85:10-15, 124:14-17;

RX-0601 at Q4; CX-1656C at Q60; CX-1728).) According to CGI, "TTI replaced the wall console in the Redesigned GDOs with the combination of a wall mounted indoor keypad and a wireless receiver that is mounted near and connected to the motor drive unit via a physical wired connection." (*Id.* (citing Hr'g Tr. at 128:22-25).) CGI continues, "[h]owever, the receiver continues to transmit digital data from the indoor keypad to the head unit via a wired connection" and "[t]his indoor keypad is connected to the GD201's head unit's Wi-Fi Board via a part-wired, part-wireless digital bus." (*Id.* (citing CX-1656C at Q50, 62; Hr'g Tr. at 95:23-96:9).) CGI remarks:

> And there is no dispute that the indoor keypad and wireless receiver are designed to work together to transmit messages. Hrg. Tr. (Huggins) at 96:15-13. Indeed, Mr. Huggins testified that "pairing happens" between the keypad and wireless receiver over an agreed, dedicated frequency. Hrg. Tr. (Huggins) at 90:4-7.

(*Id.* at 9.)

With respect to prior statements, CGI disputes that its expert, Dr. Davis, gave testimony in the PTAB proceeding inconsistent with its infringement theory in this modification proceeding. (*Id.* at 11 (referring to RX-0600C at Q68).) CGI contends that, before the PTAB, Dr. Davis stated a digital data bus within the "context of the '319 patent" could be part-wireless—and not "that the digital data bus of the '319 patent could not have a wireless component." (*Id.* (citing RX-0606 at 64:9, 64:15-18).) CGI further contends other statements regarding "outdoor keypads and car removes [sic]," as referenced and relied on by Respondents' expert (RX-0600C at Q69-70), "relate[] to unaccused features of the original GDOs and features found in the '319 patent that are unrelated to the digital data bus." (*Id.*) Referencing figures from the '319 patent, CGI explains "the '319 patent includes wireless transmitters (53) that communicate with a RF receiver (50) in the head unit. But the digital data bus is a wire that extends from the head unit so that digital data

could be communicated from the wall control to the head unit." (*Id.* at 12.) CGI then addresses its pre-hearing brief from the violation phase and argues it "has not taken inconsistent positions between the violation phase and modification phase . . . . That the '319 patent 'relates' to communications does not require a fully-wired, end-to-end connection as Respondents allege and CGI's position has not changted [sic] on this point." (*Id.* at 13.)

CGI then alleges that in this proceeding, Respondents "improperly seek to re-construe 'digital data bus'" as "a fully wired, end-to-end connection extending entire between the microcontroller of the wall console and the microcontroller of the motor drive unit (or 'head unit')." (*Id.* (citing RX-0600C at Q63, 64; Hr'g Tr. at 154:20-155:1).) CGI argues this is improper because:

> In the violation phase, ALJ Pender explicitly found—contrary to Respondents' argument—that the head unit MCU-to-wall console MCU connection recited in the '319 patent claims is *not limited* to a solely wired connection, but also covers a part-wired/part-wireless connection—like that used in the Redesigned GDOs. ID at 135, 129-130 ("Independent claims 1 and 9 simply require microcontrollers [or controllers] in a garage door opener's 'motor drive unit' and wall console, with digital communication between them. (See '319 patent at claims 1, 9.)". The Commission adopted ALJ Pender's constructions and reasoning.

(*Id.* at 13-14.) CGI rejects Respondents' assertion that these determinations were *dicta* (*id.* at 14 (citing Hr'g Tr. at 28:3-15)) because "[t]he ALJ's determination stemmed from Respondents' repeated demand that the ALJ specifically resolve this precise claim construction issue" as admitted by Respondents' expert (*id.* (citing Hr'g Tr. at 132:17-133:1, 146:22-25; CX-1684C at 762:6-763:9)). CGI claims:

> TTI then argued repeatedly that because the connection between the GDO Board's MCU and the wall console's MCU included opto-isolators (wireless optical communicators) that interrupted the wired connection—*i.e.* the connection was part-wired/part-wireless—the accused products could not infringe. *Id.* at 135 (ALJ nothing that "Respondents then reference their products' use of 'opto-isolators'

> which 'cause an intentional break in the electrical conduction' and argue this defeats the 'conductor' aspect of 'digital data bus.'"). Again, TTI did not make this argument in passing, it was argued in the violation phase and in TTI's post hearing briefing.

(*Id.* at 14-15.) CGI then reproduces the presiding ALJ's determination on this non-infringement argument:

> Even under Respondents' interpretation of 'motor drive unit,' the limitation is still met. The presence of opto-isolators does not negate the presence of "conductors" also in the communication link, which is all the claim requires. It has not been alleged the entire end-to-end link is optical or non-conducting, which would create a colorable argument. The same logic applies for the alleged interruption caused by the Wi-Fi board.

(*Id.* at 15 (citing 1016 ID at 135).) CGI concludes "TTI cannot and has not offered any justifiable basis to revisit or disturb the ALJ's informed claim interpretation. Rather Mr. Lipoff accused ALJ Pender of disregarding the operation of the products within the head unit of the infringing GDOs." (*Id.* (citing Hr'g Tr. at 160:1-161:18).)

Turning to more traditional claim construction principles, CGI argues "[n]othing in the claim language or intrinsic evidence limits the '319 patent claims to an end-to-end wired connection between head unit MCU and wall console MCU." (*Id.* at 16.) CGI, through its expert, adds "[t]he plain meaning of 'by means of' is 'with the help or agency of'" (*id.* (citing CX-1656C at Q42; Hr'g Tr. at 178:21-24)) and "'connected to' has a plain and ordinary meaning" which allows for indirect or direct connection (*id.* (citing Hr'g Tr. at 178:5-8; *Skedco*, 685 F. App'x at 961; *Mems Tech. Berhad*, 447 F. App'x at 151)). CGI also contends, during pre-IPR prosecution of the '319 patent, that it "never distinguished prior art by arguing that the claims are limited to a solely wired connection, nor did it make any claim amendments or arguments to this effect" and therefore "the claims are entitled to the full scope of the claim language, just as ALJ Pender and

the Commission recognized." (*Id.* at 17 (citing *Sanofi-Aventis United States LLC v. Sandoz, Inc.*, 345 F. App'x 594, 597 (Fed. Cir. 2009); *Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1352, 1358 (Fed.

Cir. 2004)).)

Regarding Respondents' use of prior art to construe the claims, CGI argues the undersigned must first "consider all of the intrinsic evince [sic] to determine whether the claim term would 'necessarily render' the claim ambiguous" which, according to CGI, is an "exacting standard." (*Id.* (citing *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1381 (Fed. Cir. 2001)).) CGI refers to the following holding from the Federal Circuit:

> This court has frequently alluded to the "familiar axiom that claims should be so construed, if possible, as to sustain their validity." *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999) (internal quotation marks omitted). At the same time, however, the court has 'admonished against judicial rewriting of claims to preserve validity.' *Id.* Accordingly, unless the court concludes, after applying all the available tools of claim construction, that the claim is still ambiguous, the axiom regarding the construction to preserve the validity of the claim does not apply.

(*Id.* at 17-18 (citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)).) Under this principle, CGI cites Respondents' expert, Mr. Lipoff, as testifying "I think there is nothing in that claim that I regard as being ambiguous with respect to applying a proper construction of the – being connected by means of a digital data bus" to suggest "the Chief ALJ need not consider Respondents' thinly veiled invalidity argument when construing the claims." (*Id.* at 18 (citing Hr'g Tr. at 163:11-16); *see id.* at 18-19.)

Moving on, CGI conducts its own element-by-element comparison of the Redesigned GDOs to all limitations of claims 1-4, 7-12, 15, and 16 of the '319 patent and argues all limitations are met literally for claims 1-4 and 9-12 and met only under the doctrine of equivalents for claims 7, 8, 15, and 16. (*See generally id.* at 20-30.) With respect to "said [microcontroller/controller]

of said motor drive unit being connected to the microcontroller [sic] of the wall console by means of a digital data bus" of claims 1 and 9, CGI contends "[t]here is no dispute that wires that run from the wireless receiver to the head unit terminals just as in the original GDOs." (*Id.* at 22 (citing Hr'g Tr. at 127:10-12).) CGI continues, "[t]hose wires transmit digital data between the wireless receiver and the head unit." (*Id.* at 23 (citing Hr'g Tr. at 129:16-2, 94:16-20; CX-1773C at 67:10-13, 67:18-68:5, 40:9-14, 23:20-24:1, 45:12-15, 30:16-19, 31:22-32:9, 34:14-20, 35:4-20, 68:9-14).)

With that said, CGI identifies the dispute as "whether a wireless portion between the microcontroller of the indoor keypad and head unit negates a finding of infringement." (*Id.*) Regarding the setup of the indoor keypad and wireless receiver, CGI argues:

> The indoor keypad must be paired with the wireless receiver such that they use the same rolling code. Hrg Tr. (Huggins) at 88:3-6, 89:16-20. The receiver also is designed to work exclusively with the indoor keypad, and no other component. Hrg Tr. (Huggins) at 96:15-23; *id.* (Lipoff) at 127:23-128:6. In short, digital data from the microcontroller of the indoor keypad flows through the wired connection from the wireless receiver to the "keypad" terminals on the head unit, and to the microcontroller on the WiFi board. Hrg. Tr. (Huggins) at 94:21-23 ("Q Now, the actual terminals go into something on the head unit labeled keypad, correct? A Yes, that's right."). That data is wirelessly conveyed between the transmitter in the indoor keypad and the receiver in the wireless receiver.

(*Id.*) CGI reasons "[t]his part-wired, part-wireless digital data bus satisfies this limitation" (*id.* (citing CX-1656C at Q85)) and "[t]he presence of additional elements in a system, such as a wireless portion of a digital data bus, does not negate the presence of the wired portion of the digital data bus" (*id.* at 24 (citing *Stiftung v. Renishaw PLC*, 945 F.2d 1173, 1178 (Fed. Cir. 1991); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 703 (Fed. Cir. 1983))). CGI notes its position, again, "that an interruption in the wired connection between the indoor keypad microcontroller and motor drive unit microcontroller negates this limitation . . . has been rejected" as in the

underlying investigation on violation. (*Id.* at 25 (citing 1016 ID at 134-135; Hr'g Tr. at 132:17-133:1, 146:22-25, 147:1-11, 148:8-16).)

CGI then disputes Respondents' expert's assertion that the wireless receiver and the wires between it and the head unit are actually part of the head unit. (*Id.* at 26 (citing Hr'g Tr. at 133:9-134:2, 139:16-20, 140:25-141:12).) To this end, CGI relies on the prior construction of "motor drive unit" as the "unit where a driven motor resides," and observes the "motor does not reside in the wireless receiver." (*Id.* (citing Hr'g Tr. at 134:20-25).) CGI also argues Respondents' expert is too subjective on what length of wire and placements of the receiver would be needed to consider these components part of the "motor drive unit," and therefore the theory must be rejected. (*Id.* (citing Hr'g Tr. at 141:17-142:3, 142:4-13, 142:25-143:9).)

With respect to this limitation of claims 1 and 9 and the doctrine of equivalents, CGI states, "[w]hile the digital data bus has a wireless portion, the digital data bus also has a wired portion for which digital data is conveyed from a piece of the wall console (the wireless receiver) to the microcontroller of the motor drive unit." (*Id.* (citing CX-1656C at Q95).) CGI continues:

> [T]he part-wired, part-wireless connection between the motor drive unit and wall console in the Redesigned GDOs performs substantially the same function (accomplishing digital communications between the microcontroller of the motor drive unit and the microcontroller of the wall console), in substantially the same way (over a digital data bus that includes part-wired and part-wireless portions), yielding substantially the same result (connecting the microcontrollers of the wall console and motor drive unit so that digital data can be exchanged between the two microcontrollers) as the claims recite.

(*Id.* at 27.)

As noted, CGI alleges claims 7 and 15 are also met under the doctrine of equivalents. (*See id.* at 28-29.) These claims depend from claims 1 and 9, respectively, and recite ". . . wherein power for the wall console is provided from the drive unit via power conductors of the data bus."

('319 patent at cls. 7, 15.) CGI observes "power for the wireless receiver, flows through the wires from the terminals of the head unit to the microcontroller of the wireless receiver. . . . And batteries power the indoor keypad." (CIB at 28 (citing CX-1656C at Q103, 107; RX-0600C at Q171-178; CX-1672C; Hr'g Tr. at 126:18-21).) CGI continues:

> The part-wired, part-wireless connection between the motor drive unit and wall console, including through the wireless receiver, in the Redesigned GDOs delivers power to the wall console . . . in an equivalent manner because it performs substantially the same function (energizing components of a communication path), in substantially the same way (over a conductive medium), yielding substantially the same result (energizing a data communication device using the motor drive unit as a power source) as the claims recite.

(*Id.* at 28-29 (citing CX-1656C at Q104).)

CGI alleges the Redesigned GDOs meet claims 8 and 16 under the doctrine of equivalents as well. (*See id.* at 29-30.) These claims depend from claims 7 and 15, respectively, and recite ". . . wherein the power conductors convey both data and power." ('319 patent at cls. 8, 16.) CGI notes "the relevant operational details are identical to claim 7 and 15 because the same wires between the wireless receiver and motor drive unit convey both data and power." (CIB at 29 (citing CX-1656C at Q106; RX-0600C at Q171-178).) CGI continues:

> The part-wired, part-wireless connection between the motor drive unit and wall console, through the wireless receiver, in the Redesigned GDOs performs substantially the same function (energizing and connecting components of the communication path), in substantially the same way (over a conductive medium), yielding substantially the same result (energizing and connecting a data communication device using the motor drive unit as a power source) as the claims recite.

(*Id.* at 30 (citing CX-1656C at Q109).) For the avoidance of any doubt, CGI states affirmatively that it "does not allege the wireless receiver is the claimed wall console" (*id.* (referring to RX-0600C at Q207-209)), but also takes the position that "[t]he digital data bus connecting the indoor

keypad to the wireless receiver and through to the motor drive unit includes the wires connecting the wireless receiver to the motor drive unit" (*id.*).

In its reply brief, CGI concludes the primary issue of the present modification proceeding is the same as in the underlying violation phase "because the redesign also includes a connection with wired and wireless portions and simply shifts the location of that physical discontinuity." (CRB at 1 (referring to 1016 ID at 135).) CGI argues "[t]here is no genuine dispute that the Redesigned GDOs include a conductor or group of conductors that enable the transmission of digital data between the microcontroller of the indoor keypad and the microcontroller of the motor drive unit." (*Id.*) CGI then repeats its position that the December 14, 2018 decision from the CIT should be given no weight but otherwise does "show[] Respondents' true intention of reconstrucing [sic] the 'digital data bus' limitation in a manner inconsistent with the Commission's binding constructions." (*Id.* at 2.)

Regarding its statements in prior proceedings, CGI argues: "Respondents fail to identify the three factors required for application of judicial estoppel" (*id.* at 3 (citing *New Hampshire v. Maine*, 532 U.S. 742, 751 (2001))); "cannot show the facts support any of the judicial estoppel factors" (*id.*); and "Respondents do not address the third factor at all" (*id.*).

Under the first factor—"a party's later position must be 'clearly inconsistent' with its earlier position"—CGI contends there is no statement from "CGI or its representatives that the digital data bus must be be [sic] fully-wired from end-to-end" and "Respondents never asked Dr. Davis whether the claims could include a part-wired, part-wireless connection." (*Id.*) Rather, in CGI's view, its and its expert's prior statements only attest "that '319 claims require a wire" (*id.* at 4) and were further made in the context of showing nexus to copying as evidence of non-

obviousness (*id.* (citing RX-0700 at 1078:7-18, 1079:13-20)). CGI argues similarly with regard to its prior "general description of the '319 claims 'relating to wired digital communications'" (*id.* at 5 (referring to RIB at 12)) and repeats its position that remote transmitters, as found in the prior art, continue to be irrelevant because it "did not accuse TTI's remote transmitters of infringement during the violation phase or in this modification phase" (*see id.* at 5-6).

Under the second factor—"the party has succeeded in persuading a court to accept that party's earlier position"—CGI contends, assuming its statements were inconsistent, "judicial estoppel would still not apply because CGI did not succeed in convinving [sic] the ALJ to accept that position." (*Id.* at 6.) To the contrary, CGI claims:

> In fact, according to Respondents, CGI could not have succeeded in persuading a court to accept the meaning of "said microcontroller [controller] of said motor drive unit being connected to the microcontroller [controller] of the wall console by means of a digital data bus" because "the meaning of the claim language of claims 1 and 9 [] was not previously construed." Resp. PostHB at 8-9.

(*Id.* at 6-7.) Additionally, CGI notes "CGI did not succeed in persuading the court that Respondents' combination of two prior art references, Doppelt and Jacobs, failed to disclose the digital data bus limitation; rather, ALJ Pender held that the Doppelt combinations included a digital data bus." (*Id.* at 7 (citing 1016 ID at 187).) "Thus," reasons CGI, "judicial estoppel cannot apply as CGI did not succeed in persuading ALJ Pender or the Commission to accept a fully-wired, end-to-end digital data bus interpretation," and "[f]or the same reason, statements from the '319 patent IPR are insufficient to create judicial estoppel." (*Id.*)

CGI does not discuss the third factor, but instead turns to the alleged prosecution disclaimer occurring before the PTAB. CGI argues "[t]hese statements related to unaccused features such as remote transmitters and do not disclaim claim scope." (*Id.* at 8.) With respect to

its expert's deposition during that proceeding, CGI avers "the questions and answers leading up to the cited testimony reveal that Dr. Davis testified that the digital data bus within the 'context of the '319 patent' could be part-wireless," quoting:

> Q. Could a bus be wireless?
>
> A. It depends on what level of abstraction you're talking about. I suppose you could view something like that as a bus.

(*Id.* (citing RX-0606 at 64:15-18, 64:9).) Regardless, CGI disputes that these statements deserve any weight, stating "Respondents have provided no legal authority for the unprecedented position that statements from an independent expert made in an IPR deposition constitute prosecution disclaimer." (*Id.* at 9.) CGI contends that *Aylus Networks* merely "explained that statements made by a patent owner—and specifically in the patent owner's preliminary response—can establish prosecution disclaimer." (*Id.* (citing *Aylus Networks*, 856 F.3d at 1362).) CGI adds in footnote that "[n]one of the decisions the Federal Circuit cited in reaching this conclusion support Respondents' expansive proposal: not a single cited case relied on an independent expert's IPR deposition testimony to establish prosecution disclaimer." (*Id.* at 9, n.2 (citations omitted).) CGI lastly contends that Respondents have otherwise generally failed to meet the "clear and unmistakable" standard for prosecution history disavowal. (*Id.* at 10 (citing *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 904 F.3d 965, 975 (Fed. Cir. 2018); *Conoco, Inc. v. Energy & Envtl. Int'l, L.C.*, 460 F.3d 1349, 1364 (Fed. Cir. 2006); *Poly-America, L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016)).)

With respect to the '319 patent's specification, CGI argues it would be improper to read in a fully-wired requirement to the claim because of the specification's disclosure of "an embodiment where a wire extends from the motor drive unit to the wall console" (*id.* at 11 (citing '319 patent at Abstract, Fig. 1)) or because of its stated goal of providing an easy "retrofit" to

existing garage door openers (*id.* at 12 (citing '319 patent at 2:64-3:8)). With respect to the pre-IPR prosecution history, CGI alleges Respondents have taken contradictory positions on the effect of the applicant's mapping of claim elements to specification excerpts—contradictions which show the mapping "is not an admission that the listed claim limitations are limited in scope to the exemplary embodiments." (*See id.* at 12-13 (citing *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1370 (Fed. Cir. 2005)).)

As a last point on claim construction, CGI views Respondents as "need[ing] to re-construe the claims to inject a limitation to avoid infringement" even though "ALJ Pender rejected the same non-infringement defense Respondents raise here—namely a discontinuity in the wired digital data bus results in non-infringement." (*Id.* at 14 (citing 1016 ID at 135).) CGI continues "this break is no different from an infringement perspective from the break in the infringing GDOs." (*Id.* (citing Hr'g Tr. at 49:13-24, 132:17-133:1, 146:22-25, 207:24-209:14).) Regarding whether or not the prior ALJ's determination was *dicta*, CGI argues it "was made in direct response to Respondents' non-infringement argument based on the presence of an opto-isolator in the GD200 and GD125 models and forms an integral part of of [sic] the overall finding of a violation." (*Id.* at 15 (referring to CIB at 14; RX-0700 at 762:6-763:9).) CGI disputes any confusion over the 1016 ID's use of the term "communication link," as Respondents allege, in part because "Respondents' counsel, Mr. White, introduced the term 'communication link' into the record during Dr. Davis's violation-phase cross-examination." (*Id.* (citing RX-0700 at 1074:21-1075:2).)

Regarding infringement theories and, in particular, doctrine of equivalents, CGI argues "Respondents improperly collapse the doctrine of equivalents theory into a literal infringement

theory via conflation of the 'way' and 'function' prongs." (*Id.* at 17-18 (citing *Overhead Door Corp. v. Chamberlain Grp., Inc.*, 194 F.3d 1261, 1270 (Fed. Cir. 1999)).) CGI explains:

> But these are distinct. The function prong evaluates the operational objective of the component. *See, e.g., Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 609 (1950). Merely defining the function as use of the component—as Respondents do here—fails to address the intended purpose of the component. Only Dr. Davis has properly defined the function of the digital data bus, "accomplishing digital communications between the microcontroller of the motor drive unit and the microcontroller of the wall console." CX-1656C, Davis WS at QA95. Thus, Respondents' rebuttal of the function prong of the doctrine of equivalents infringement theory is incorrect

(*Id.*) CGI argues Respondents conflate the "result" prong with "way" as well and reason "Respondents cannot meaningfully dispute that the result of the Redesigned GDOs' connection is identical to that of the '319 patent or infringing GDOs—control of a garage door from a wall console." (*Id.* at 19.)

Having carefully reviewed the pleadings and evidence submitted, it is the undersigned's recommended determination that the limited exclusion orders and cease and desist orders be modified so as to not apply to Respondents' Redesigned GDOs which lack a physical connection between microcontrollers contained within a "wall console" and "motor drive unit."

To begin, "[a]n infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." *Markman*, 52 F.3d at 976.

Claim construction focuses on the intrinsic evidence, which consists of the claims themselves, the specification, and the prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (*en banc*); *see also Markman*, 52 F.3d at 979. As the Federal Circuit in *Phillips* explained, courts must analyze each of these components to determine the "ordinary and customary meaning of a claim term" as understood by a person of ordinary skill in art at the

time of the invention. 415 F.3d at 1313. "Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001).

When the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence (*i.e.*, all evidence external to the patent and the prosecution history, including dictionaries, inventor testimony, expert testimony, and learned treatises) may be considered. *Phillips*, 415 F.3d at 1317. Extrinsic evidence is generally viewed as less reliable than the patent itself and its prosecution history in determining how to define claim terms. *Id.* "The court may receive extrinsic evidence to educate itself about the invention and the relevant technology, but the court may not use extrinsic evidence to arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence." *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 977 (Fed. Cir. 1999).

The construction of a claim term is generally guided by its ordinary meaning. However, courts may deviate from the ordinary meaning when: (1) "the intrinsic evidence shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention;" or (2) "the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history." *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009); *see GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) ("the specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal."); *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003) ("[W]here the patentee has unequivocally

disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the scope of the surrender."); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1325 (Fed. Cir. 2002) ("The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution."). Nevertheless, there is a "heavy presumption that a claim term carries its ordinary and customary meaning." *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (citations omitted). The standard for deviating from the plain and ordinary meaning is "exacting" and requires "a clear and unmistakable disclaimer." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1366-67 (Fed. Cir. 2012); *see Epistar Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1334 (Fed. Cir. 2009) (requiring "expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope" to deviate from the ordinary meaning) (citation omitted). As the Federal Circuit has explained, "[w]e do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that." *Thorner*, 669 F.3d at 1366. "The party seeking to invoke prosecution history disclaimer bears the burden of proving the existence of a 'clear and unmistakable' disclaimer that would have been evident to one skilled in the art." *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1063-64 (Fed. Cir. 2016) (citing *Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1371 (Fed. Cir. 2007)).

Literal infringement is a question of fact. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1332 (Fed. Cir. 2008). Traditionally, literal infringement requires the patentee to prove that the accused device contains each and every limitation of the asserted claim(s). *Frank's Casing Crew & Rental Tools, Inc. v. Weatherford Int'l, Inc.*, 389 F.3d 1370, 1378 (Fed. Cir. 2004). If

any claim limitation is absent, there is no literal infringement of that claim as a matter of law. *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000).

Where literal infringement is not found, there may still be infringement under the doctrine of equivalents which "requires an intensely factual inquiry." *Vehicular Techs. Corp. v. Titan Wheel Int'l, Inc.*, 212 F.3d 1377, 1381 (Fed. Cir. 2000). According to the Federal Circuit:

> Infringement under the doctrine of equivalents may be found when the accused device contains an "insubstantial" change from the claimed invention. Whether equivalency exists may be determined based on the "insubstantial differences" test or based on the "triple identity" test, namely, whether the element of the accused device "performs substantially the same function in substantially the same way to obtain the same result." The essential inquiry is whether "the accused product or process contain elements identical or equivalent to each claimed element of the patented invention[.]"

*TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1376-77 (Fed. Cir. 2008) (citations omitted).

Respondents' central non-infringement position is that the claim limitation "being connected . . . by means of a digital data bus" as found in claims 1 and 9 of the '319 patent is missing from the Redesigned GDOs. (*See* RIB at 1-3.) For context, the full claims read as follows:

> 1. An improved garage door opener comprising a motor drive unit for opening and closing a garage door, said motor drive unit having a microcontroller and a wall console, said wall console having a microcontroller, said microcontroller of said motor drive unit *being connected* to the microcontroller of the wall console *by means of a digital data bus.*
>
> 9. An improved garage door opener comprising a motor drive unit for opening and closing a garage door, said motor drive unit having a controller and a wall console, said wall console having a controller, said controller of said motor drive unit *being connected* to the controller of the wall console *by means of a digital data bus.*

('319 patent at cls. 1, 9 (emphasis added).)

It is important to note that several terms within these claims have already been construed and are binding on this proceeding. Specifically, "digital data bus" has been construed as a

"conductor or group of conductors which convey digital data," and "motor drive unit" has been construed as "unit where a driven motor resides." (RIB at 8 (citing 1016 ID at 121-128); CIB at 10.)

Further, there is no dispute over the structure of the Redesigned GDOs. As shown and described above, the Redesigned GDOs include a head unit where a driven motor resides, an external wireless receiver attached to the head unit through two wires, and a wall-mounted keypad which communicates with the wireless receiver so as to enable digital communication between the keypad and head unit; more specifically, digital communication between a microcontroller, or controller, located within the keypad and a microcontroller, or controller, located within the head unit. (*See* RX-0600C at Q171-178; CX-1656C at Q47-60.)

In light of this structure, Respondents argue "being connected . . . by means of a digital data bus" is not met in the Redesigned GDOs because the microcontrollers, or controllers, are not physically "connected" due to the wireless communication link between the keypad and the wireless receiver near the head unit:

> The Redesigned GDOs do not meet this limitation because they use a wireless indoor keypad that is not 'connected . . . by means to a digital data bus' to *any* other component of the GDOs. . . . However, as discussed, the '319 patent describes and claims only a wired console—something entirely absent from the Redesigned GDOs. . . . The Redesigned GDOs do not meet this requirement because the wireless indoor keypad is not connected, by a conductor, to any other component. . . . Thus, "the keypad is not 'connected' to the wireless receiver, as claimed by the '319 patent.

(RIB at 25-26.)

For the reasons detailed below, it is the determination of the undersigned that, based on the intrinsic evidence, "being connected . . . by means of a digital data bus" requires a physical connection. Respondents' briefing places great emphasis on the notion that CGI should be both

judicially estopped from arguing infringement in this proceeding and found to have disavowed a scope for "being connected . . . by means of a digital data bus" during prosecution of the '319 patent. Respondents also argue for their construction based on non-prosecution intrinsic evidence and other extrinsic evidence. It is the determination of the undersigned that a clear disavowal of scope occurred during the *inter partes* review of the '319 patent (IPR2017-00126), rendering the questions of judicial estoppel and other intrinsic and extrinsic evidence moot.

Specifically, during *inter partes* review, Respondents, as petitioners, put forward an obviousness invalidity theory which depended upon prior art reference U.S. Patent No. 5,530,896 ("Gilbert") (IPR2017-00126, Ex. 1006)[2] to teach communication between keypad consoles and powered appliances under the "being connected . . . by means of a digital data bus" claim limitation:

> *Fourth*, it was also well-known to a PHOSITA at the time of the '319 patent to send digital data signals between microcontrollers using standard wire lines, *e.g.*, a digital data bus, to control a motor drive unit and/or light. *See, e.g.,* Sections VIII.A, B.6; Ex.1003 [¶50]. For example, *Jacobs* discloses a "digital data bus" and *Gilbert* discloses a bidirectional communication wire between microcontrollers.
>
> As such, based on the admitted prior art and the teachings of *Doppelt*, *Jacobs*, and/or *Gilbert*, it would have been obvious to a PHOSITA to modify *Doppelt's* wall control unit to include a passive infrared detector and microcontroller and a digital data bus. *See* Section VIII.A; Ex.1003[¶¶41-51].

(IPR2017-00126, Dkt. No. 1 at 11; *see* IPR2017-00126, Dkt. No. 1 at 38, 43-65);[3]

> Like *Jacobs*, *Gilbert* also discloses a wired connection between two microcontrollers. Ex.1003[¶¶63-65]. Specifically, *Gilbert* discloses connecting control units, such as remote controls or keypads, having a microcontroller with home appliances, such as a lamp or washing machine, also having a microcontroller, through a bidirectional wired communication path. For example, control appliances 8, 9 (manual remote controls) and control appliance 11 (timer

[2] This document is hereby attached to this Recommended Determination as "RD Exhibit A."
[3] This document is hereby attached to this Recommended Determination as "RD Exhibit B."

with programming keypad) are shown in green in Figure 1 below.

(*id.* at 18);

> Gilbert also discloses a wired line for carrying data between microcontrollers. Ex.1003[¶153]. As explained in Gilbert, microcontroller 18 (of a working appliance) and microcontroller 118 (of a control appliance) are "connected to the *space 4* via a bidirectional transmission means 24." Ex.1006 at at 3:49-56; 2:39-44. Gilbert further discloses that "space 4 may be constituted by… *hardwired means of transmission.*" Id. at 3:17-22; see also id. at 1:24-29 ("transmission medium or media used to create the bidirectional communication space can be carrier currents, a *cable*, fiber-optic or radio-frequency means, etc."). The communication space 4, connecting microcontrollers 18 and 118, is illustrated in Figs. 2 and 3, below.
>
> . . . .
>
> *Gilbert* further discloses that the hardwired communication space 4 can carry data, *e.g.*, status messages and control messages, between microcontrollers. Ex.1006 at 3:23-26 ("Three control appliances 8, 9, 11 are also linked to the space 4 to receive the status messages from the working appliances 1 to 3, and to send them control messages and status request messages."); 3:6:16. Ex.1003[¶154].
>
> Accordingly, the combined *Doppelt/Jacobs/Gilbert* system discloses every limitation of this claim element. Ex.1003[¶¶155].

(*id.* at 64-65 (emphasis in original)). The following figure and passage from Gilbert clarifies what is disclosed:

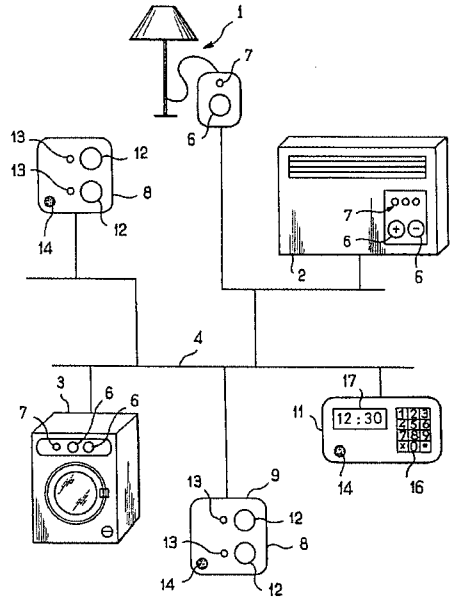



FIG.1

In the example shown in FIG. 1, the installation, which has been intentionally simplified, comprises various working appliances, namely a standard lamp 1, a convector heater 2, and a washing machine 3 which are connected to each other via a bidirectional communication space 4 through which they can exchange status messages originating from the working appliances 1 to 3 and control messages intended for the working appliances 1 to 3. The working appliances 1 to 3 contain one or more adjusting buttons6 offering a minimum of two operating states, for example "on" and "off", and one or more indicator lamps or other indicators 7.

The space 4 may be constituted by the electricity supply circuit, in which case the messages are processed in a concrete fashion using carrier current techniques. The space 4 may also be constituted by a space which is permeable to radio waves or infrared signals, or by a hardwired means of transmission.

(IPR2017-00126, Ex. 1006 at 3:6-23, Fig. 1.)

On June 1, 2018, CGI, as patent owner, filed a supplemental response along with a declaration from its expert, Dr. Davis, addressing Respondents' theory and Gilbert. In that declaration, the expert compared Gilbert and its "communication space 4" to the claim limitation "being connected . . . by means of a digital data bus." The expert stated:

92. Even setting this issue aside, the addition of Gilbert to the combination of Doppelt, Jacobs, and "Admitted Art" *fails to satisfy the limitation.* Gilbert discloses

> a bidirectional communication space 4 in which messages may be transmitted and received. Gilbert at Abstract. *But this communication space need not include a physical connection at all; indeed, it may consist of radio frequencies.* Gilbert at 1:47-50.

(IPR2017-00126, Ex. 2028 at ¶ 92 (emphasis added).)[4] CGI explicitly referenced this portion of Dr. Davis's declaration into its supplemental response to the PTAB:

> Below, Chamberlain addresses additional disclosure from Gilbert that Petitioner relied upon in contending that the "Doppelt/Jacobs/Gilbert system discloses every limitation of this claim element." Petition, 64-65. In particular, Petitioner argued that, "in Gilbert, microcontroller 18 (of a working appliance) and microcontroller 118 (of a control appliance) are 'connected to the space 4 via a bidirectional transmission means 24'," that "'space 4 may be constituted by … hardwired means of transmission'," and that "the hardwired communication space 4 can carry data …." Petition, 64-65 (citing Gilbert, 1:24-29, 2:39-44, 3:6-56).
>
> *As Dr. Davis explains, however, Gilbert's bidirectional communication space 4 "need not include a physical connection at all" and "may consist of radio frequencies." 2nd Davis Dec., ¶ 92 (citing Gilbert, 1:47-50).*

(IPR2017-00126, Dkt. No. 65 at 24 (emphasis added).)[5]

It is clear from the excerpts above that, before the PTAB, CGI contended that "being connected . . . by means of a digital data bus" means a physical connection between the microcontroller of the "wall console" and the microcontroller of the "motor drive unit."

The Federal Circuit has held that such a representation made to avoid prior art from a patent owner during *inter partes* review can function as disavowal of claim scope when it is "clear and unmistakable." *Aylus Networks*, 856 F.3d at 1359; *Omega Eng'g*, 334 F.3d at 1325-26. Further, the Federal Circuit has explained:

> [Patentee's] argument therefore reduces to a request for a mulligan that would erase from the prosecution history the inventor's disavowal of a particular aspect of a claim term's meaning. Such an argument is inimical to the public notice function provided by the prosecution history. The prosecution history constitutes a public record of the patentee's representations concerning the scope and meaning of the

[4] This document is hereby attached to this Recommended Determination as "RD Exhibit C."
[5] This document is hereby attached to this Recommended Determination as "RD Exhibit D."

> claims, and competitors are entitled to rely on those representations when ascertaining the degree of lawful conduct, such as designing around the claimed invention.

*Hockerson-Halberstadt*, 222 F.3d at 957 (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996); *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1208 (Fed. Cir. 1992)). The undersigned finds the standard is met here, as there is no way to interpret Dr. Davis and CGI's statements other than as a need for a "physical connection" in "being connected . . . by means of a digital data bus." It is therefore the determination of the undersigned that through these statements, CGI put the public on notice that "being connected . . . by means of a digital data bus" requires a physical connection between microcontrollers.

With that said, the undersigned acknowledges the aforementioned petition for *inter partes* review, Gilbert prior art reference, patent owner supplemental response, and patent owner expert declaration were not included on the parties' exhibit lists, as opposed to other documents from the IPR proceeding which were included. Nevertheless, the undersigned is entitled to take judicial notice of the facts of what was stated or disclosed in each of these four documents as they are publicly available records of the U.S. Patent and Trademark Office (IPR2017-00126) and their contents are not subject to reasonable dispute. *See* Fed. R. Evid. 201(b) ("The court may judicially notice a fact that is not subject to reasonable dispute because it: (1) is generally known within the trial court's territorial jurisdiction; or (2) can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned."); *Certain Wireless Communication Devices, Portable Music and Data Processing Devices, Computers and Components Thereof*, Inv. No. 337-TA-745, Initial Determination at 50 n.5 (Apr. 24, 2012); *Certain Sortation Systems and Parts Thereof and Products Containing Same*, Inv. No. 337-TA-460, Initial Determination at 75 n.7

(Oct. 22, 2002); *Certain Movable Barrier Operator Systems and Components Thereof*, Inv. No. 337-TA-1118, Order No. 23 at 2 (Apr. 16, 2019); *see also Certain Access Control Systems and Components Thereof*, Inv. No. 337-TA-1016M, Comm'n Order at 4 ("[t]he ALJ, in his/her discretion, may conduct any proceedings he/she deems necessary, including . . . seeking documents from other agencies consistent with Commission rules") (Sept. 4, 2018). Moreover, these documents are of primary relevance to the central issue in this proceeding—the scope of "being connected . . . by means of a digital data bus"—as they are part of the '319 patent's intrinsic record. *See Aylus Networks*, 856 F.3d at 1360-61 (treating statements made during an IPR proceeding as prosecution history); *Phillips*, 415 F.3d at 1318-19 (identifying prosecution history as intrinsic evidence).

Therefore, in light of the above determination on the meaning of "being connected . . . by means of a digital data bus" based on these documents, Respondents' additional arguments regarding other moments in the prosecution history, non-prosecution history intrinsic evidence, and other extrinsic evidence towards the same meaning need not be reached. Similarly, Respondents' contention that CGI is estopped from arguing against this claim meaning need not be reached either.

Additionally, it bears mentioning that CGI is correct that Respondents' non-infringement position in this proceeding was already considered and rejected by the ALJ in the violation phase. (*See* 1016 ID at 134-135 (finding the claim limitation is not avoided by a non-conducting "break" in the communication link), 189-190 (finding the claim limitation is disclosed by a "communication space" because of the conveyance of digital data).) CGI's argument that that determination is binding and dispositive for this proceeding (*see, e.g.*, CIB at 29, 30) is not,

however. Simply put, the intrinsic record behind the meaning of "being connected . . . by means of a digital data bus" materially changed following CGI's remarks to the PTAB during the IPR—a change which occurred after the ALJ and Commission's determinations in the violation phase.[6] This change justifies revisiting the meaning of "being connected . . . by means of a digital data bus."

In conclusion, when "being connected . . . by means of a digital data bus" is properly construed as requiring a physical connection, there can be no dispute that the Redesigned GDOs do not literally infringe claims 1 and 9 of the '319 patent as there is no physical connection between the microcontrollers of the "wall console" and "motor drive unit." The Redesigned GDOs also cannot infringe by doctrine of equivalents as there is no structure within the products that accomplishes the same function or result of a physical connection between microcontrollers, which CGI implicitly acknowledges. (*See* CRB at 17-19 (discussing doctrine of equivalents satisfaction solely in terms of effecting communications.)) Alternatively, should the function and result of the requisite physical connection be determined to be the simple provision of communication between microcontrollers, then it is the determination of the undersigned that the way this is accomplished is not substantially the same. Respondents' expert is persuasive in that a wireless communication path is the opposite of a physical one, involving a host of different structures, protocols, and design considerations. (*See* RX-0600C at Q223-224.)

[6] The 1016 ID issued on October 23, 2017. The Commission's notice to review issued on December 22, 2017 (EDIS Doc. No. 632456), with a final notice finding a violation of Section 337 issuing on March 23, 2018 (EDIS Doc. No. 639790). CGI's pivotal statements during the IPR regarding Gilbert were submitted on June 1, 2018. (IPR2017-00126, Dkt. No. 65.)

Additionally, Respondents have sufficiently shown that dependent claims 7, 8, 15, and 16 are not infringed—for reasons apart from their dependency on non-infringed claims 1 and 9. These claims all require the power for the wall console be provided from the motor drive unit through the digital data bus:

> 7. The garage door opener according to claim 1 wherein power for the wall console is provided from the drive unit via power conductors of the data bus.
>
> 8. The garage door opener according to claim 7 wherein the power conductors convey both data and power.
>
> 15. The garage door opener according to claim 9 wherein power for the wall console is provided from the drive unit via power conductors of the data bus.
>
> 16. The garage door opener according to claim 15 wherein the power conductors convey both data and power.

('319 patent at cls. 7, 8, 15, 16.) It is not disputed that the indoor keypad, or "wall console," of the Redesigned GDOs derives its power from internal, replaceable AA batteries. (CIB at 28; RIB at 6, 26; Hr'g Tr. at 126:18-21, 202:10-15; RX-0600C at Q177; RX-0616 at -598; RX-0618 at -602.) Thus, the Redesigned GDOs do not literally infringe these claims. They also do not infringe under the doctrine of equivalents. Respondents' expert is persuasive in that powering a wall console through its own internal, replaceable batteries is not substantially the same, in way or result, as power coming through a wired line from an external shared source. (*See* RX-0600C at Q228-229.)

Accordingly, it is the undersigned's recommended determination that the limited exclusion orders and cease and desist orders be modified so as to not apply to Respondents' Redesigned GDOs which lack a physical connection between a microcontroller contained within a "wall console" and a microcontroller contained within a "motor drive unit." This recommended determination of the administrative law judge is hereby certified to the Commission.

Within seven days of the date of this document, each party shall submit to the Office of the Administrative Law Judges a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions may be made by facsimile and/or hard copy by the aforementioned date. Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office a copy of this document with red brackets indicating any portion asserted to contain confidential business information. The parties' submissions concerning the public version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**

Charles E. Bullock
Chief Administrative Law Judge

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF**

**INV. NO. 337-TA-1016 (Modification)**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **RECOMMENDED DETERMINATION** has been served upon the following parties as indicated on

APR 30 2019

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street SW, Room 112A
Washington, D.C. 20436

| **FOR COMPLAINANT THE CHAMBERLAIN GROUP, INC.** | |
|---|---|
| Joseph V. Colaianni, Jr., Esq.<br>**FISH AND RICHARDSON PC**<br>1000 Main Avenue, SW, Suite 1000<br>Washington, DC 20024 | ( ) Via Hand Delivery<br>(√) Express Delivery<br>( ) Via First Class Mail<br>( ) Other: _____ |
| **FOR RESPONDENTS TECHTRONIC INDUSTRIES COMPANY LIMITED, TECHTRONIC INDUSTRIES NORTH AMERICA INC., ONE WORLD TECHNOLOGIES, INC., OWT INDUSTRIES, INC., AND ET TECHNOLOGY (Wuxi) Co., LTD.** | |
| Eric S. Namrow, Esq.<br>**MORGAN, LEWIS & BOCKIUS LLP**<br>1111 Pennsylvania Avenue, NW<br>Washington, DC 20004 | ( ) Via Hand Delivery<br>(√) Express Delivery<br>( ) Via First Class Mail<br>( ) Other: _____ |

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

| In the Matter of<br><br>**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016** |
|---|---|

# NOTICE OF THE COMMISSION'S FINAL DETERMINATION FINDING A VIOLATION OF SECTION 337; ISSUANCE OF A LIMITED EXCLUSION ORDER AND CEASE AND DESIST ORDERS; TERMINATION OF THE INVESTIGATION

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission has found a violation of section 337 in this investigation and has (1) issued a limited exclusion order prohibiting importation of infringing access control systems and components thereof and (2) issued cease and desist orders directed to the following respondents: Techtronic Industries Company Ltd. of Tsuen Wan, Hong Kong ("TTi HK"); Techtronic Industries North America Inc. of Hunt Valley, Maryland ("TTi NA"); One World Technologies, Inc. of Anderson, South Carolina ("One World"); and OWT Industries, Inc. of Pickens, South Carolina ("OWT"). The investigation is terminated.

**FOR FURTHER INFORMATION CONTACT**: Panyin A. Hughes, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone 202-205-3042. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (*https://www.usitc.gov*). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov*. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-205-1810.

**SUPPLEMENTARY INFORMATION**: The Commission instituted this investigation on August 9, 2016, based on a complaint filed by The Chamberlain Group, Inc. of Elmhurst, Illinois ("Chamberlain" or "CGI"). 81 FR 52713 (Aug. 9, 2016). The complaint alleges violations of section 337 of the Tariff Act of 1930, as amended (19 USC 1337), in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain access control systems and components thereof by reason of infringement of one or more of claims 1, 10–12, and 18–25 of U.S. Patent No. 7,196,611 ("the '611 patent"); claims 1–4, 7–

12, 15, and 16 of the '319 patent; and claims 7, 11–13,15–23, and 34–36 of the '336 patent. *Id.* The notice of investigation named the following respondents: TTi HK; TTi NA; One World; OWT; ET Technology (Wuxi) Co., Ltd. of Zhejiang, China (collectively, "Respondents"); and Ryobi Technologies Inc. of Anderson, South Carolina ("Ryobi"). *Id.* The Office of Unfair Import Investigations is not a party to the investigation.

On October 27, 2016, the Commission determined not to review the ALJ's order (Order No. 4) granting a motion to amend the Notice of Investigation to include the following two additional respondents: Techtronic Trading Limited of Kwai Chung, Hong Kong; and Techtronic Industries Factory Outlets Inc., d/b/a Direct Tools Factory Outlet of Anderson, South Carolina (collectively, "Techtronic"). *See* Order No. 4, Comm'n Notice of Non-Review (Oct. 27, 2016).

On November 7, 2016, the Commission determined not to review the ALJ's order (Order No. 6) terminating the investigation as to Ryobi. *See* Order No. 6, Comm'n Notice of Non-Review (Nov. 7, 2016).

On March 15, 2017, the Commission determined not to review the ALJ's order (Order No. 15) granting a motion to terminate the investigation as to Techtronic. Order No. 15, Comm'n Notice of Non-Review (Mar. 15, 2017).

On March 20, 2017, the Commission determined not to review the ALJ's order (Order No. 18) granting a motion to terminate the investigation as to claims 10, 19-20, and 22 of the '611 patent and claims 7, 11-13, 15-18, 35, and 36 of the '336 patent. Order No. 18; Comm'n Notice of Non-Review (Mar. 20, 2017).

On March 27, 2017, the ALJ issued Order No. 23 granting Respondents' motion for summary determination of non-infringement of the asserted claims of the '319 patent, stemming from the ALJ's construction of the claim term "wall console" to mean "a wall-mounted control unit including a passive infrared detector." *See* Order No. 13 (*Markman* Order at 80).

The ALJ held an evidentiary hearing from May 1, 2017 through May 3, 2017, on issues solely relating to the '336 patent.

On May 3, the Commission determined to review Order No. 23 that granted Respondents' motion for summary determination of non-infringement of the '319 patent. On review, the Commission determined to construe "wall console" as a "wall-mounted control unit," vacated Order No. 23, and remanded the investigation as to the '319 patent to the ALJ for further proceedings. *See* Comm'n Op. (May 5, 2017) at 1-2.

On May 31, 2017, the Commission determined not to review the ALJ's order (Order No. 28) granting a motion to terminate the investigation as to all of the pending claims of the '611 patent. Order No. 28; Comm'n Notice of Non-Review (May 31, 2017).

The ALJ held a second evidentiary hearing from July 12, 2017, through July 13, 2017, on issues relating to the '319 patent.

On November 9, 2017, the Commission determined not to review the ALJ's order (Order No. 36) granting a motion to terminate the investigation as to certain accused products and claims 19-23 of the '336 patent. Order No. 36; Comm'n Notice of Non-Review (Nov. 9, 2017).

On October 23, 2017, the ALJ issued his final ID, finding a violation of section 337 by Respondents in connection with claims 1-4, 7-12, 15, and 16 of the '319 patent. Specifically, the ALJ found that the Commission has subject matter jurisdiction, *in rem* jurisdiction over the accused products, and *in personam* jurisdiction over Respondents. ID at 24-26. The ALJ also found that Chamberlain satisfied the importation requirement of section 337 (19 U.S.C. 1337(a)(1)(B)). *Id.* The ALJ further found that the accused products directly infringe asserted claims 1-4, 7-12, 15, and 16 of the '319 patent, and that Respondents induce infringement of those claims. *See* ID at 130-141, 144. The ALJ also found that Respondents failed to establish that the asserted claims of the '319 patent are invalid for obviousness. ID at 151-212. With respect to the '336 patent, the ALJ found that Respondents do not directly or indirectly infringe asserted claim 34 and that claim 34 is not invalid as obvious. ID at 72-74, 105-119. The ALJ further found that claims 15, 19, and 34 of the '336 patent are invalid under 35 U.S.C. 101 for reciting unpatentable subject matter and that claim 15 is invalid for anticipation but that claims 12, 14, and 19 have not been shown invalid for anticipation. ID at 74-103. Finally, the ALJ found that Chamberlain established the existence of a domestic industry that practices the asserted patents under 19 U.S.C. 1337(a)(2). *See* ID at 257-261, 288-294.

Also on October 23, 2017, the ALJ issued his recommended determination on remedy and bonding. Recommended Determination on Remedy and Bonding ("RD"). The ALJ recommends that in the event the Commission finds a violation of section 337, the Commission should issue a limited exclusion order prohibiting the importation of Respondents' accused products and components thereof that infringe the asserted claims of the '319 patent. RD at 2. The ALJ also recommends issuance of cease and desist orders against respondents Techtronic Industries Company Ltd., Techtronic Industries North America Inc., One World Technologies, Inc., and OWT Industries, Inc. based on the presence of commercially significant inventory in the United States. RD at 5. With respect to the amount of bond that should be posted during the period of Presidential review, the ALJ recommends that the Commission set a bond in the amount of zero (*i.e.*, no bond) during the period of Presidential review. RD at 6-7.

On November 6, 2017, Respondents filed a petition for review as to the '319 patent and a contingent petition for review as to the '336 patent. *See* Respondents' Petition for Review. Also on November 6, 2017, Chamberlain filed a petition for review of the ID, primarily challenging the ALJ's findings of no violation of section 337 as it pertains to the '336 patent. *See* Complainant's Petition for Review of Initial Determination on Violation of Section 337.

On November 14, 2017, Chamberlain and Respondents filed their respective responses to the petitions for review. *See* Complainant's Response to Respondents' Petition for Review of Initial Determination on Violation of Section 337; Respondents' Response to Complainant's Petition for Review.

On December 22, 2017, the Commission determined to review the final ID in part. 82 FR 61792-94 (Dec. 29, 2017). Specifically, for the '319 patent the Commission determined to review (1) the ID's finding that a combination of prior art references Doppelt, Jacobs, and Gilbert fail to render the asserted claims obvious; and (2) the ID's finding that a combination of prior art references Matsuoka, Doppelt, and Eckel fail to render the asserted claims obvious. For the '336 patent the Commission determined to review (1) the ID's finding that claim 34 recites ineligible patent subject matter under 35 U.S.C. 101; and (2) the ID's finding that Pruessel, either alone or in combination with Koestler, fails to render claim 34 obvious. The Commission requested the parties to brief certain issues. *Id.* On January 5, 2018, the parties filed submissions to the Commission's question and on remedy, the public interest, and bonding. *See* Complainant's Response to Request for Written Submissions Regarding Issues Under Review; Respondents' Response to Request for Written Submissions Regarding Issues Under Review. On January 12, 2018, the parties filed reply submissions. *See* Complainant's Reply to Respondents' Submission Addressing the Commission's December 22, 2017 Notice; Respondents' Reply to Complainant's Submission Regarding Issues Under Review.

Having examined the record of this investigation, including the final ID, and the parties' submissions, for the '319 patent the Commission has determined to (1) affirm the ALJ's finding that a combination of prior art references Doppelt, Jacobs, and Gilbert fail to render the asserted claims obvious and (2) affirm the ALJ's finding that a combination of prior art references Matsuoka, Doppelt, and Eckel fail to render the asserted claims obvious, but reverse the ALJ's finding that Eckel is analogous art. For the '336 patent the Commission has determined to (1) affirm the ALJ's finding that Pruessel, either alone or in combination with Koestler, fails to render claim 34 obvious and (2) take no position on the ALJ's finding that claim 34 recites ineligible patent subject matter under 35 U.S.C. 101. The Commission adopts the ID's findings to the extent they are not inconsistent with the Commission opinion issued herewith.

Having found a violation of section 337 in this investigation, the Commission has determined that the appropriate form of relief is: (1) a limited exclusion order prohibiting the unlicensed entry of access control systems and components thereof that infringe one or more of claims 1-4, 7-12, 15, and 16 of the '319 patent that are manufactured by, or on behalf of, or are imported by or on behalf of Respondents or any of their affiliated companies, parents, subsidiaries, agents, or other related business entities, or their successors or assigns, are excluded from entry for consumption into the United States, entry for consumption from a foreign-trade zone, or withdrawal from a warehouse for consumption, for the remaining term of the '319 patent except under license of the patent owner or as provided by law; and (2) cease and desist orders prohibiting TTi HK, TTi NA, One World, and OWT from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, access control systems and components thereof covered by one or more of claims 1-4, 7-12, 15, and 16 of the '319 patent.

The Commission has also determined that the public interest factors enumerated in section 337(d) and (f) (19 U.S.C. 1337(d) and (f)) do not preclude issuance of the limited exclusion order or cease and desist orders. Finally, the Commission has determined that a bond in the amount of zero is required to permit temporary importation during the period of Presidential review (19 U.S.C. 1337(j)) of access control system and components thereof that are subject to the remedial orders. The Commission's orders and opinion were delivered to the President and to the United States Trade Representative on the day of their issuance.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 CFR Part 210).

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: March 23, 2018

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on **March 23, 2018.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

Joseph V. Colaianni, Jr., Esq.
**FISH & RICHARDSON PC**
The McPherson Building
901 15th Street NW, 7th Floor
Washington, DC 20005

- ☐ Via Hand Delivery
- ☒ Via Express Delivery
- ☐ Via First Class Mail
- ☐ Other: _____

**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

- ☐ Via Hand Delivery
- ☒ Via Express Delivery
- ☐ Via First Class Mail
- ☐ Other: _____

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| In the Matter of<br><br>**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016** |
|---|---|

## LIMITED EXCLUSION ORDER

The United States International Trade Commission ("Commission") has determined that there is a violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), in the unlawful importation, sale for importation, or sale within the United States after importation by Respondents Techtronic Industries Co. Ltd.; Techtronic Industries North America Inc.; One World Technologies, Inc.; OWT Industries, Inc.; and Et Technology (Wuxi) Co., Ltd. (collectively "Respondents") of certain access control systems and components thereof covered by one or more of claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent").

Having reviewed the record of this investigation, including the written submissions of the parties, the Commission has made its determination on the issues of remedy, public interest, and bonding. The Commission has determined that the appropriate form of relief is a limited exclusion order prohibiting the unlicensed entry of access control systems and components thereof manufactured by or on behalf of the Respondents or any of their affiliated companies, parents, subsidiaries, licensees, or other related business entities, or their successors or assigns that infringe one or more of claims 1-4, 7-12, 15, and 16 of the '319 patent.

The Commission has also determined that the public interest factors enumerated in 19 U.S.C. § 1337(d) do not preclude the issuance of the limited exclusion order, and that the bond

during the period of Presidential review shall be in the amount of zero of the entered value for the infringing products (*i.e.*, no bond).

Accordingly, the Commission hereby **ORDERS** that:

1. Access control systems and components thereof that infringe one or more of claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent") that are manufactured by, or on behalf of, or are imported by or on behalf of Techtronic Industries Co., Ltd.; Techtronic Industries North America, Inc.; One World Technologies, Inc.; OWT Industries, Inc.; or Et Technology (Wuxi) Co. or any of their affiliated companies, parents, subsidiaries, agents, or other related business entities, or their successors or assigns, are excluded from entry for consumption into the United States, entry for consumption from a foreign-trade zone, or withdrawal from a warehouse for consumption, for the remaining terms of the '319 patent except under license of the patent owner or as provided by law.
2. Notwithstanding paragraph 1 of this Order, the aforesaid access control systems and components thereof are entitled to entry into the United States for consumption, entry for consumption from a foreign trade zone, or withdrawal from a warehouse for consumption, under bond in the amount of zero of the entered value of access control systems or components thereof (*i.e.*, no bond) pursuant to subsection (j) of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337(j)), and the Presidential Memorandum for the United States Trade Representative of July 21, 2005 (70 Fed. Reg. 43251), from the day after this Order is received by the United States Trade Representative, and until such time as the United States Trade Representative notifies the

Commission that this action is approved or disapproved but, in any event, not later than sixty (60) days after the issuance of receipt of this action.

3. At the discretion of U.S. Customs and Border Protection ("CBP") and pursuant to the procedures it establishes, persons seeking to import access control systems and components thereof that are potentially subject to this Order may be required to certify that they are familiar with the terms of this Order, that they have made appropriate inquiry, and thereupon state that, to the best of their knowledge and belief, the products being imported are not excluded from entry under paragraph 1 of this Order. At its discretion, CBP may require persons who have provided the certification described in this paragraph to furnish such records or analyses as are necessary to substantiate this certification.

4. In accordance with 19 U.S.C. § 1337 (l), the provisions of this Order shall not apply to infringing access control systems and components thereof that are imported by or for the use of the United States, or imported for and to be used for, the United States with the authorization or consent of the Government.

5. The Commission may modify this Order in accordance with the procedures described in Rule 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

6. The Secretary shall serve copies of this Order upon each party of record in this Investigation and upon the Department of Health and Human Services, the Department of Justice, the Federal Trade Commission, and U.S. Customs and Border Protection.

7. Notice of this Order shall be published in the Federal Register.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: March 23, 2018

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated, on **March 23, 2018.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

Joseph V. Colaianni, Jr., Esq.
**FISH & RICHARDSON PC**
The McPherson Building
901 15th Street NW, 7th Floor
Washington, DC 20005

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

| In the Matter of | |
|---|---|
| **CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016** |

# CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT RESPONDENT OWT Industries, Inc. ("Respondent"), cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, access control systems and components thereof covered by one or more of claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent") in violation of Section 337 of the Tariff Act of 1930 as amended (19 U.S.C. §1337).

## I.

## Definitions As Used in this Order:

(A) "Commission" shall mean the United States International Trade Commission;

(B) "Complainant" shall mean The Chamberlain Group, Inc. ("Chamberlain") of 300 Windsor Dr., Oak Brook, Illinois 60523.

(C) "Respondent" shall mean OWT Industries, Inc. of 225 Pumpkintown Highway, Pickens, South Carolina 29671.

(D) "Person" shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

(E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.

(F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.

(G) The term "covered products" shall mean access control systems and components, components thereof, and products containing the same that infringe one or more of claims 1-4, 7- 12, 15, and 16 of the '319 patent. Covered products shall not include articles for which a provision of law or license avoids liability for infringement.

## II.

## Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

## III.

## Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order. For the remaining term of the Asserted Patent, the Respondent shall not:

(A) import or sell for importation into the United States covered products;

(B) market, distribute, sell, or otherwise transfer (except for exportation), in the

(C) United States imported covered products;

(D) advertise imported covered products;

(E) solicit U.S. agents or distributors for imported covered products; or

(F) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or engage in distribution of covered products.

## IV.

## Conduct Permitted

Notwithstanding any other provision of this Order, Respondent shall be permitted:

(A) to engage in specific conduct otherwise prohibited by the terms of this Order if, in a written instrument, the owner of the Asserted Patent licenses or authorizes such specific conduct;

(B) to engage in specific conduct otherwise prohibited by the terms of this Order if such specific conduct is related to the importation or sale of covered products by or for the United States.

## V.

## Reporting

For purposes of this requirement, the reporting periods shall commence on July 1 of each year and shall end on the subsequent June 30. The first report required under this section shall cover the period from the date of issuance of this order through June 30, 2018. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered products in the United States. Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. When filing Written

submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(1)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1016") in a prominent place on the cover pages and/or the first page. (See Handbook for Electronic Filing Procedures, http:/ /www.usitc.gov/secretary/fed_reg_ notices/ rules/handbook_on_electronic_filing.pdf). Persons with questions regarding filing should contact the Office of the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainants' counsel.[1]

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

## VI.

## Record Keeping and Inspection

(A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.

[1] Complainant must file a letter with the Secretary identifying the attorney to receive reports associated with this order. The designated attorney must be on the protective order entered in the investigation.

(B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal office during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

## VII.

## Service of Cease and Desist Order

Respondent is ordered and directed to:

(A) Serve, within fifteen days after the effective date of this order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;

(B) Serve, within fifteen days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until each of the Asserted Patents expires.

## VIII.

## Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section V - VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

## IX.

## Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

## X.

## Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. §210.76).

## XI.

## Bonding

The conduct prohibited by Section III of this order may be continued during the sixty-day period in which this order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero percent of the entered value of the covered products (*i.e.*, no bond). This bond provision does not apply to conduct that is otherwise permitted by section IV of this order. Covered products imported after the date of issuance of this order are subject to the entry bond set forth in the exclusion order issued by the Commission, and are not subject to this bond provision.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: March 23, 2018

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated, on **March 23, 2018.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

Joseph V. Colaianni, Jr., Esq.
**FISH & RICHARDSON PC**
The McPherson Building
901 15th Street NW, 7th Floor
Washington, DC 20005

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

| In the Matter of | |
|---|---|
| **CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016** |

# CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT RESPONDENT One World Technologies, Inc. ("Respondent"), cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, access control systems and components thereof covered by one or more of claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent") in violation of Section 337 of the Tariff Act of 1930 as amended (19 U.S.C. §1337).

## I.

## Definitions As Used in this Order:

(A) "Commission" shall mean the United States International Trade Commission;

(B) "Complainant" shall mean The Chamberlain Group, Inc. ("Chamberlain") of 300 Windsor Dr., Oak Brook, Illinois 60523.

(C) "Respondent" shall mean One World Technologies, Inc. of 1428 Pearman Dairy Road, Anderson, South Carolina 29625.

(D) "Person" shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

(E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.

(F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.

(G) The term "covered products" shall mean access control systems and components, components thereof, and products containing the same that infringe one or more of claims 1-4, 7- 12, 15, and 16 of the '319 patent. Covered products shall not include articles for which a provision of law or license avoids liability for infringement.

## II.

## Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

## III.

## Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order. For the remaining term of the Asserted Patent, the Respondent shall not:

(A) import or sell for importation into the United States covered products;

(B) market, distribute, sell, or otherwise transfer (except for exportation), in the

(C) United States imported covered products;

(D) advertise imported covered products;

(E) solicit U.S. agents or distributors for imported covered products; or

(F) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or engage in distribution of covered products.

## IV.

## Conduct Permitted

Notwithstanding any other provision of this Order, Respondent shall be permitted:

(A) to engage in specific conduct otherwise prohibited by the terms of this Order if, in a written instrument, the owner of the Asserted Patent licenses or authorizes such specific conduct;

(B) to engage in specific conduct otherwise prohibited by the terms of this Order if such specific conduct is related to the importation or sale of covered products by or for the United States.

## V.

## Reporting

For purposes of this requirement, the reporting periods shall commence on July 1 of each year and shall end on the subsequent June 30. The first report required under this section shall cover the period from the date of issuance of this order through June 30, 2018. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered products in the United States. Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. When filing Written

submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(1)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1016") in a prominent place on the cover pages and/or the first page. (See Handbook for Electronic Filing Procedures, http:/ /www.usitc.gov/secretary/fed_reg_ notices/ rules/handbook_on_electronic_filing.pdf). Persons with questions regarding filing should contact the Office of the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainants' counsel.[1]

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

## VI.

## Record Keeping and Inspection

(A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.

[1] Complainant must file a letter with the Secretary identifying the attorney to receive reports associated with this order. The designated attorney must be on the protective order entered in the investigation.

(B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal office during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

## VII.

## Service of Cease and Desist Order

Respondent is ordered and directed to:

(A) Serve, within fifteen days after the effective date of this order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;

(B) Serve, within fifteen days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until each of the Asserted Patents expires.

## VIII.

## Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section V - VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

## IX.

## Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

## X.

## Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. §210.76).

## XI.

## Bonding

The conduct prohibited by Section III of this order may be continued during the sixty-day period in which this order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero percent of the entered value of the covered products (*i.e.*, no bond). This bond provision does not apply to conduct that is otherwise permitted by section IV of this order. Covered products imported after the date of issuance of this order are subject to the entry bond set forth in the exclusion order issued by the Commission, and are not subject to this bond provision.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: March 23, 2018

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated, on **March 23, 2018.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

Joseph V. Colaianni, Jr., Esq.
**FISH & RICHARDSON PC**
The McPherson Building
901 15th Street NW, 7th Floor
Washington, DC 20005

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

| In the Matter of | |
|---|---|
| **CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016** |

## CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT RESPONDENT Techtronic Industries Co. Ltd. ("Respondent"), cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, access control systems and components thereof covered by one or more of claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent") in violation of Section 337 of the Tariff Act of 1930 as amended (19 U.S.C. §1337).

## I.

## Definitions As Used in this Order:

(A) "Commission" shall mean the United States International Trade Commission;

(B) "Complainant" shall mean The Chamberlain Group, Inc. ("Chamberlain") of 300 Windsor Dr., Oak Brook, Illinois 60523.

(C) "Respondent" shall mean Techtronic Industries Co. Ltd. of 29/F, Tower 2, Kowloon Commerce Centre, 51 Kwai Cheong Road, Kwai Chung, New Territories, Hong Kong.

(D) "Person" shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

(E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.

(F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.

(G) The term "covered products" shall mean access control systems and components, components thereof, and products containing the same that infringe one or more of claims 1-4, 7- 12, 15, and 16 of the '319 patent. Covered products shall not include articles for which a provision of law or license avoids liability for infringement.

## II.

## Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

## III.

## Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order. For the remaining term of the Asserted Patent, the Respondent shall not:

(A) import or sell for importation into the United States covered products;

(B) market, distribute, sell, or otherwise transfer (except for exportation), in the

(C) United States imported covered products;

(D) advertise imported covered products;

(E) solicit U.S. agents or distributors for imported covered products; or

(F) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or engage in distribution of covered products.

## IV.

## Conduct Permitted

Notwithstanding any other provision of this Order, Respondent shall be permitted:

(A) to engage in specific conduct otherwise prohibited by the terms of this Order if, in a written instrument, the owner of the Asserted Patent licenses or authorizes such specific conduct;

(B) to engage in specific conduct otherwise prohibited by the terms of this Order if such specific conduct is related to the importation or sale of covered products by or for the United States.

## V.

## Reporting

For purposes of this requirement, the reporting periods shall commence on July 1 of each year and shall end on the subsequent June 30. The first report required under this section shall cover the period from the date of issuance of this order through June 30, 2018. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered products in the United States. Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. When filing Written

submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(1)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1016") in a prominent place on the cover pages and/or the first page. (See Handbook for Electronic Filing Procedures, http:/ /www.usitc.gov/secretary/fed_reg_ notices/ rules/handbook_on_electronic_filing.pdf). Persons with questions regarding filing should contact the Office of the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainants' counsel.[1]

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

## VI.

## Record Keeping and Inspection

(A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.

[1] Complainant must file a letter with the Secretary identifying the attorney to receive reports associated with this order. The designated attorney must be on the protective order entered in the investigation.

(B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal office during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

## VII.

## Service of Cease and Desist Order

Respondent is ordered and directed to:

(A) Serve, within fifteen days after the effective date of this order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;

(B) Serve, within fifteen days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until each of the Asserted Patents expires.

## VIII.

## Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section V - VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

## IX.

## Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

## X.

## Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. §210.76).

## XI.

## Bonding

The conduct prohibited by Section III of this order may be continued during the sixty-day period in which this order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero percent of the entered value of the covered products (*i.e.*, no bond). This bond provision does not apply to conduct that is otherwise permitted by section IV of this order. Covered products imported after the date of issuance of this order are subject to the entry bond set forth in the exclusion order issued by the Commission, and are not subject to this bond provision.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: March 23, 2018

CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF

Inv. No. 337-TA-1016

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated, on **March 23, 2018.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

Joseph V. Colaianni, Jr., Esq.
**FISH & RICHARDSON PC**
The McPherson Building
901 15th Street NW, 7th Floor
Washington, DC 20005

- ☐ Via Hand Delivery
- ☒ Via Express Delivery
- ☐ Via First Class Mail
- ☐ Other: _____

**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

- ☐ Via Hand Delivery
- ☒ Via Express Delivery
- ☐ Via First Class Mail
- ☐ Other: _____

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| In the Matter of | |
|---|---|
| **CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016** |

## COMMISSION OPINION

This investigation is before the Commission for a final determination on the issues under review, as well as issues concerning remedy, the public interest, and bonding. The Commission has determined to affirm the presiding administrative law judge's ("ALJ") initial determination ("ID") that Respondents, Techtronic Industries Company Ltd. of Tsuen Wan, Hong Kong; Techtronic Industries North America Inc. of Hunt Valley, Maryland; One World Technologies, Inc. of Anderson, South Carolina; OWT Industries, Inc. of Pickens, South Carolina; and ET Technology (Wuxi) Co., Ltd. of Zhejiang, China (collectively, "Respondents"), violated section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), in connection with claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent"). The Commission has also determined to affirm the ID's finding of no violation of section 337 in connection with claim 34 of U.S. Patent No. 7,339,336 ("the '336 patent").

For the '319 patent the Commission has determined to (1) affirm the ID's finding that a combination of prior art references Doppelt, Jacobs, and Gilbert fail to render the asserted claims obvious and (2) affirm the ID's finding that a combination of prior art references Matsuoka, Doppelt, and Eckel fail to render the asserted claims obvious, but reverse the ID's finding that Eckel is analogous art. For the '336 patent the Commission has determined to (1) affirm the ID's finding that Pruessel, either alone or in combination with Koestler, fails to render claim 34

obvious and (2) take no position on the ID's finding that claim 34 recites ineligible patent subject matter under 35 U.S.C. § 101. The Commission adopts the ID to the extent it does not conflict with this opinion.

Having found a violation of section 337 in this investigation as to the '319 patent, the Commission has determined that the appropriate form of relief is a limited exclusion order ("LEO") and cease and desist orders. The LEO prohibits the unlicensed entry of access control systems and components thereof that infringe one or more of claims 1-4, 7-12, 15, and 16 of the '319 patent that are manufactured by, or on behalf of, or are imported by or on behalf of Respondents, or any of their affiliated companies, parents, subsidiaries, agents, or other related business entities, or their successors or assigns. The cease and desist orders prohibit, among other things, the importation, sale, and distribution of infringing products by respondents Techtronic Industries Company Ltd., Techtronic Industries North America Inc., One World Technologies, Inc., and OWT Industries, Inc.

The Commission has also determined that the public interest factors enumerated in sections 337(d) and (f) (19 U.S.C. §§ 1337(d), (f)) do not preclude issuance of the orders. Finally, the Commission has determined that a bond in the amount of zero (*i.e.*, no bond) is required to permit temporary importation and sale during the period of Presidential review (19 U.S.C. § 1337(j)) of access control systems and components thereof that are subject to the orders.

## I. BACKGROUND

### A. Procedural History

The Commission instituted this investigation on August 9, 2016, based on a complaint filed by The Chamberlain Group, Inc. of Elmhurst, Illinois ("Chamberlain" or "CGI"). 81 *Fed. Reg.* 52713 (Aug. 9, 2016). The complaint alleges violations of section 337 of the Tariff Act of

1930, as amended (19 U.S.C. § 1337), in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain access control systems and components thereof by reason of infringement of one or more of claims 1, 10–12, and 18–25 of U.S. Patent No. 7,196,611 ("the '611 patent"); claims 1–4, 7–12, 15, and 16 of the '319 patent; and claims 7, 11–13, 15–23, and 34–36 of the '336 patent. *Id.* The notice of investigation named as respondents Ryobi Technologies Inc. of Anderson, South Carolina ("Ryobi") and Respondents (set forth above). *Id.* The Office of Unfair Import Investigations is not a party to the investigation.

On October 27, 2016, the Commission determined not to review the ALJ's order (Order No. 4) granting a motion to amend the Notice of Investigation to include the following two additional respondents: Techtronic Trading Limited of Kwai Chung, Hong Kong; and Techtronic Industries Factory Outlets Inc., d/b/a Direct Tools Factory Outlet of Anderson, South Carolina (collectively, "Techtronic"). *See* Order No. 4, Comm'n Notice of Non-Review (Oct. 27, 2016).

On November 7, 2016, the Commission determined not to review the ALJ's order (Order No. 6) terminating the investigation as to Ryobi.[1] *See* Order No. 6, Comm'n Notice of Non-Review (Nov. 7, 2016).

On March 15, 2017, the Commission determined not to review the ALJ's order (Order No. 15) granting a motion to terminate the investigation as to Techtronic. Order No. 15, Comm'n Notice of Non-Review (Mar. 15, 2017).

[1] Ryobi was terminated from the investigation because it no longer exists as an independent entity, having been absorbed by Respondent One World Technologies, Inc. of Anderson, South Carolina.

On March 20, 2017, the Commission determined not to review the ALJ's order (Order No. 18) granting a motion to terminate the investigation as to claims 10, 19-20, and 22 of the '611 patent and claims 7, 11-13, 15-18, 35, and 36 of the '336 patent. Order No. 18; Comm'n Notice of Non-Review (Mar. 20, 2017).

On March 27, 2017, the ALJ issued Order No. 23 granting Respondents' motion for summary determination of non-infringement of the asserted claims of the '319 patent, stemming from the ALJ's construction of the claim term "wall console" to mean "a wall-mounted control unit including a passive infrared detector." *See* Order No. 13 (*Markman* Order at 80).

The ALJ held an evidentiary hearing from May 1, 2017 through May 3, 2017, on issues solely relating to the '336 patent.

On May 3, 2017, the Commission determined to review Order No. 23, which granted Respondents' motion for summary determination of non-infringement of the '319 patent. On review, the Commission determined to construe "wall console" as a "wall-mounted control unit," vacated Order No. 23, and remanded the investigation as to the '319 patent to the ALJ for further proceedings. *See* Comm'n Op. (May 5, 2017) at 1-2.

On May 31, 2017, the Commission determined not to review the ALJ's order (Order No. 28) granting a motion to terminate the investigation as to all of the pending claims of the '611 patent. Order No. 28; Comm'n Notice of Non-Review (May 31, 2017).

The ALJ held a second evidentiary hearing from July 12, 2017 through July 13, 2017 on issues relating to the '319 patent.

On November 9, 2017, the Commission determined not to review the ALJ's order (Order No. 36) granting a motion to terminate the investigation as to certain accused products and claims 19-23 of the '336 patent. Order No. 36; Comm'n Notice of Non-Review (Nov. 9, 2017).

On October 23, 2017, the ALJ issued his final ID, finding a violation of section 337 by Respondents in connection with claims 1-4, 7-12, 15, and 16 of the '319 patent. Specifically, the ALJ found that the Commission has subject matter jurisdiction, *in rem* jurisdiction over the accused products, and *in personam* jurisdiction over Respondents. ID at 24-26. The ALJ also found that Chamberlain satisfied the importation requirement of section 337 (19 U.S.C. § 1337(a)(1)(B)). *Id.* The ALJ further found that the accused products directly infringe asserted claims 1-4, 7-12, 15, and 16 of the '319 patent, and that Respondents induce infringement of those claims. *See* ID at 130-141, 144. The ALJ also found that Respondents failed to establish that the asserted claims of the '319 patent are invalid for obviousness. ID at 151-212. The ALJ, however, found that Respondents do not directly or indirectly infringe claim 34 of the '336 patent, but that clam 34 is not invalid as obvious. ID at 72-74, 105-119. However, the ALJ found that claims 15, 19, and 34 of the '336 patent are invalid under 35 U.S.C. § 101 for reciting unpatentable subject matter and that claim 15 is invalid for anticipation but that claims 12, 14, and 19 have not been shown invalid for anticipation.[2] ID at 74-103. Finally, the ALJ found that Chamberlain established the existence of a domestic industry that practices the asserted patents under 19 U.S.C. § 1337(a)(2). *See* ID at 257-261, 288-294.

Also on October 23, 2017, the ALJ issued his recommended determination on remedy and bonding. Recommended Determination on Remedy and Bonding ("RD"). The ALJ recommends that in the event the Commission finds a violation of section 337, the Commission should issue a limited exclusion order prohibiting the importation of Respondents' accused products and components thereof that infringe the asserted claims of the '319 patent. RD at 2.

[2] As noted above, the Commission determined not to review Order No. 36, terminating the investigation as to claims 19-23 of the '336 patent. Those claims are therefore no longer part of this investigation.

The ALJ also recommends issuance of cease and desist orders against respondents Techtronic Industries Company Ltd., Techtronic Industries North America Inc., One World Technologies, Inc., and OWT Industries, Inc. based on the presence of commercially significant inventory in the United States. RD at 5. With respect to the amount of bond that should be posted during the period of Presidential review, the ALJ recommends that the Commission set a bond in the amount of zero (*i.e.*, no bond). RD at 6-7. Specifically the ALJ found that the undisputed record evidence shows that "the 'average selling price' of Respondents' accused GD200 is more than the price of CGI's comparable HD950WF" and that "using the price differential method, the bond rate should be zero." RD at 6.

On November 6, 2017, Respondents filed a petition for review as to the '319 patent and a contingent petition for review as to the '336 patent.[3] Also on November 6, 2017, Chamberlain filed a petition for review of the ID, primarily challenging the ALJ's findings of no violation of section 337 as it pertains to the '336 patent.[4] On November 14, 2017, Chamberlain and Respondents filed their respective responses to the petitions for review.[5]

On December 22, 2017, the Commission determined to review the final ID in part and requested the parties to brief certain issues. *See* 82 *Fed. Reg.* 23064-66 (May 19, 2017). In its

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[3] *See* Respondents' Petition for Review ("Resp. Pet."). Under the Commission's rules, contingent petitions for review are treated as petitions for review. 19 C.F.R. § 210.43(b)(3).

[4] *See* Complainant's Petition for Review of Initial Determination on Violation of Section 337 ("Chamberlain Pet."). Chamberlain also states that it seeks to preserve its rights with respect to the construction of the claim term "motor drive unit" in the '319 patent to the extent that the Commission disagrees with the construction. Chamberlain Pet. at 1. As noted above, the construction that the ALJ applied is the construction that the Commission adopted. *See* Comm'n Op. (May 5, 2017) at 1-2.

[5] *See* Complainant's Response to Respondents' Petition for Review of Initial Determination on Violation of Section 337 ("Chamberlain Resp."); Respondents' Response to Complainant's Petition for Review ("Resps. Resp.").

notice of review, the Commission posed the following questions:

1. Given the ALJ's finding that Matsuoka, Doppelt, and Eckel are analogous references to the '319 patent, please discuss whether they disclose all elements of the asserted claims of the '319 patent. In particular please discuss motivations to combine them, if any.
2. Discuss whether Pruessel, either alone or in combination with Koestler, renders claim 34 of the '336 patent obvious.

On January 5, 2018, the parties filed submissions to the Commission's questions and also briefed the issues of remedy, the public interest and bonding.[6] On January 12, 2018, the parties filed responses to the initial submissions.[7]

**B. Patents and Technology at Issue**

The technology at issue in this investigation generally relates to control systems for garage door openers. ID at 5.

The '319 patent entitled "Movable Barrier Operator Having Serial Data Communication" issued on January 9, 2007, and names Joseph Ergun and James Fitzgibbon as the inventors. '319 patent (JX-7). The patent describes a wall control unit for a garage door opener (*i.e.*, a moveable barrier operator) that communicates digitally with the head unit of the garage door opener. '319 patent, Abstract. The wall control unit, or "wall console," includes an infrared sensor and uses detected states of light to control the lamp of the head unit. The wall control unit also includes buttons or switches to control the operation of the head unit's motor. '319 patent, col.2 ll.13-35.

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[6] *See* Complainant's Response to Request for Written Submissions Regarding Issues Under Review ("Chamberlain Sub."); Respondents' Response to Request for Written Submissions Regarding Issues Under Review ("Resp. Sub.").

[7] *See* Complainant's Reply to Respondents' Submission Addressing the Commission's December 22, 2017 Notice ("Chamberlain Rep."); Respondents' Reply to Complainant's Submission Regarding Issues Under Review ("Resp. Rep.").

Claims 1-4, 7-12, 15, and 16 are at issue in this investigation. Independent claims 1 and 9 recite:[8]

> 1. An improved garage door opener comprising a motor drive unit for opening and closing a garage door, said motor drive unit having a microcontroller and a wall console, said wall console having a microcontroller, said microcontroller of said motor drive unit being connected to the microcontroller of the wall console by means of a digital data bus.
>
> 9. An improved garage door opener comprising a motor drive unit for opening and closing a garage door, said motor drive unit having a controller and a wall console, said wall console having a controller, said controller of said motor drive unit being connected to the controller of the wall console by means of a digital data bus.

The '336 patent entitled "Movable Barrier Operator Auto-Force Setting Method and Apparatus" issued on March 4, 2008, and names Eric Gregori as the inventor. '336 patent (JX-1). The patent describes a method for use with a "movable barrier operator," whereby the force applied to the barrier is measured and compared against thresholds for determining error states or other problems (*e.g.*, barrier obstructions). The thresholds are intelligently updated continuously without user involvement to avoid improper triggering of error states. *See* '336 patent, Abstract; col.1 ll.32-53. *Id.* Only claim 34 remains at this stage of the investigation.[9] Claim 34 recites:

> 34. A method for use with a movable barrier operator, comprising:
>
> monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move;
>
> automatically increasing a characteristic force value

[8] Claims 2-4, 7, and 8 depend from claim 1, while claims 10-12, 15, and 16 depend from claim 9.

[9] As noted above, claims 19-23 of the '336 patent have been terminated from the investigation. Order No. 36; Comm'n Notice of Non-Review (Nov. 9, 2017).

pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met;

automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met;

using the updated characteristic force value to determine a corresponding excess force threshold value;

determining when force in excess of the excess force threshold value is being applied to the movable barrier; and

taking a predetermined action when excess force is being applied to the movable barrier.

### C. Products at Issue

The products accused of infringing the '319 patent include garage door openers loaded with the C02 firmware, *i.e.*, the Ryobi GD200, GD200A, and GD125.[10] ID at 8. The same products are accused of infringing the '336 patent. ID at 7-8.

## II. ISSUES UNDER REVIEW

### A. Whether the Asserted Claims of the '319 Patent Are Obvious in View of Certain Prior Art

#### 1. Applicable Law on Obviousness

Under 35 U.S.C. § 103, a patent is valid unless "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103. A patent is presumed to be valid, and included within the presumption of validity is a presumption of non-obviousness. *Structural*

[10] The accused products bear the Ryobi® brand. ID at 4.

*Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 714 (Fed. Cir. 1984).

Obviousness is a question of law based on underlying facts, as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). "The Graham factors are (1) the scope and content of the prior art, (2) the difference between the prior art and the claimed invention, (3) the level of ordinary skill in the field of the invention, and (4) any relevant objective considerations." *Soverain Software LLC v. NewEgg, Inc.*, 705 F.3d 1333, 1336 (Fed. Cir. 2013). "The Graham Court explained that 'the ultimate question of patent validity is one of law.'" *Id.* (citing *Graham*, 383 U.S. at 17).

"Generally, a party seeking to invalidate a patent as obvious must demonstrate 'by clear and convincing evidence that a skilled artisan would have been motivated to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.'" *OSRAM Sylvania, Inc. v. Am. Induction Techs., Inc.*, 701 F.3d 698, 706-707 (Fed. Cir. 2012) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)); *see also Amgen, Inc. v. F. Hoffman–LA Roche Ltd.*, 580 F.3d 1340, 1362 (Fed. Cir. 2009) ("An obviousness determination requires that a skilled artisan would have perceived a reasonable expectation of success in making the invention in light of the prior art." (citations omitted)). "The Supreme Court has warned, however, that, while an analysis of any teaching, suggestion, or motivation to combine known elements is useful to an obviousness analysis, the overall obviousness inquiry must be expansive and flexible." *OSRAM*, 701 F.3d at 707.

The critical inquiry in determining the differences between the claimed invention and the prior art is whether there is a reason to combine the prior art references. *C.R. Bard v. M3 Sys.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). For example:

> [A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

*KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418-19 (2007). The Federal Circuit case law previously required that, in order to prove obviousness, the patent challenger had to demonstrate, by clear and convincing evidence, that there is a "teaching, suggestion, or motivation to combine. The Supreme Court rejected the "rigid approach" employed by the Federal Circuit in *KSR Int'l Co. v. Teleflex Inc.*, 500 U.S. 398, 415 (2007). The Federal Circuit has sought to harmonize the *KSR* opinion with many prior circuit court opinions by holding that when a patent challenger contends that a patent is invalid for obviousness based on a combination of prior art references, "the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so." *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007) (citing *Medichem S.A. v. Rolabo S.L.*, 437 F.3d 1175, 1164 (Fed. Cir. 2006)); *Noelle v. Lederman*, 355 F.3d 1343, 1351-52 (Fed. Cir. 2004); *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1121 (Fed. Cir. 2000) and *KSR*, 550 U.S. at 416 ("a combination of elements 'must do more than yield a predictable result'; combining elements that work together 'in an unexpected and fruitful manner' would not have been obvious").

"A reference qualifies as prior art for a determination under § 103 when it is analogous to the claimed invention." *Innovention Toys, LLC v. MGA Entm't, Inc.*, 637 F.3d 1314, 1321 (Fed. Cir. 2011) (citing *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992)). "Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (citing *In re Deminski,* 796 F.2d 436, 442 (Fed. Cir. 1986)). One way of evaluating whether a reference is reasonably pertinent is to consider if, "logically [it] would have commended itself to an inventor's attention in considering his problem." *K-TEC, Inc. v. Vita-Mix Corp.*, 696 F.3d 1364, 1375 (Fed. Cir. 2012) (citing *Innovention*, 637 F.3d at 1321)). The requirement for prior art to be analogous is "meant to defend against hindsight." *In re Khan*, 441 F.3d 977, 986-987 (Fed. Cir. 2006).

An obviousness determination should also include a consideration of "secondary considerations" such as "commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham*, 338 U.S. at 17-18. "For [such] objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention." *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *see Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 837 (Fed. Cir. 2015).

### 2. Whether the Asserted Claims of the '319 Patent Are Obvious in View of Doppelt and Jacobs and Gilbert

#### a. The ID

The ID finds that Respondents failed to show that a combination of UK Patent

Application GB 2312540 ("Doppelt") (RX-0040), U.S. Patent No. 5,467,266 ("Jacobs") (RX-0041), and U.S. Patent No. 5,530,896 ("Gilbert") (RX-0042) render the asserted claims of the '319 patent obvious.[11] ID at 174-75.

The ID finds that like Jacobs, Gilbert is not analogous to the '319 patent. *Id.* at 159. The ID explains that "Gilbert's field can fairly be described as a network addressing system for non-descript appliances or apparatuses." *Id.* (citing RX-0042 at claims 1 (reciting "addressing" and "functional units"); col.1 ll.9-15 (describing "field of the invention" as "addressing a functional unit connected to other functional units via a bidirectional communication space."). The ID rejects Respondents' argument that "Gilbert is within the '319 patent's field of endeavor because its system is structurally and functionally similar to the '319 patent." *Id.* Rather, the ID finds that "[t]here is very little structure disclosed in Gilbert beyond generic "control appliances" with "control buttons," "indicator lamps," etc, and that "it is clear Gilbert is meant to be an address-system that is hardware agnostic." *Id.* (citing RX-0042 at Figure 1, col.3 ll.6-56; Figures 2-8, claims 1-8; Hearing Tr. at 1067:25-1068:25). Respondents did not assert that Gilbert is reasonably pertinent to the particular problem of the '319 patent. *Id.*

For reasons similar to the analysis with respect to motivation to combine Doppelt and Jacobs, the ID finds that Respondents failed to show that an ordinarily skilled artisan would have combined those references. *Id.* at 74. The ID shares Respondents' view that "the difference between the Doppelt/Jacobs combination and the Doppelt/Jacobs/Gilbert combination is merely that Gilbert explicitly discloses wall consoles with microcontrollers, whereas Jacobs has been challenged by CGI for this feature." *Id.* The ID observes that "Respondents' expert's proposed

[11] The ALJ also found that a combination of Doppelt and Jacobs fails to render the asserted claims of the '319 patent obvious. ID at 166. The Commission determined not to review that finding and thus adopts the finding.

motivations to combine Doppelt, Jacobs, and Gilbert are effectively identical to the motivations proposed . . . for just Doppelt and Jacobs." (citing *Compare* RX-0300C at Q205, 208, 209, 210, 211, 212 *with* RX-0300C at Q139, 140, 141, 142, 144, 145). Thus, the ID finds that Respondents' proposed motivations for the Doppelt/Jacobs/Gilbert combination fail to create a *prima facie* case of obviousness for the same reason as the Doppelt/Jacobs combination—"they do not clearly and convincingly identify the obvious benefit conferred by the presence of a microcontroller in a head unit *in addition* to a microcontroller in a wall console, with digital communication there between." *Id.* (emphasis supplied by ID).

**a. Commission Review**

The Commission determined to review the ALJ's finding. On review, the Commission has determined to affirm the ID's findings for the reasons provided in the ID, as supplemented herein. The Commission agrees with the ID that Gilbert and the '319 patent are not analogous art. ID at 159. The Commission also agrees with the ID that Gilbert does not cure the deficiencies the ID finds as to a motivation to combine Gilbert with Jacobs and Doppelt. The Commission concurs with ID's statement that the analysis with respect to a lack of motivation to combine Jacobs and Doppelt applies to a lack of motivation to combine them with Gilbert. ID at 174-75. The Commissionfurther finds that because the references are incompatible, an ordinarily skilled artisan would not combine them. CX-1653C at Q163; CX-1653C at Q164; RX-0042 at 1:47-50; RX-0040 at 1:29-32; RX-0041 at 1:30-32, 1:28-30, 2:25-37.

Gilbert discloses automating a process of addressing functional units in a network, and is directed to connecting specialized control appliances to specialized functional appliances through a bidirectional communication space. RX-42 at 1:47-50; 3:3-12; 3:28-31; CX-1653C (Davis WS) at Q161. Specifically,

Gilbert describes a network configured to make adding, removing, and daisy-chaining appliances on the network. RX-42 at 3:24-27. Yet, garage door openers are already paired with a wall console and do not require this versatility. CX-1653C (Davis WS) at Q161. In contrast to Gilbert and as discussed in the ID, Doppelt addresses the safety hazards arising from a dark garage and Jacobs discloses using a motor to wind window panels while obscuring the motor and wiring. RX-40 at 1:29- 32; RX-41 at 1:30-32, 1:28-30, 2:25-37. Thus, an ordinarily skilled artisan would not combine Doppelt, Gilbert, and Jacobs. CX-1653C (Davis WS) at Q164.

In addition, the microprocessors in the control units and functional units of Gilbert have specialized programs that implement matching processes and address search sub-programs. CX-1653C (Davis WS) at Q165; RX-42 at 3:58-60. That is, the functional units disclosed by Gilbert require specialized programming that "manages the exchange of information between the bidirectional transmission means, the input/output means and the non-volatile memory." RX-42 at 3:61-64. But neither Doppelt nor Jacobs indicate or suggest how to incorporate such programs. CX-1653C (Davis WS) at Q165. Thus, an ordinarily skilled artisan would not attempt to combine them.

In addition, Gilbert solves a problem not relevant to the ' 319 patent and garage door openers. CX-1653C (Davis WS) at Q167. As Chamberlain argues, "[t]o the extent that connecting functional units to control units was

required for garage door openers, this problem was already solved." *Id.* Doppelt solves the problem by the pairing of remote transmitters to the head unit. RX-40 at Fig. 1, 1:13-16. Doppelt's remote transmitters uniquely identified the head unit and were able to control the head unit. Thus, Gilbert's automatic addressing functionality would be unnecessary. CX1653C (Davis WS) at Q167.

### 3. Whether the Asserted Claims of the '319 Patent Are Obvious in View of Matsuoka, Doppelt, and Eckel

#### a. The ID

The ID finds that Respondents failed to show that U.S. Patent No. 4,328,540 ("Matsuoka") (RX-0049), Doppelt, and U.S. Patent No. 5,699,243 ("Eckel") (RX-0048) render the asserted claims of the '319 patent obvious. ID at 179.

The ID finds that "Doppelt and Matsuoka are analogous art to one another and the '319 patent, as all three references are in the same field of endeavor—namely, garage door operators." *Id.* at 157. The ID also finds that Eckel is analogous to the '319 patent, because "[l]ighting control is one of the principal features of both Eckel and the '319 patent" and that the lighting is specifically for intelligently lighting a room of a building (as opposed to vehicle or instrument lighting systems)." *Id.* at 159 (citing '319 patent at col.1 ll.14-2:8; RX-0048 at col.1 l.20-col.2 l.29). The ID adds that "[e]ven more specifically, both references use infrared or motion detectors that detect passersby to control the light." *Id.* (citing '319 patent at 1:14-2:8; RX-0048 at 1:20-2:29).

The ID, however, finds that Respondents failed to show by clear and convincing evidence that it would have been obvious to combine Matsuoka, Doppelt, and Eckel. *Id.* at 179.

Specifically, the ID finds that "Respondents must, but have not, sufficiently explained what benefit is conferred upon Doppelt by adding a *second* microcontroller to the system and within the wall console; or, vice versa, what benefit is conferred upon Matsuoka by adding a *second* microcontroller to the system and within the head unit." *Id.* (emphasis supplied by ID)

The ID notes that Respondents' expert, Mr. Lipoff, identified three reasons that an ordinarily skilled artisan would be motivated to combine those references. *Id.* (citing RX-0300C at Q393). Mr. Lipoff testified that "a PHOSITA in seeking to improve the functionality of home-based electric devices like a garage door opener with remotely controlled lighting (*Doppelt*), would look to other apparatuses for controlling lighting fixtures (*Eckel*) as well as improved systems for controlling garage doors and lamps (*Matsuoka*)." *Id.* The ID states that "[w]hile this testimony is arguably persuasive to show the three references are *analogous*; it is not adequate to establish why it would have been obvious to combine them, which is an entirely separate inquiry." *Id.* (citing *In re Klein*, 647 F.3d at 1348; *Apple*, 839 F.3d at 1050, n.14). The ID further finds references to "improved functionality" or "improving performance" insufficient to be clear or convincing statements on what motivates a person having ordinary skill in the art, finding that "Mr. Lipoff's opinions are conclusory and generic (virtually boilerplate) and hence, not credible." *Id.* at 180.

The ID rejects Mr. Lipoff's second reason for motivation to combine. *Id.* Mr. Lipoff stated that "[s]econd, the '319 patent recognizes a need for an improved garage door operator. The '319 patent allegedly seeks to solve this need by including a microcontroller in the garage door operator's wall control that communicates over a digital data bus." *Id.* (citing RX-0300C at Q396). The ID states that "I can think of no better signal that hindsight is in play for motivation than reliance on the challenged patent's disclosure." *Id.* (citing *Otsuka Pharm.*, 678 F.3d at 1296

("The inventor's own path itself never leads to a conclusion of obviousness; that is hindsight. What matters is the path that the person of ordinary skill in the art would have followed, as evidenced by the pertinent prior art."). With respect to a purported benefit of the combination, the ID finds that "generic references to 'improvements' or adding 'advanced controls and capabilities' is not clear and convincing evidence that an invention specifically claiming a first microcontroller in a motor drive unit *in addition* to a second microcontroller in a wall console was obvious." *Id.* at 181. The ID explains that "[m]ore is needed, such as statements explaining why just one microcontroller is deficient and why it would be obvious, in this art, to have the two microcontrollers communicate with each other in their specified locations." *Id.* (citing *KSR*, 550 U.S. at 399 ("The proper question was whether a pedal designer of ordinary skill in the art, facing the wide range of needs created by developments in the field, would have seen an obvious benefit to upgrading Asano with a sensor.").

The ID notes Mr. Lipoff's third reason for the motivation to combine being that "there would have been a reasonable expectation of successfully combining Matsuoka, Doppelt, and Eckel to practice the alleged invention of the '319 patent because the combination is a predictable use of well-known prior art element according to their established functions." *Id.* (citing RX-0300C at Q397). The ID finds that Mr. Lipoff's testimony is "conclusory and resembles attorney argument rather than expert testimony." *Id.* Specifically, the ID finds that "Mr. Lipoff does not explain *why* it would have been 'routine for a PHOSITA to combine these references." *Id.* at 181-82. The ID states that "even if I accept that it would have been routine to combine the references, I find that a *prima facie* case of obviousness cannot be made without some clear and convincing statement as to the benefit conferred by the combination beyond generic references to 'improved' or 'advanced' functionality" but that "this is all Respondents'

expert leaves me with." *Id.* (citing RX-0300C at Q393-397).

In sum, the ID finds that Respondents failed to establish by clear and convincing evidence that a combination of Matsuoka, Doppelt, and Eckel discloses "a first microcontroller in a motor drive unit, and a second microcontroller in a wall console, with communication between the two." *Id.* at 182.

**b. Commission Review**

As noted above, the Commission determined to review the ID's finding that a combination of prior art references Matsuoka, Doppelt, and Eckel fail to render the asserted claims obvious. The Commission posed the following question to the parties:

> 1. Given the ALJ's finding that Matsuoka, Doppelt, and Eckel are analogous references to the '319 patent, please discuss whether they disclose all elements of the asserted claims of the '319 patent. In particular please discuss motivations to combine them, if any.

**i. Respondents' Submission**

Respondents argue that "the ALJ properly found that the Matsuoka/Doppelt/Eckel combination discloses every limitation of claims 1-2, 4-10, and 12-16" (citing ID at 182-202, 205-12), but erred "in concluding that the combination did not also disclose dependent claims 3 and 11" (citing ID at 202-04). Resp. Sub. at 24. Respondents contend that "the references' teachings as well as expert testimony show that the Matsuoka/Doppelt/Eckel combination discloses claims 3 and 11." *Id.*

With respect to motivation to combine the references, Respondents present the same three arguments that they presented to the ALJ: (1) that the references alleged common fields of endeavor provides motivation to combine them, (2) that a desire to improve upon prior art systems provides a motivation to combine them, and (3) that the references' disclosure of well-

known elements that can be combined per their established functions to achieve predictable results provides a motivation to combine them. *Id.* at 24-31. Respondents add that "knowledge that a microcontroller would improve a movable barrier operator's communication architecture was already "within the level of ordinary skill at the time the claimed invention was made." *Id.* at 24-31.

**b. Chamberlain's Submission**

Chamberlain argues that "Eckel is not analogous art to the '319 patent, and is thus not relevant to an obviousness combination concerning the '319 patent." Chamberlain Sub. at 2 (citing CX-1653C (Davis WS) at Q208; *Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858, 864 (Fed. Cir. 1993)). Chamberlain explains that to "qualify as analogous art, the reference must share either (1) the same field of endeavor as the challenged patent or (2) be reasonably pertinent to the ***particular*** problem to be solved by the challenged patent." *Id.* (citing *Wang Labs.*, 993 F.2d at 864). According to Chamberlain, "Eckel is drawn to a different field than the '319 patent." *Id.* Chamberlain explains that "Eckel discloses an improved, energy efficient occupancy detector that intelligently adapts the threshold amount of time since last detecting an occupant in a room before turning off a light" and that "Eckel's field of endeavor, at its broadest, is advanced occupancy sensors, not the improved garage door operator communications of the '319 patent." *Id.* (citing CX-1653C (Davis WS) at Q208, RX-48 at 1:65-2:2; 4:64-5:4. Chamberlain further explains that "there are inherent differences, objectives, and design considerations between the '319 patent's garage door opener and Eckel's occupancy detector" and so "Eckel fails to qualify as analogous art under the first factor." *Id.* (citing CX-1653C (Davis WS) at Q172.

Regarding the second *Wang* factor, Chamberlain explains that "Eckel's occupancy

detector sought to optimize energy management of prior art occupancy detectors by adjusting the amount of time between last detecting an occupant and automatically turning off a room light." *Id.* at 3 (citing CX-1653C (Davis WS) at Q103, RX-48 at 1:56-61). Chamberlain further explains that "[t]o achieve this optimization, Eckel teaches a method of adjusting the time period by calculating a 'decaying average' of successive times between detected movements, and/or using multiple sensors to assist in such calculations." *Id.* (citing RX-48 at 2:54-61, claim 7). Chamberlain argues that "Eckel discloses a 'switching system **10**' for selectively providing power from a power source to a load (*e.g.*, a light source) based on the needs of the occupants in a room" and that "[t]his problem is significantly different than the particular problem the '319 patent addressed—transformation of a simple analog garage door switch button into a multifunctional control device capable of sending and receiving digital communications between a microcontroller in the wall console and microcontroller in the head end of a garage door opener." *Id.* (citing CX-1653C (Davis WS) at Q102, RX-48 at 1:65-2:2; 2:24-29; 4:64-5:4; CX-1316C (Fitzgibbon WS) at Q57, JX-7 at 7:34-39 (claim 1), 8:16-21 (claim 9). Chamberlain further states that "Eckel cannot be directed to the particular problem of the '319 patent because Eckel discloses at most one microcontroller" and that "Eckel also cannot and does not address the problems associated with microcontroller to microcontroller communications as in the '319 patent." *Id.*

With respect to motivation to combine the references, Chamberlain asserts that the "ALJ properly found that Respondents fell far short of their clear and convincing burden to show a motivation to combine Matsuoka with Doppelt and Eckel." *Id.* at 4. Specifically, Chamberlain argues that each of Respondents' three reasons for their proposed three-way combination "was

inadequately supported with conclusory, generic expert and/or attorney argument." *Id.* (citing ID at 175, 179-182).

**2. Analysis**

The Commission finds that the ID erred in finding that Eckel is analogous to the '319 patent. ID at 159. To support this finding, the ID states that "[l]ighting control is one of the principal features of both Eckel and the '319 patent" and that the "lighting is specifically for intelligently lighting a room of a building (as opposed to vehicle or instrument lighting systems)." *Id.* (citing '319 patent at col.1 ll.14-2:8; RX-0048 at col.1 l.20-col.2 l.29). The ID further states that "[e]ven more specifically, both references use infrared or motion detectors that detect passersby to control the light." *Id.* (citing '319 patent at 1:14-2:8; RX-0048 at 1:20-2:29).

The Commission disagrees that Eckel is analogous to the '319 patent. "Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). The requirement for prior art to be analogous is "meant to defend against hindsight." *In re Khan*, 441 F.3d 977, 986-987 (Fed. Cir. 2006).

The Commission finds that Eckel and the '319 patent are not from the same field of endeavor. Eckel "relates to a motion sensing apparatus for controlling lighting fixtures and, more particularly, to a motion sensing apparatus which automatically and dynamically increases or decreases the length of time lighting fixtures are powered up to accommodate occupants in the lighted area." Eckel, col.1 ll.11-16. Eckel is directed to an occupancy detector intended to conserve energy by adapting a time-out period based on the occupancy of a room. CX-1653C

(Davis WS) at Q208, RX-48 at 1:65-2:2; 4:64-5:4. Eckel mentions exemplary powered systems including "HVAC, security and temperature control systems" but mentions them in the context of a lighting control system. RX-48 at 1:65-2:2; 4:64-5:10. In contrast, the '319 patent discloses "movable barrier operators such as garage door operators or gate operators which include passive infrared detectors ("PIR") associated with them for detecting the presence of a person or other high temperature object for controlling a function of the movable barrier operator such as illumination." '319 patent, col.1 ll.14-20. "The PIR detector is included with the switches for opening the garage door, closing the garage door and causing a lamp to be illuminated." *Id.* at col.2 ll.24-26. That is, the '319 patent is directed to improved garage door operator communications, and the record evidence shows that there are inherent differences, objectives, and design considerations between the garage door openers of the '319 patent and Eckel's occupancy detector. CX-1653C (Davis WS) at Q172. For example, the invention disclosed by Eckel automatically increases or decreases the period for automatically turning off a light to maximize energy efficiency. RX-48 at 1:14-17. However, garage door openers, such as the '319 patent, do not require this process because the lights are turned on and off when the door is activated, a user presses a light button on the wall or remote transmitter, or when the detectors sense the presence of a person. . '319 Patent, col.1 ll.14-20; RX-40 at 2:28-30, 2:35-3:5. Indeed, the evidence shows that Eckel is particularly inapt for application in the garage door opener field because of the abbreviated time people typically spend in a garage as compared to an office or living room, where the Eckel system would be employed. CX-1653C (Davis WS) at Q172.

Further, Eckel and the '319 patent seek to solve entirely different problems. Eckel seeks to optimize energy management of prior art occupancy detectors by adjusting the amount of time between last detecting an occupant and

automatically turning off a room light. CX-1653C (Davis WS) at Q103, RX-48 at 1:56-61. To achieve this optimization, Eckel teaches a method of adjusting the time period by calculating a "decaying average" of successive times between detected movements, and/or using multiple sensors to assist in such calculations. RX-48 at 2:54-61. In contrast, the '319 patent seeks to transform a simple analog garage door switch button into a multifunctional control device capable of sending and receiving digital communications between a microcontroller in the wall console and microcontroller in the head end of a garage door opener. CX-1316C (Fitzgibbon WS) at Q57, JX-7 at 7:34-39 (claim 1), 8:16-21 (claim 9). As the ALJ found, Eckel discloses at most one microcontroller. *See* ID at 182. Thus, Eckel cannot be directed to the particular problem of the ' 319 patent.

The Commission adopts the ID' s findings regarding a lack of motivation to combine the references for the reasons given in the ID and also because Eckel is non-analogous art.

**B. Whether Pruessel, Either Alone or in Combination with Koestler Render Claim 34 of the '336 Patent Obvious**

**1. The ID**

The ID finds that a combination of U.S. Patent No. 6,456,027 ("Pruessel") (RX-0008), U.S. Patent No. 6,043,620 ("Koestler") (RX-0012), U.S. Patent No. 6,326,751 ("Mullet") (RX-0006) and U.S. Patent No. 6,161,438 ("Mullet '438") (RX-0007) fail to render claim 34 obvious. ID at 105-112. The ID notes that "Respondents' initial post-hearing brief suggests one or more

of these references actually disclose all limitations of claim 34." *Id.* at 105 (pointing to Respondents' initial post-hearing brief at 20 ("the evidence of record . . . confirms that Pruessel renders claim 34 obvious")). The ID, however, agrees with Chamberlain that "such anticipation was not argued in Respondents' pre-hearing brief and is at this point waived." *Id.* Specifically, the ID states that "[u]nder Ground Rule 11.2, I agree, and I do not consider whether any prior art reference anticipates claim 34." *Id.* at 105-106.

The ID finds that Respondents failed to present a *prima facie* case of invalidity for claim 34 through obviousness for two reasons. First, the ID finds that each one of Respondents' combinations relies on Koestler to introduce limitation 34(c)–"automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met"–into the methods of Pruessel, Mullet, or Mullet '438. *Id.* at 106. Second, the ID finds that Respondents "have not sufficiently explained what benefit is conferred" by combining the references. *Id.* at 110.

### 2. Commission Review

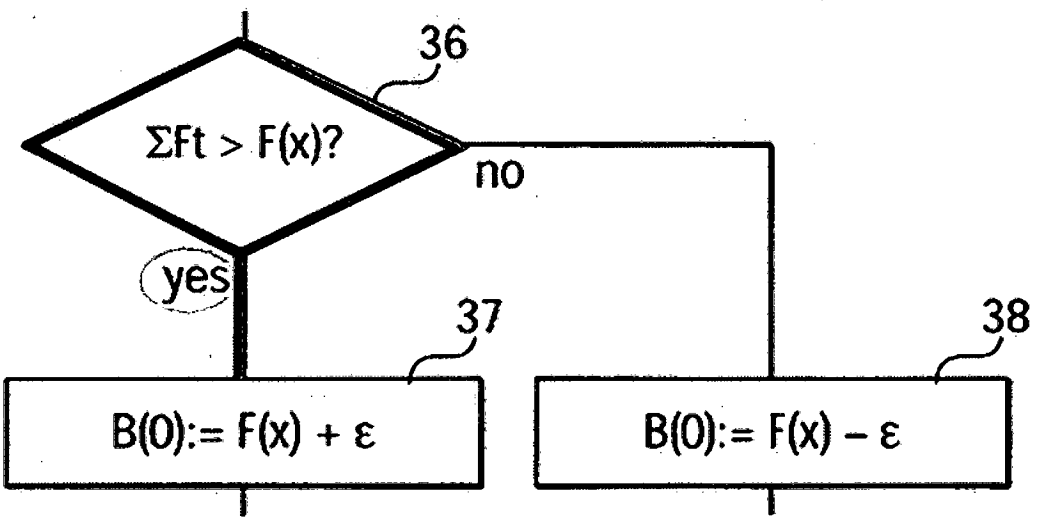
As noted above, the Commission determined to review the ID's finding that Pruessel, either alone or in combination with Koestler, fails to render claim 34 obvious. The Commission posed the following briefing question to the parties:

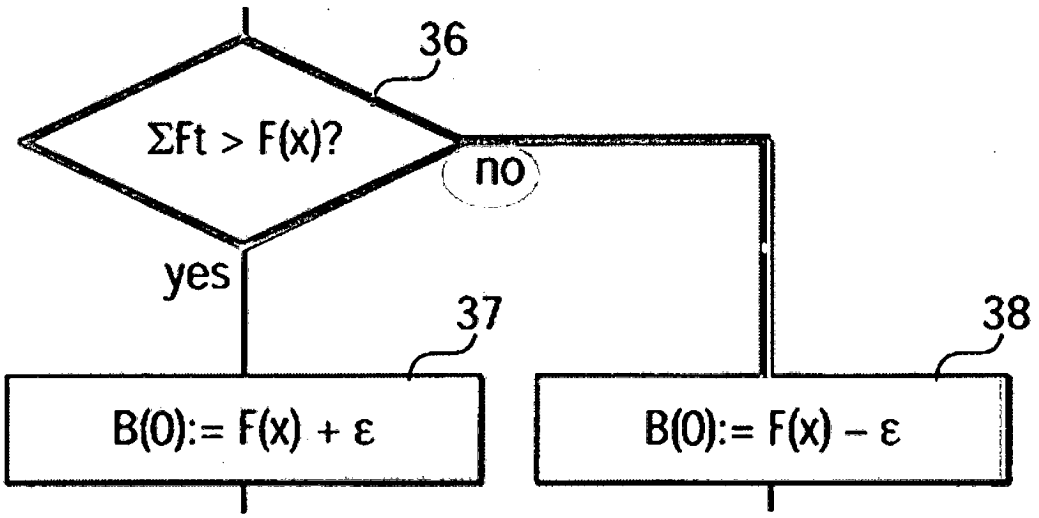
> 2. Discuss whether Pruessel, either alone or in combination with Koestler, renders claim 34 of the '336 patent obvious.

#### i. Respondents' Submission

In response, Respondents argue that Pruessel discloses each and every element of claim 34. Resp. Sub. at 31-38. According to Respondents, the only limitations in dispute are claim

34's recital of two "different" "determination processes," one for "automatically increasing a characteristic force value," and another for "decreasing the characteristic force value." *Id.* at 32. Respondents state that "Pruessel discloses these limitations because Pruessel's force value adjustment algorithm uses one determination process for increasing a characteristic force value and another, different process for decreasing that value." *Id.* Respondents point to Figure 3 of Pruessel and argue that it "depicts the force adjustment algorithm in a flowchart, and clearly shows these two different determination processes." *Id.* Specifically, Respondents argue that "Pruessel's algorithm uses a 'first determination process' for automatically increasing a characteristic force value (F(x)) and a 'second determination process' for automatically decreasing the characteristic force value." *Id.* Respondents present annotated versions of Figure 3 below:






Respondents contend that Chamberlain's expert, Dr. Direen, "agreed that Pruessel discloses using two different determination processes to adjust a characteristic force value (*i.e.*, the stored force limit value, F(x)) and that the selection between these processes (ΣFt is greater than F(x), or ΣFt is not greater than F(x)) occurs in response to a monitored parameter (*i.e.*, the measured force, ΣFt)." *Id.* at 33. According to Respondents, "[a]t the hearing, Dr. Direen conceded that 'Pruessel discloses adding a fixed amount to the stored limit value if the measured force value is greater than the stored value'" and agreed that "Pruessel discloses subtracting a fixed amount from the stored limit value if the measured force is less than the stored force value." *Id.* (citing Hr'g Tr. at 684:21-25, 685:5-9).

Respondents also argue that Koestler discloses these limitations and so a combination of Pruessel and Koestler also render claim 34 obvious. *Id.* at 38-44.

**ii. Chamberlain's Submission**

Chamberlain argues that Respondents have waived the right to rely on Pruessel alone to invalidate claim 34 because Respondents failed to include that argument in their pre-hearing brief in violation of the ALJ's ground rules. Chamberlain Sub. at 26-27 (citing ID at 105; *Certain Air Mattress Systems, Components Thereof, and Methods of Using the Same*, Inv. No.

337-TA-971, Comm' n Op. at 21 (June 20, 2017) ( "We note that Complainants waived this argument by failing to raise it in their pre-hearing brief in accordance with [the relevant Ground Rule]." ).

In any event, Chamberlain argues that Pruessel fails to disclose the limitations at issue. Specifically, Chamberlain asserts that "Pruessel fails to disclose the 'automatically increasing' limitation because the alleged characteristic force value, ***ΣFt***, is not automatically increased by the alleged first determination process, block 37, as required by claim 34." *Id.* Chamberlain notes that "Respondents identify ***ΣFt*** as the characteristic force value, and the first determination process as following the 'Yes' branch from the decision in block 36 to the operation in block 37. *Id.* (citing RX-1C (Pedram WS) at Q339). According to Chamberlain, "to satisfy this limitation under Respondents' theory, ***ΣFt***, must be updated in block 37" but that "[b]lock 37 shows that ***ΣFt*** is not updated, instead, a buffer value is set to a limit value F(x) plus an offset." *Id.* (citing RX-8 at Fig. 3). Chamberlain explains that "[t]he limit value is the F(x) value that is modified and stored in a buffer—not ***ΣFt***' and hence "the characteristic force value, ***ΣFt***, is not automatically increased under Respondents' theory as claim 34 requires." *Id.* (citing JX-1 at 20:52-21:7 (claim 34) ("automatically increasing ***a characteristic force value*** pursuant to a first determination process . . . ."). Chamberlain asserts that "[i]n fact, the ***ΣFt***, *i.e.*, the alleged characteristic force value, does not change at all pursuant to either of Respondents' identified increasing or decreasing determination processes as shown in block 38 above." *Id.*

According to Chamberlain, "[t]o overcome this apparent deficiency in their theory, Respondents attempted to support their argument, by distorting the hearing testimony of Dr. Direen." *Id.* at 32. Yet, Chamberlain contends that "Dr. Direen's hearing testimony on cross examination was consistent with his direct testimony" and that "Dr. Direen consistently testified

that Pruessel updates stored values both during cross examination, (Hrg Tr. (Direen) at 681:14-19), and in his witness statement." *Id.* (citing CX-1307 (Direen WS) at Q93). Chamberlain states that "Dr. Direen never testified that the stored values are characteristic force values." *Id.*

Chamberlain also argues that claim 34 requires automatically increasing or decreasing the "characteristic force value . . . ***in response to*** the monitored at least one parameter . . . ." but that "Pruessel does not disclose this limitation because the alleged determination processes do not increase or decrease a value in response to what Respondents allege to be the monitored parameter." *Id.* at 29 (citing JX-1 at 20:52-21:7 (claim 34); CX-1307C (Direen WS) at Q92).

Finally, Chamberlain contends that "Respondents' proposed combination of Pruessel and Koestler fails to render claim 34 obvious" because "there is no motivation to combine Pruessel with Koestler to arrive at the invention of claim 34" and that "the combination of Pruessel and Koestler fails to disclose the automatically increasing and automatically decreasing limitations of claim 34." *Id.* at 32-36 (citing CX-1307C (Direen WS) at Q317-326); JX-1 at 20:52-21:7 (claim 34).

### 3. Analysis

As noted above, the ID finds that Respondents did not present argument under section 35 U.S.C. § 102 (*i.e.*, anticipation) regarding whether Pruessel anticipates claim 34 in its pre-hearing brief, and that consequently Respondents waived the right to do so. ID at 105-106 ("[u]nder Ground Rule 11.2, I agree, and I do not consider whether any prior art reference anticipates claim 34."). No party disputes this finding.

No party disputes that Respondents timely raised combining Pruessel with Koestler for obviousness. Yet, Respondents did not present Pruessel alone as a reference that renders claim 34 obvious in their pre-hearing brief as shown below:

| Invalidating Reference or Combination | Invalidated Claim(s) of the '336 Patent |
|---|---|
| U.S. Patent No. 6,326,751 to Mullet | 12, 14, 15, 19 |
| U.S. Patent No. 6,161, 438 to Mullet | 12, 15 |
| U.S. Patent No. 5,539,290 to Lu | 12, 15, 22, 23 |
| U.S. Patent No. 6,456,027 to Pruessel | 12, 15 |
| Mullet in view of U.S. Patent No. 6,310,451 to Fitzgibbon | 20, 21 |
| Mullet, Mullet '438, Lu, or Pruessel in view of U.S. Patent No. 6,404,158 to Boisvert | 22, 23 |
| Mullet, Mullet '438, or Pruessel in view of U.S. Patent No. 6,043,620 to Koestler | 34 |

Respondents' Pre-Hearing Statement at 10. And even though Chamberlain was on notice that Respondents intended to rely on a combination of Pruessel and other references for obviousness, "the tests for anticipation and obviousness are different." *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1363-64 (Fed. Cir. (2008). In its submission to the Commission, Respondents argue that Pruessel discloses each and every limitation of claim 34 (Resp. Sub. at 31-38), which is effectively an anticipation argument. For example, Respondents do not argue that certain disclosure in Pruessel combined with the knowledge of an ordinarily skilled artisan would have disclosed the elements of claim 34, which would be an obviousness argument. Having waived the right to make anticipation arguments before the ALJ, Respondents cannot circumvent their waiver under the guise of obviousness.

In any event, the Commission agrees with the ID and Chamberlain that Respondents have failed to show by clear and convincing evidence that Pruessel discloses the limitations at issue. CX-1307C (Direen WS) at Q320-22; JX-1 at 20:52-21:7 (claim 34). Claim 34 requires "automatically increasing a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met" and "automatically decreasing the characteristic force

value pursuant to a second determination process which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met." Yet, it is unclear what Respondents identify as the "characteristic force value." Respondents' expert, Dr. Pedram, appears to have identified $\Sigma Ft$ as the characteristic force vale. *See* RX-1C (Pedram WS) at Q339. Yet, Respondents seem to identify the "stored force value F(x)" as the characteristic force value. *See* Resp. Sub. at 35. This inconsistency shows that Respondents' evidence does not rise to the clear and convincing standard necessary to render claim 34 obvious.

### C. Whether Claim 34 of the '336 Patent Is Invalid Under 35 U.S.C. § 101 for Claiming Unpatentable Subject Matter

The Commission determined to review whether claim 34 of the '336 patent is invalid under 35 U.S.C. § 101 for claiming unpatentable subject matter. On review, the Commission has determined to vacate and take no position on the ID's section 101 analysis (ID at 81-96). *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) ("The Commission . . . is at perfect liberty to reach a "no violation" determination on a single dispositive issue. That approach may often save the Commission, the parties, and this court substantial unnecessary effort."). The Commission has adopted the ID's finding that the accused products do not infringe claim 34.

## III. REMEDY

## A. Limited Exclusion Order

### 1. Summary of the Issue and Parties' Arguments

Where a violation of section 337 has been found, the Commission must consider the issues of remedy, the public interest, and bonding. Section 337(d)(1) provides that "[i]f the Commission determines, as a result of an investigation under this section, that there is a violation of this section, it shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States ..." 19 U.S.C. § 1337(d)(1). The Commission has "broad discretion in selecting the form, scope, and extent of the remedy." *Viscofan, S.A. v. U.S. Int'l Trade Comm'n*, 787 F.2d 544, 548 (Fed. Cir. 1986). The Commission may issue an exclusion order excluding the goods of the person(s) found in violation (a limited exclusion order) or, if certain criteria are met, against all infringing goods regardless of the source (a general exclusion order). The Commission also has authority to issue cease and desist orders in addition to or in lieu of exclusion orders. *See* 19 U.S.C. § 1337(f). The Commission generally issues cease and desist orders to respondents who maintain commercially significant inventories of infringing products in the United States. *See, e.g.*, *Certain Laser Bar Code Scanners and Scan Engines, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-551, Comm'n Op. at 22 (June 14, 2007).

As noted above, on October 23, 2017, the ALJ issued his recommended determination on remedy and bonding. Recommended Determination on Remedy and Bonding ("RD"). The ALJ recommends that in the event the Commission finds a violation of section 337, the Commission should issue a limited exclusion order prohibiting the importation of Respondents' accused products and components thereof that infringe the asserted claims of the '319 patent. RD at 2. The ALJ also finds that Respondents have not presented a justification for their request to

include a certification provision in the limited exclusion order ("LEO"). RD at 2

Chamberlain agrees with the ALJ that the Commission should issue an LEO directed to Respondents' infringing products. Chamberlain Sub. at 36. Chamberlain argues that the LEO should not include a certification provision. *Id.* at 37. According to Chamberlain, "[t]he Commission has commonly included certification provisions in its limited exclusion orders where respondents import both infringing and non-infringing products." *Id.* (citing *Certain Dental Implants*, Inv. No. 337-TA-934, Comm' n Op. at 48 (Pub. Version) (May 11, 2016)). Chamberlain further explains that "certification provisions are 'generally included where [Customs and Border Protection] may be unable to easily determine by inspection whether an imported product violates a particular exclusion order.' " *Id.* Chamberlain asserts that "[n]either circumstance is present in this investigation" because "[t]here is no evidence suggesting that CBP would have difficulty ascertaining whether a particular access control system infringes one or more of the asserted claims" and that "all of Respondents' products were found to be in violation of Section 337." *Id.*

Respondents state that "should the Commission find a violation as to either Asserted Patent, any limited exclusion order should include a certification provision that would allow Respondents to certify to United States Customs and Border Protection that certain imports are not covered by the exclusion order." Resp.' Sub. at 44. According to Respondents, "[a] certification provision will aid Customs in its independent assessment of whether a limited exclusion order applies to particular goods." *Id.* Respondents explain that "[e]very asserted

claim of the '319 patent requires a controller (or microcontroller) in a garage door opener's 'motor drive unit' connected to a controller in a 'wall console' by a 'digital data bus.'" *Id.* Non-infringing products, Respondents contend, "would include those that use a wireless connection between the controller of the 'wall console' and the controller of the 'motor drive unit,' or those in which the controller of the 'wall console' is connected via a 'digital data bus' to a controller that is not part of the 'motor drive unit.'" *Id.* Thus, Respondents assert that a certification provision "will assist Customs in efficiently identifying redesigned products not subject to any limited exclusion order." *Id.*

**2. Analysis**

As discussed above, The Commission agrees with the ID that a violation of section 337 has occurred with respect to the '319 patent. The Commission accepts the RD's recommendation and issues herewith an LEO directed to Respondents' infringing products.

The LEO provides that:

> Access control systems and components thereof that infringe one or more of claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent") that are manufactured by, or on behalf of, or are imported by or on behalf of Techtronic Industries Co., Ltd.; Techtronic Industries North America, Inc.; One World Technologies, Inc.; OWT Industries, Inc.; or Et Technology (Wuxi) Co. (collectively Respondents") or any of their affiliated companies, parents, subsidiaries, agents, or other related business entities, or their successors or assigns, are excluded from entry for consumption into the United States, entry for consumption from a foreign-trade zone, or withdrawal from a warehouse for consumption, for the remaining term of the '319 patent except under license of the patent owner or as provided by law.

The LEO is similar to the order proposed by Chamberlain, except that it includes the standard certification provision that allows Respondents to certify that under procedures to be specified by U.S. Customs and Border Protection ("CBP"), they are familiar with the terms of

the exclusion order, that they have made appropriate inquiry, and that, to the best of their knowledge and belief, the products being imported are not subject to the exclusion order. [12]

The RD does not recommend including a certification provision in the LEO and Chamberlain argues that inclusion of such a provision is not warranted here. However, certification provisions are included in exclusion orders to aid CBP in enforcement of Commission orders. Certification provisions do not mandate that CBP accept certification as proof that the articles in question are not covered by the LEO. *See Certain Network Devices, Related Software and Components Thereof (I)*, Inv. No. 337-TA-944, Comm'n Op. at 54 n.19 (June 23, 2016). Rather, the provision grants CBP discretion and aid in enforcing Commission orders. The certification provision states that:

> At the discretion of U.S. Customs and Border Protection ("CBP") and pursuant to the procedures it establishes, persons seeking to import access control systems and components thereof that are potentially subject to this Order may be required to certify that they are familiar with the terms of this Order, that they have made appropriate inquiry, and thereupon state that, to the best of their knowledge and belief, the products being imported are not excluded from entry under paragraph 1 of this Order. At its discretion, CBP may require persons who have provided the certification described in this paragraph to furnish such records or analyses as are necessary to substantiate this certification.

## B. Cease and Desist Orders

### 1. Summary of the Issue and Parties' Arguments

The RD also recommends issuance of cease and desist orders against the following respondents: Techtronic Industries Company Ltd. of Tsuen Wan, Hong Kong ("TTi HK");

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[12] The Commission asked Chamberlain to supply the names of known importers of the Respondents' products at issue in this investigation. *See* 82 *Fed. Reg.* 61792-94 (Dec. 29, 2017). In response, Chamberlain identified One World but did not identify any third party importers of the accused products. Chamberlain Sub. at 37.

Techtronic Industries North America Inc. of Hunt Valley, Maryland ("TTi NA"); One World Technologies, Inc. of Anderson, South Carolina ("One World"); and OWT Industries, Inc. of Pickens, South Carolina ("OWT"). RD at 5. Specifically, the RD finds that One World maintains a commercially significant inventory of infringing products in the United States. *Id.* at 4. The RD, while stating that it is a "close call," recommends issuance of cease and desist orders against TTi HK, TTi NA, and OWT because "each of TTi NA, One World, and OWT is a wholly owned subsidiary under TTi HK," and that the relationship "indicates that each of TTi HK, TTi NA, One World, and OWT are involved in maintaining or controlling One World's 'commercially significant' inventory." *Id.* at 4 (citing CX-1152C at 11-12). The RD recommends no cease and desist order against respondent ET Technology (Wuxi). Co., Ltd. of Zhejiang, China ("Et Door") because Et Door "is not a U.S. company and a third party to the TTi HK respondents" and Chamberlain "has not shown that Et Door maintains a "commercially significant" inventory in the U.S." *Id.* at 5.

Chamberlain agrees with the RD's recommendation. Chamberlain Sub. at 37-38. Respondents argue that because TTi HK, TTi NA, and OWT do not maintain inventories of the infringing products in the United States cease and desist orders should not be issued against them.

**2. Analysis**

The Commission has determined to accept the RD's recommendation and issues herewith, cease and desist orders under 19 U.S.C. §1337(f) directed to TTi HK, TTi NA, OWT, and One World.

The Commission generally issues cease and desist orders when, with respect to the imported infringing products, respondents maintain commercially significant inventories in the United States or have significant domestic operations that could undercut the remedy provided

by an exclusion order. *See, e.g., Certain Network Devices, Related Software and Components Thereof (I)*, Inv. No. 337-TA-944, Comm'n Op. at 56 (July 26, 2016) (public version). There is no dispute that the One World has commercially significant inventories of infringing products in the United States. There is also no dispute that TTi HK, TTi NA, OWT are related to One World. Indeed, TTi HK controls TTi NA, OWT, and One World, and therefore, these entities maintain control of commercially significant inventory of infringing products in the United States. Thus, cease and desist orders directed to all of the respondents is appropriate. *See Certain Magnetic Data Storage Tapes and Cartridge Containing the Same*, Inv. No. 337-TA-1012, Comm'n Op. at 132-33 (Mar. 8, 2018).[13] No one argues that cease and desist orders should issue against Et Door. The attached cease and desist orders prohibit TTi HK, TTi NA, OWT and One World from:

> importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting U.S. agents or distributors for, access control systems and components thereof covered by covered by one or more of claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent") in violation of Section 337 of the Tariff Act of 1930 as amended (19 U.S.C. § 1337).

The cease and desist orders include the following standard exemption: if in a written instrument, the owner of the patent authorizes or licenses such specific conduct, or such specific conduct is

[13] Chairman Schmidtlein supports issuance of the cease and desist orders in this investigation for reasons similar to those offered by her in previous investigations. *See, e.g., Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, Comm'n Op. at 6-7, n.2 (Feb. 1, 2017) (public version); *Certain Network Devices, Related Software and Components Thereof (I)*, Inv. No. 337-TA-944, Comm'n Op. at 56, n.20 (July 26, 2016) (public version). Specifically, she finds that the presence of some infringing domestic inventory, regardless of the commercial significance, provides a basis to issue cease and desist orders in this investigation.

related to the importation or same of covered products by or for the United States.

## IV. THE PUBLIC INTEREST

Sections 337(d) and (f) of the Tariff Act of 1930, as amended, direct the Commission to consider certain public interest factors before issuing a remedy. These public interest factors include the effect of any remedial order on the "public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers." 19 U.S.C. §§ 1337(d), (f).

Chamberlain argues that "the public interest factors do not call for the denial of the proposed remedy with respect to the infringing imports" and that "[t]he aggregate impact of the proposed exclusion order and cease and desist order on the public interest factors set forth in the statute is minimal, if not non-existent, because there are reasonable substitutes–both CGI products and other GDO products–for the infringing imports." Chamberlain Sub. at 40. Chamberlain explains that the products at issue, access control systems, "are not embodiments of a technology that is unique to medical products, pharmaceuticals, or other products that are important in the delivery of healthcare or the maintenance of public health or safety." *Id.* at 39 Rather, according to Chamberlain, "the access control systems that are the subject of this investigation are typically used in residential and commercial settings to operate garage doors" and that "[t]o the extent a product is used in the provision of healthcare or public safety, e.g. a hospital garage door, there are other alternative access control systems and

suppliers available to the users of such products." *Id.* Chamberlain states that it "manufactures competing access control systems and can and does readily fulfill any such demand." *Id.* Chamberlain argues that "the Commission has recognized that there is a public interest in the enforcement of valid intellectual property rights such as those asserted in this Investigation." *Id.* at 40.

Respondents did not provide any comments on the public interest, and no public interest statements were received from members of the public.

**Analysis**

The Commission has determined, based on the record of this investigation, that none of the public interest factors weighs against the issuance of remedial orders in this investigation. Indeed, Respondents do not challenge Chamberlain's assertion that issuance of the remedial orders proposed in this investigation would not implicate any of the public interest factors. In addition, the evidence shows that Chamberlain and other supplies can adequately supply the market for access control systems. Thus, the Commission finds that the statutory public interest factors enumerated in subsections (d)(1) and (f)(1) of section 337 do not preclude the issuance of remedial orders in this investigation.

## V. BOND

During the 60-day period of Presidential review, imported articles otherwise subject to remedial orders are entitled to conditional entry under bond. 19 U.S.C. § 1337(j)(3). The amount of the bond is specified by the Commission and must be an amount sufficient to protect the complainant from any injury. *Id.*; 19 C.F.R. § 210.50(a)(3). The Commission frequently sets

the bond by attempting to eliminate the difference in sales prices between the patented domestic product and the infringing product. *Certain Microsphere Adhesives, Process For Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. at 24, USITC Pub. No. 2949 (Jan. 1996). In other cases, the Commission has turned to alternative approaches, especially when the level of a reasonable royalty rate could be ascertained. *See, e.g., Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, Comm'n Op. at 41 (1995). In cases where the Commission does not have sufficient evidence upon which to base a determination of the appropriate amount of the bond, the Commission has set a 100 percent bond. *See Certain Sortation Systems, Parts Thereof, and Products Containing Same*, Inv. No. 337-TA-460, Comm'n Op. at 21 (Mar. 2003). Complainants bear the burden of establishing the need for a bond amount in the first place. *Certain Rubber Antidegradants, Components Thereof, and Prods. Containing Same*, Inv. No. 337-TA-533, Comm'n Op. at 39-40 (July 21, 2006).

The RD recommends that the Commission set a bond in the amount of zero (*i.e.*, no bond) during the period of Presidential review. RD at 6. Specifically, the RD finds that "[t]he evidence of [r]ecord shows that the 'average selling price' of Respondents' accused GD200 is more than the price of CGI's comparable HD950WF (*see* RX-0227 at Q202, 203), which neither party disputes," and so "using the price differential method, the bond rate should be zero." *Id.* (citing *Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, Comm'n Op. at 15 (Jan. 27, 2017)). *Id.*

Chamberlain argues that the Commission "should require a bond of at least 100% on imports of infringing products" during the period of Presidential review. Chamberlain states that even though "the ALJ's recommendation found that the accused GD200, for example, was more

than the price of CGI's comparable HD950WF, and recommended a bond rate of zero, the Commission has recognized that even in such circumstances, competitive injury to a complainant still exists, warranting the imposition of a bond." Chamberlain Sub. at 40 (citing *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, Comm'n Op. at 40 (Sept. 23, 1996).

According to Chamberlain, in *Wind Turbines*, "under a straight price comparison, although the accused products were initially more expensive than complainant's comparable wind turbines, the Commission still found a competitive injury to complainant warranting the imposition of a 100% bond." *Id.* at 41 (citing *Wind Turbines* Comm'n Op. at 27-28 (acknowledging the IA's argument that "in accord with the ALJ's RD, . . . a bond reflecting a straight price comparison would not accurately reflect the factors that would motivate prospective purchasers to choose one machine over another, and that in cases where no reliable pricing information is available, the Commission has imposed a 100 percent bond"); *id.* at 40 (recognizing that a bond must still be set at a level sufficient to "protect complainant from any injury" during the Presidential review period).

Chamberlain further argues that "Section 337's bond provision is prospective—that is, more recent data should be used in assessing a bond necessary to offset competitive injury to a complainant." *Id.* (citing *Certain Soft Sculpture Dolls Popularly Known as "Cabbage Patch Kids," Related Literature and Packaging Therefor*, Inv. No. 337-TA-231, Comm'n Op. at 25-26 (USITC Pub. No. 1923, Nov. 1986) ("Since the bonding requirement operates prospectively, we have determined that the most recent pricing data, if reliable, should be used"). Chamberlain contends that "the ALJ's reliance on RX-0227C (relaying information no more recent than March 2017, the date of this witness statement) (RD at 6) does not accurately reflect the more

recent data showing a downward trend in price of the accused products vis-à-vis Chamberlains' comparable HD950WF product since March 2017." *Id.* (citing "Direct Tools Factory Outlet: RYOBI Garage Door Opener," available at https://www.directtoolsoutlet.com/products/ryobi-garage-door-opener (accessed Jan. 5, 2018) (listing lower $149.99-$187.49 price for accused Ryobi product); Amazon Listing of HD950WF, "Chamberlain 1-1/4 HPS Smartphone-Controlled Wi-Fi Belt Drive Garage Door Opener with Battery Backup and Ultra-Quiet Operation," available at https://www.amazon.com/Chamberlain-Smartphone-Controlled-Battery-Ultra-Quiet-Operation/ dp/B015ZULARQ (accessed Jan. 5, 2018) (listing higher $379.99 price for CGI's HD950WF). Chamberlain states that "[u]nder these circumstances and in the absence of reliable data as to price, the Commission should impose a 100% bond" or "[a]lternatively, using the most recent price comparison of the accused GD200A's $187.49 retail price against CGI's HD950WF's retail price of $379.99, the bond imposed should be at least 103%." *Id.* (citing *Certain Variable Speed Wind Turbines*, Inv. No. 337-TA- 376, Comm'n Op. at 40).

Respondents agree with the RD's recommendation as to a zero bond. Resp. Sub. at 47-48. Respondents argue that the Commission should reject Chamberlain's "new bond theory both because it is untimely and because it is legally and factually baseless." Resp. Rep. at 23-24. According to Respondents, "the clear and undisputed evidence shows that TTi's selling price for the accused product is higher that CGI's selling price for its HD950WF product" and that even though "the only pricing information ever offered by Complainant is now several months old, this is wholly unremarkable—the evidentiary record in any Investigation is compiled some months before Commission review—and does not undermine the ALJ's recommendation." *Id.* (citing RD at 6). Respondents distinguish *Wind Turbines* by explaining that "none of the factors causing uncertainty in *Wind Turbines* is present here." *Id.* (citing *Certain Variable Speed Wind*

*Turbines & Components Thereof*, Inv. No. 337-TA-376, Comm'n Op. at 40 (Sept. 23, 1996) (accepting the ALJ's recommendation to set a 100% bond "because of the difficulty in quantifying the cost advantages of respondents' imported [products] and because of price fluctuations due to exchange rates and market conditions").

Respondents further argue that "third party *retail* sales prices are irrelevant" and that "[i]nstead, the price charged by Complainant and Respondents—the wholesale price—is what matters here." *Id.* (citing CX-1253C at Q&A 288-290 and RX-227C at Q&A 199-204 (both economic experts analyzed wholesale sales information); *see also* RX-2C (Home Depot is the exclusive retailer of Ryobi-branded products); CX-1255C Q&A 13 (CGI sells to its customers who in turn sell to end-users)).

Finally, Respondents state that "to call CGI's cherry-picked evidence 'thin' would be an overstatement" because Chamberlain "contrasts a discount outlet's retail price for used and heavily discounted GD200 products with a HD950WF price advertised on Amazon.com by a single third party seller." *Id.* (citing *See* https://www.directtoolsoutlet.com/products/ryobi-garage-door-opener (visited Jan. 8, 2018); https://www.amazon.com/chamberlain-smartphone-controlled-battery-ultra-quiet-operation/dp/B015ZULARQ (visited Jan. 8, 2018) ("Only 2 left in stock – order soon."). Respondents note that "Home Depot—the primary retail outlet for both products (*see, e.g.,* CX-1253C at 62; RX-2C at Q&A 20)—is not currently advertising either on its website" and that "[t]he advertised retail price for a few lingering products is irrelevant to market conditions generally, or the bond analysis specifically." *Id.*

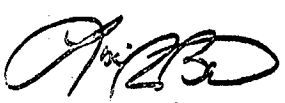
**Analysis**

The Commission has determined to accept the ALJ's recommendation and sets a bond in the amount of zero (*i.e.*, no bond) for products imported during the period of Presidential review.

The evidence the parties presented to the ALJ justify the RD's recommendation of a zero bond. RD at 6 (observing that neither party disputes the evidence showing that the "average selling price" of Respondents' accused GD200 is more than the price of CGI's comparable HD950WF (*see* RX-0227 at Q202, 203)). Chamberlain, at this late stage, attempts to introduce evidence of third party retail sales prices. But Chamberlain did not present this evidence to the ALJ to consider its probative value and determine what weight to give it, if any. Thus, the Commission declines to consider the evidence.

Chamberlain relies heavily on *Wind Turbines*. *Wind Turbines*, however, is readily distinguishable. In *Wind Turbines*, the Commission accepted the ALJ's recommendation to set a 100% bond "because of the difficulty in quantifying the cost advantages of respondents' imported [products] and because of price fluctuations due to exchange rates and market conditions." *Wind Turbines*, at 40. None of those issues are present here. Rather, in *Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, Comm'n Op. at 15 (Jan. 27, 2017), the Commission under the price differential method, set the bond in the amount of zero because the imported infringing product was more expensive than the domestic industry product. The Commission follows *Table Saws* and sets the bond in the amount of zero for products imported during the period of Presidential review.

By order of the Commission.



Lisa R. Barton
Secretary to the Commission

Issued: April 21, 2018

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **COMMISSION OPINION** has been served upon the following parties as indicated, on **August 21, 2018.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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**FISH & RICHARDSON PC**
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Suite 1000
Washington, DC 20024

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

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**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

| In the Matter of<br><br>**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1016** |
|---|---|

# NOTICE OF COMMISSION DETERMINATION TO REVIEW IN PART A FINAL INITIAL DETERMINATION FINDING A VIOLATION OF SECTION 337; SCHEDULE FOR FILING WRITTEN SUBMISSIONS ON THE ISSUES UNDER REVIEW AND ON REMEDY, THE PUBLIC INTEREST AND BONDING; EXTENSION OF TARGET DATE

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission has determined to review in part the final initial determination ("ID") issued by the presiding administrative law judge ("ALJ") on October 23, 2017, finding a violation of section 337 of the Tariff Act of 1930, as amended (19 USC 1337), as to claims 1-4, 7-12, 15, and 16 of U.S. Patent No. 7,161,319 ("the '319 patent") and no violation of section 337 as to claim 34 of U.S. Patent No. 7,339,336 ("the '336 patent"). The Commission has also determined to extend the target date to March 2, 2018.

**FOR FURTHER INFORMATION CONTACT:** Panyin A. Hughes, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone 202-205-3042. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (*https://www.usitc.gov*). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *https://edis.usitc.gov*. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202-205-1810.

**SUPPLEMENTARY INFORMATION:** The Commission instituted this investigation on August 9, 2016, based on a complaint filed by The Chamberlain Group, Inc. of Elmhurst, Illinois ("Chamberlain" or "CGI"). 81 FR 52713 (Aug. 9, 2016). The complaint alleges violations of section 337 of the Tariff Act of 1930, as amended (19 USC 1337), in the importation into the United States, the sale for importation, and the sale within the United States after importation of

certain access control systems and components thereof by reason of infringement of one or more of claims 1, 10–12, and 18–25 of U.S. Patent No. 7,196,611 ("the '611 patent"); claims 1–4, 7–12, 15, and 16 of the '319 patent; and claims 7, 11–13,15–23, and 34–36 of the '336 patent. *Id.* The notice of investigation named the following respondents: Techtronic Industries Company Ltd. of Tsuen Wan, Hong Kong; Techtronic Industries North America Inc. of Hunt Valley, Maryland; One World Technologies, Inc. of Anderson, South Carolina; OWT Industries, Inc. of Pickens, South Carolina; ET Technology (Wuxi). Co., Ltd. of Zhejiang, China (collectively, "Respondents"); and Ryobi Technologies Inc. of Anderson, South Carolina ("Ryobi"). *Id.* The Office of Unfair Import Investigations is not a party to the investigation.

On October 27, 2016, the Commission determined not to review the ALJ's order (Order No. 4) granting a motion to amend the Notice of Investigation to include the following two additional respondents: Techtronic Trading Limited of Kwai Chung, Hong Kong; and Techtronic Industries Factory Outlets Inc., d/b/a Direct Tools Factory Outlet of Anderson, South Carolina (collectively, "Techtronic"). *See* Order No. 4, Comm'n Notice of Non-Review (Oct. 27, 2016).

On November 7, 2016, the Commission determined not to review the ALJ's order (Order No. 6) terminating the investigation as to Ryobi. *See* Order No. 6, Comm'n Notice of Non-Review (Nov. 7, 2016).

On March 15, 2017, the Commission determined not to review the ALJ's order (Order No. 15) granting a motion to terminate the investigation as to Techtronic. Order No. 15, Comm'n Notice of Non-Review (Mar. 15, 2017).

On March 20, 2017, the Commission determined not to review the ALJ's order (Order No. 28) granting a motion to terminate the investigation as to the '611 patent. Order No. 28; Comm'n Notice of Non-Review (Mar. 20, 2017).

On March 27, 2017, the ALJ issued Order No. 23 granting Respondents' motion for summary determination of non-infringement of the asserted claims of the '319 patent, stemming from the ALJ's construction of the claim term "wall console" to mean "a wall-mounted control unit including a passive infrared detector." *See* Order No. 13 (*Markman* Order at 80).

The ALJ held an evidentiary hearing from May 1, 2017 through May 3, 2017, on issues solely relating to the '336 patent.

On May 3, the Commission determined to review Order No. 23 that granted Respondents' motion for summary determination of non-infringement of the '319 patent. On review, the Commission determined to construe "wall console" as a "wall-mounted control unit," vacated Order No. 23, and remanded the investigation as to the '319 patent to the ALJ for further proceedings. *See* Comm'n Op. (May 5, 2017) at 1-2.

The ALJ held a second evidentiary hearing from July 12, 2017, through July 13, 2017, on issues relating to the '319 patent.

On November 9, 2017, the Commission determined not to review the ALJ's order (Order No. 36) granting a motion to terminate the investigation as to certain accused products and claims 19-23 of the '336 patent. Order No. 36; Comm'n Notice of Non-Review (Nov. 9, 2017).

On October 23, 2017, the ALJ issued his final ID, finding a violation of section 337 by Respondents in connection with claims 1-4, 7-12, 15, and 16 of the '319 patent. Specifically, the ALJ found that the Commission has subject matter jurisdiction, *in rem* jurisdiction over the accused products, and *in personam* jurisdiction over Respondents. ID at 24-26. The ALJ also found that Chamberlain satisfied the importation requirement of section 337 (19 U.S.C. § 1337(a)(1)(B)). *Id.* The ALJ further found that the accused products directly infringe asserted claims 1-4, 7-12, 15, and 16 of the '319 patent, and that Respondents induce infringement of those claims. *See* ID at 130-141, 144. The ALJ also found that Respondents failed to establish that the asserted claims of the '319 patent are invalid for obviousness. ID at 151-212. With respect to the '336 patent, the ALJ found that Respondents do not directly or indirectly infringe asserted claim 34 and that clam 34 is not invalid as obvious. ID at 72-74, 105-119. The ALJ further found that claims 15, 19, and 34 of the '336 patent are invalid under 35 U.S.C. § 101 for reciting unpatentable subject matter and that claim 15 is invalid for anticipation but that claims 12, 14, and 19 have not been shown invalid for anticipation. ID at 74-103. Finally, the ALJ found that Chamberlain established the existence of a domestic industry that practices the asserted patents under 19 U.S.C. § 1337(a)(2). *See* ID at 257-261, 288-294.

Also on October 23, 2017, the ALJ issued his recommended determination on remedy and bonding. Recommended Determination on Remedy and Bonding ("RD"). The ALJ recommends that in the event the Commission finds a violation of section 337, the Commission should issue a limited exclusion order prohibiting the importation of Respondents' accused products and components thereof that infringe the asserted claims of the '319 patent. RD at 2. The ALJ also recommends issuance of cease and desist orders against respondents Techtronic Industries Company Ltd., Techtronic Industries North America Inc., One World Technologies, Inc., and OWT Industries, Inc. based on the presence of commercially significant inventory in the United States. RD at 5. With respect to the amount of bond that should be posted during the period of Presidential review, the ALJ recommends that the Commission set a bond in the amount of zero (*i.e.*, no bond) during the period of Presidential review. RD at 6-7.

On November 6, 2017, Respondents filed a petition for review as to the '319 patent and a contingent petition for review as to the '336 patent. *See* Respondents' Petition for Review. Also on November 6, 2017, Chamberlain filed a petition for review of the ID, primarily challenging the ALJ's findings of no violation of section 337 as it pertains to the '336 patent. *See* Complainant's Petition for Review of Initial Determination on Violation of Section 337.

On November 14, 2017, Chamberlain and Respondents filed their respective responses to the petitions for review. *See* Complainant's Response to Respondents' Petition for Review of Initial Determination on Violation of Section 337; Respondents' Response to Complainant's Petition for Review.

Having examined the record of this investigation, including the ALJ's final ID, the petition for review, and the response thereto, for the '319 patent the Commission has determined

to review (1) the ID's finding that a combination of prior art references Doppelt, Jacobs, and Gilbert fail to render the asserted claims obvious; and (2) the ID's finding that a combination of prior art references Matsuoka, Doppelt, and Eckel fail to render the asserted claims obvious. For the '336 patent the Commission has determined to review (1) the ID's finding that claim 34 recites ineligible patent subject matter under 35 U.S.C. § 101; and (2) the ID's finding that Pruessel, either alone or in combination with Koestler, fails to render claim 34 obvious.

In connection with its review, the Commission is interested in responses to the following question:

1. Given the ALJ's finding that Matsuoka, Doppelt, and Eckel are analogous references to the '319 patent, please discuss whether they disclose all elements of the asserted claims of the '319 patent. In particular please discuss motivations to combine them, if any.
2. Discuss whether Pruessel, either alone or in combination with Koestler, renders claim 34 of the '336 patent obvious.

The parties are requested to brief only the discrete issues above, with reference to the applicable law and evidentiary record. The parties are not to brief other issues on review, which are adequately presented in the parties' existing filings.

In connection with the final disposition of this investigation, the Commission may (1) issue an order that could result in the exclusion of the subject articles from entry into the United States, and/or (2) issue one or more cease and desist orders that could result in the respondent being required to cease and desist from engaging in unfair acts in the importation and sale of such articles. Accordingly, the Commission is interested in receiving written submissions that address the form of remedy, if any, that should be ordered. If a party seeks exclusion of an article from entry into the United States for purposes other than entry for consumption, the party should so indicate and provide information establishing that activities involving other types of entry either are adversely affecting it or likely to do so. For background, see *Certain Devices for Connecting Computers via Telephone Lines*, Inv. No. 337-TA-360, USITC Pub. No. 2843 (December 1994) (Commission Opinion).

If the Commission contemplates some form of remedy, it must consider the effects of that remedy upon the public interest. The factors the Commission will consider include the effect that an exclusion order and/or cease and desist orders would have on (1) the public health and welfare, (2) competitive conditions in the U.S. economy, (3) U.S. production of articles that are like or directly competitive with those that are subject to investigation, and (4) U.S. consumers. The Commission is therefore interested in receiving written submissions that address the aforementioned public interest factors in the context of this investigation.

If the Commission orders some form of remedy, the U.S. Trade Representative, as delegated by the President, has 60 days to approve or disapprove the Commission's action. *See* Presidential Memorandum of July 21, 2005. 70 *Fed. Reg.* 43251 (July 26, 2005). During this period, the subject articles would be entitled to enter the United States under bond, in an amount determined by the Commission and prescribed by the Secretary of the Treasury. The

Commission is therefore interested in receiving submissions concerning the amount of the bond that should be imposed if a remedy is ordered.

**WRITTEN SUBMISSIONS**: The parties to the investigation are requested to file written submissions on the issues identified in this notice. Parties to the investigation, interested government agencies, and any other interested parties are encouraged to file written submissions on the issues of remedy, the public interest, and bonding. Such submissions should address the recommended determination by the ALJ on remedy and bonding. Complainants are requested to submit proposed remedial orders for the Commission's consideration. Complainants are also requested to state the date that the patent expires and the HTSUS numbers under which the accused products are imported. Complainants are further requested to supply the names of known importers of the Respondents' products at issue in this investigation. The written submissions and proposed remedial orders must be filed no later than close of business on January 5, 2018. Reply submissions must be filed no later than the close of business on January 12, 2018. Opening submissions are limited to 50 pages. Reply submissions are limited to 25 pages. Such submissions should address the ALJ's recommended determinations on remedy and bonding. No further submissions on any of these issues will be permitted unless otherwise ordered by the Commission.

Persons filing written submissions must file the original document electronically on or before the deadlines stated above and submit eight true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1016") in a prominent place on the cover page and/or the first page. (*See* Handbook for Electronic Filing Procedures, https://www.usitc.gov/documents/handbook_on_filing_procedures.pdf ). Persons with questions regarding filing should contact the Secretary (202-205-2000).

Any person desiring to submit a document to the Commission in confidence must request confidential treatment. All such requests should be directed to the Secretary to the Commission and must include a full statement of the reasons why the Commission should grant such treatment. *See* 19 CFR 201.6. Documents for which confidential treatment by the Commission is properly sought will be treated accordingly. All information, including confidential business information and documents for which confidential treatment is properly sought, submitted to the Commission for purposes of this Investigation may be disclosed to and used: (i) by the Commission, its employees and Offices, and contract personnel (a) for developing or maintaining the records of this or a related proceeding, or (b) in internal investigations, audits, reviews, and evaluations relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or (ii) by U.S. government employees and contract personnel[1], solely for cybersecurity purposes. All nonconfidential written submissions will be available for public inspection at the Office of the Secretary and on EDIS.

The Commission has also determined to extend the target date for completion of the above-captioned investigation to March 2, 2018.

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[1] All contract personnel will sign appropriate nondisclosure agreements.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 USC 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 CFR Part 210).

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: December 22, 2017

**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1016**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on **December 22, 2017.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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**FISH & RICHARDSON PC**
The McPherson Building
901 15th Street NW, 7th Floor
Washington, DC 20005

☐ Via Hand Delivery
☐ Via Express Delivery
☒ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Techtronic Industries Company Limited, Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., and Et Technology (Wuxi) Co., Ltd.:**

Eric S. Namrow, Esq.
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, NW
Washington, DC 20004

☐ Via Hand Delivery
☐ Via Express Delivery
☒ Via First Class Mail
☐ Other: _____

*Public Version*

**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**Washington, D.C.**

| | |
|---|---|
| **In the Matter of**<br><br>**CERTAIN ACCESS CONTROL SYSTEMS AND COMPONENTS THEREOF** | **Inv. No. 337-TA-1016** |

# INITIAL DETERMINATION ON VIOLATION OF SECTION 337

Administrative Law Judge Thomas B. Pender

(October 23, 2017)

Pursuant to the Notice of Investigation and Rule 210.42(a) of the Rules of Practice and Procedure of the United States International Trade Commission, this is my Initial Determination in the matter of *Certain Access Control Systems and Components Thereof*, Investigation No. 337-TA-1016.

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## TABLE OF ABBREVIATIONS

| | |
|---|---|
| CDX | Complainant's Demonstrative Exhibit |
| CIB1 | Complainant's Initial Post-Hearing Brief for the '336 Patent |
| CIB2 | Complainant's Initial Post-Hearing Brief for the '319 Patent |
| CPB1 | Complainant's Pre-Hearing Brief for the '336 Patent |
| CPB2 | Complainant's Pre-Hearing Brief for the '319 Patent |
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| CRPB1 | Complainant's Reply Post-Hearing Brief for the '336 Patent |
| CRPB2 | Complainant's Reply Post-Hearing Brief for the '319 Patent |
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| CX | Complainant's Exhibit |
| C101B | Complainant's Opposition to Respondents' Memorandum in Support of Motion for Summary Determination That the '336 and '611 Patents are Directed to Ineligible Subject matter Under 35 U.S.C. § 101 |
| Dep. Tr. | Deposition Transcript |
| Hr'g Tr. | Hearing Transcript |
| JX | Joint Exhibit |
| RDX | Respondents' Demonstrative Exhibit |
| RIB1 | Respondents' Initial Post-Hearing Brief for the '336 Patent |
| RIB2 | Respondents' Initial Post-Hearing Brief for the '319 Patent |
| RPB1 | Respondents' Pre-Hearing Brief for the '336 Patent |
| RPB2 | Respondents' Pre-Hearing Brief for the '319 Patent |
| RPX | Respondents' Physical Exhibit |

| | |
|---|---|
| RRPB1 | Respondents' Reply Post-Hearing Brief for the '336 Patent |
| RRPB2 | Respondents' Reply Post-Hearing Brief for the '319 Patent |
| RRSB1 | Respondents' Responsive Post-Hearing Brief for the '336 Patent |
| RRSB2 | Respondents' Responsive Post-Hearing Brief for the '319 Patent |
| RX | Respondents' Exhibit |
| R101B | Respondents' Memorandum in Support of Motion for Summary Determination That the '336 and '611 Patents are Directed to Ineligible Subject matter Under 35 U.S.C. § 101 |

# I. INTRODUCTION

## A. Procedural Background

Complainant The Chamberlain Group, Inc. ("CGI" or "Complainant") filed the complaint underlying this Investigation on July 5, 2016. The complaint alleges Respondents Techtronic Industries Company Ltd., Techtronic Industries North America Inc., One World Technologies, Inc., OWT Industries, Inc., Techtronic Trading Ltd., Techtronic Industries Factory Outlets, Inc. ("TTi Respondents"), and ET Technology (Wuxi), Co., Ltd. ("ET Door") (collectively "Respondents") import certain products that infringe one or more claims of U.S. Patent Nos. 7,339,336 (the "'336 patent"), 7,196,611 (the "'611 patent"), and 7,161,319 (the "'319 patent") (collectively, the "Asserted Patents"). CGI filed an unopposed motion to amend the complaint on September 23, 2016 to add two entities as respondents, Techtronic Trading Limited and Techtronic Industries Factory Outlets Inc., which I granted on September 28, 2016 (Order No. 4); and then, upon motion from CGI, I terminated the investigation with respect to these respondents on February 14, 2017 (Order No. 15).

By publication of a notice in the Federal Register on August 9, 2016, the U.S. International Trade Commission ordered that:

> Pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, an investigation be instituted to determine whether there is a violation of subsection (a)(l)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain access control systems and components thereof by reason of infringement of one or more of claims 1–4, 7–12, 15, and 16 of the '319 patent; claims 1, 10–12, and 18–25 of the '611 patent; and claims 7, 11–13, 15–23, and 34–36 of the '336 patent, and whether an industry in the United States exists as required by subsection (a)(2) of section 337;

81 F.R. 52713 (Aug. 9, 2016). I set a target date of December 8, 2017 for completion of this investigation and set the evidentiary hearing for April 21, 2017. (Order No. 3.) On October 14,

2016, I issued the initial procedural schedule (Order no. 5), which was amended at subsequent points throughout the investigation (*see, e.g.*, Order Nos. 8, 9, 10, 12, 14, 17).

In accordance with the procedural schedule, on December 20, 2016, I held a technology tutorial and Markman hearing. On January 26, 2017, I issued Order No. 13, construing certain terms of the asserted patents. One of those terms, "wall console," from the '319 patent, was construed to mean "a wall-mounted control unit including a passive infrared detector." (Order No. 13 at 80.) This construction prompted Respondents to file an unopposed motion for summary determination of no-infringement of the '319 patent. I granted that motion on March 27, 2017 with an initial determination which terminated the '319 patent from the investigation. (Order No. 23.) CGI, disagreeing with the claim construction of "wall console," and thus, the basis for Order No. 23, petitioned the Commission for review on April 3, 2017.

Moving back, on March 7, 2017, Respondents filed a motion to strike much of CGI's proffered evidence and argument on the economic prong of domestic industry, for reasons of untimely production and disclosure. I granted-in-part this motion on March 24, 2017. (Order No. 21.)

On April 28, 2017, CGI filed a motion to withdraw the '611 patent. I granted that motion through an initial determination on May 3, 2017. (Order No. 28.) The Commission determined not to review this initial determination. (EDIS Doc. No. 613129.)

I then conducted an evidentiary hearing between May 1 and May 3, 2017 on issues solely relating to the '336 patent, which at that time was the only asserted patent remaining. On the last day of the hearing, May 3, the Commission gave notice that it had determined to review Order No. 23, and upon review, determined to construe "wall console" simply as a "wall-mounted

control unit." (Comm'n Op. (May 5, 2017) at 1-2.) Order No. 23 was therefore vacated and the investigation over the '319 patent was remanded back to me for further proceedings. (*Id.*)

On May 8, 2017, I issued Order No. 29, an initial determination which amended the target date in light of the remand of the '319 patent. The initial determination moved the target date back approximately two-and-a-half months to February 23, 2018, or eighteen-and-a-half months from the date that the Notice of Investigation was published in the Federal Register. (*See* Order No. 29.)

On July 12, and 13, 2017, I held a second evidentiary hearing on issues solely relating to the '319 patent.

On October 16, 2017, CGI and Respondents filed a joint motion to partially terminate the investigation with respect to a certain class of accused product—the V26 software products—and claims 19-23 of the '336 patent based on a consent order stipulation. (Motion Docket No. 1016-046.) I granted that motion on October 17, 2017. (Order No. 36.)

As of the date of this initial determination, the following motions remain pending: Respondents' Motion for Summary Determination That the '336 and '611 Patents Are Directed to Ineligible Subject Matter under 35 U.S.C. § 101 (Motion Docket No. 1016-016), and Respondents' Motion for Leave to File a Reply Brief in Support of Their Motion for Summary Determination That the '336 and '611 Patents Are Directed to Ineligible Subject Matter under Section 101 (Mot. Dkt. No. 1016-026). In that these motions overlap completely with the issues presented at the hearing and discussed below in detail, they (Mot. Dkt Nos. 1016-016, -026) are hereby DENIED.

**B. The Parties**

Complainant The Chamberlain Group, Inc. is a U.S. company headquartered in Oak Brook, IL, with previous headquarters in Elmhurst, IL. (CIB1 at 6.) CGI claims it has been in the GDO (garage door opener) industry for more than 50 years and is the "leader in the residential GDO market." (*Id.* at 7.)

Respondent Techtronic Industries Co., Ltd. ("TTi HK") is a Hong Kong-based corporation with a principal place of business at 29/F, Tower 2, Kowloon Commerce Centre, 51 Kwai Cheong Road, Kwai Chung, New Territories, Hong Kong The Chamberlain Group, Inc. (RIB1 at 6-7.) TTi HK "is the ultimate parent of the TTi family of companies, including Respondents TTi NA, One World, and OWT." (*Id.* at 7.)

Respondent Techtronic Industries North America, Inc. ("TTi NA") is a Delaware corporation with a principal place of business at 303 International Circle, Suite 4900, Hunt Valley, Maryland 21030. (*Id.* (citing RX-0002C at Q46, 47).) [

] (*Id.*)

Respondent One World Technologies, Inc. ("One World") is a Delaware corporation with a principal place of business at 1428 Pearman Dairy Road, Anderson, South Carolina 29625. (*Id.* (citing RX-0002C at Q39, 40, 55).) "One World designs, markets, and sells power tools and outdoor products under the Ryobi® brand, including the accused garage door opener products." (*Id.* (citing RX-0002C at Q18, 19).)

Respondent OWT Industries, Inc. ("OWT") is a Delaware corporation with a principal place of business at 201 Orange Way, Anderson, South Carolina 29621. (*Id.* (citing RX-0002C at Q42).)

Respondent ET Technology (Wuxi), Co., Ltd. ("Et Door") is a China-based corporation with a principal place of business at Xiqun Road (East Section), Meicun Industrial Zone, Wuxi 214122, Jiangsu, China. (RIB1 at 7.) "Et Door is engaged in the business of manufacturing and selling residential, commercial, and industrial garage door openers and accessories." (*Id.* (citing RX-0002C at Q30-33; CX-1138C [Chen Dep. Tr.] at 11:8-13; 12:12-21).)

### C. The Asserted Patents and Claims

The asserted patents[1] relate to control systems for garage door openers. The following patents and claims remain at issue in this investigation:

| Patent Number | Infringement Claims | Domestic Industry Claims |
|---|---|---|
| U.S. Patent 7,339,336 | 34 | 12, 14, 15, 19, 34 |
| U.S. Patent 7,161,319 | 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16 | 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 15, 16 |

The '336 patent is entitled, "Movable Barrier Operator Auto-Force Setting Method and Apparatus." (JX-0001.) It was filed on October 22, 2004, and claims priority as a divisional application to an application field on December 31, 2002, now U.S. Patent No. 6,870,334. (*Id.*) The '336 patent issued on March 4, 2008. The '336 patent generally describes a method for use with a "movable barrier operator," whereby the force as applied to the barrier is measured, compared against thresholds for determining error states or other problems (*e.g.*, barrier obstructions), and intelligent updating of those thresholds. (*See id.* at Abstract.) More specifically, the thresholds are updated so as to avoid improper triggering of error states, and are updated continuously without user involvement. (*See, e.g., id.* at 1:32-53.)

[1] The effective date of the asserted patents pre-dates the America Invents Act ("AIA") enacted by Congress on September 16, 2011.

The '319 patent is entitled, "Movable Barrier Operator Having Serial Data Communication." (JX-0007.) It was filed on November 19, 2003, and claims priority as a continuation application to an application filed on April 7, 2000, now U.S. Patent No. 6,737,968. (*Id.*) The '319 patent issued on January 9, 2007. The '319 patent generally describes a wall control unit for a garage door opener (*i.e.*, a moveable barrier operator) that communicates digitally with the head unit of the same garage door opener. (*See id.* at Abstract.) More specifically, the wall control unit, or "wall console," includes an infrared sensor and uses detected states of light to control the lamp of the head unit, in addition to including buttons or switches to control the operation of the head unit's motor. (*See, e.g.*, *id.* at 2:13-35.)

### D. Products at Issue

#### 1. Domestic Industry Products

The products which CGI alleges practice the '336 patent include "residential garage door operators without Wi-Fi (Security +2.0) and Wi-Fi garage door operators." (CX-1256C [Fitzgibbon WS] at Q43; *see* CIB1 at 12, 60-61.) Specifically, CGI and its expert identify the following models (hereafter, the "'336 Domestic Industry Products"):

| Product Family | Model Nos. |
|---|---|
| Garage Door Operators without Wi-Fi (Security +2.0) | 54915, 54985, 54990, HD220, HD220P, HD420EV, HD520EV, HD630EVP, HD720EV, PD612EV, WD832KEV, HD630EVP, PD752KEV, PD762EV, LC1000EVC, LC500EVC, PD220, PD222, PD510, PD512, PD622EVC, LW3000EV, LW3500EV, 3043, 54918, 30437, 349544, 349544EV, HD920EV, HD930EV, LW5000EV, WD962EV, WD962KEV, WD962KLD, WD962KPEV, WD962MLEV, 55918, 8365-267, 8355-267, 8355RGD, 8587, 8355, M8856, 8065, 8075, 8155, 8165, M885, M8856, 8557, 8155RGD, Airman II, 8165RGD, Corporal II, 8365RGD, Pilot II, 8550, 8550-267, 8350, 8550-267, 8550, 8360, 8550RGD, and Admiral II |
| Wi-Fi Garage Door Operators | HD750WF, HD950WF, WD1000WF, LW9000WF, 8550W, 8557W, 8587RGD, Ultra II, 8587W, 8550WRGD, and 8587WRGD |

(CIB1 at 60-61; CDX-0005.8.)

The products which CGI alleges practice the '319 patent include garage door openers and residential jackshaft operators. Specifically, CGI and its expert identify the following models (hereafter, the "'319 Domestic Industry Products"):

| Product Family | Model Nos. |
|---|---|
| Garage Door Operators without Wi-Fi (Security ÷2.0) | 54915, 54985, 54990, HD220, HD220P, HD420EV, HD520EV, HD630EVP, HD720EV, PD612EV, WD832KEV, HD630EVP, PD752KEV, PD762EV, LC1000EVC, LC500EVC, PD220, PD222, PD510, PD512, PD622EVC, LW3000EV, LW3500EV, 3043, 54918, 30437, 349544, 349544EV, HD920EV, HD930EV, LW5000EV, WD962EV, WD962KEV, WD962KLD, WD962KPEV, WD962MLEV, 55918, 8365-267, 8355-267, 8355RGD, 8587, 8355, M8856, 8065, 8075, 8155, 8165, M885, M8856, 8557, 8155RGD, Airman II, 8165RGD, Corporal II, 8365RGD, Pilot II, 8550, 8550-267, 8350, 8550-267, 8550, 8360, 8550RGD, and Admiral II |
| Wi-Fi Garage Door Operators | HD750WF, HD950WF, WD1000WF, LW9000WF, 8550W, 8557W, 8587RGD, Ultra II, 8587W, 8550WRGD, and 8587WRGD |
| Wall Control Consoles | 883LM, 78EV, 882LM, 882RGD, 885LM, 880LM, 880RGD, 886LM, 881LM, 935CB, 98LM, and 398LM |
| Residential Jackshaft Operators | 8500, 8355RGD, 8500RGD, Prodigy II, 3900, 3950, 3800LM, and 3800RGD |

(CIB2 at 13, 52; CDX-0013.11.)

The '336 Domestic Industry Products and '319 Domestic Industry Products, together, will at times be referred to as the "Domestic Industry Products."

### 2. Accused Products

The products which CGI alleges infringe the '336 patent include garage door openers loaded with the C02 firmware, *i.e.*, the Ryobi GD200, GD200A, and GD125 (collectively, the "'336 Accused Products"). (*See* CIB1 at 9.) According to CGI, "[t]he parties agree that the GD200 is representative of the GD200A and GD125 for purposes of conducting an infringement

analysis of the '336 patent." (*Id.* (citing CX-1251C [Direen WS] at Q66-69; RX-228C [Heppe WS] at Q35, 51, 52, 408-410).)

The products which CGI alleges infringe the '319 patent also consist of the GD200, GD200A, and GD125 (collectively, the "'319 Accused Products"). (*See* CIB2 at 11-12.) According to CGI, "[t]he parties agree that the GD200 is representative of the GD200A and GD125 for purposes of conducting an infringement analysis." (*Id.* (citing Hr'g Tr. at 968:19-22, 1013:20-22; CX-1317C [Davis WS] at Q38-43; RX-0474C [Lipoff WS] at Q65).)

The '336 Accused Products and '319 Accused Products, together, will at times be referred to as the "Accused Products."

## II. STANDARDS OF LAW

### A. Infringement

"An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*) (citations omitted).

#### 1. Direct Infringement

A complainant must prove either literal infringement or infringement under the doctrine of equivalents. Infringement must be proven by a preponderance of the evidence. *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988). A preponderance of the evidence standard "requires proving that infringement was more likely than not to have occurred." *Warner-Lambert Co. v. Teva Pharm. USA, Inc.*, 418 F.3d 1326, 1341 n.15 (Fed. Cir. 2005).

Literal infringement, a form of direct infringement, is a question of fact. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1332 (Fed. Cir. 2008). "To establish literal infringement,

every limitation set forth in a claim must be found in an accused product, exactly." *Microsoft Corp. v. GeoTag, Inc.*, 817 F.3d 1305, 1313 (Fed. Cir. 2016) (quoting *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995). If any claim limitation is absent, there is no literal infringement of that claim as a matter of law. *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000).

**2. Indirect Infringement**

Section 271 of the Patent Act defines both direct infringement and the two categories of indirect infringement, active inducement of infringement and contributory infringement. 35 U.S.C. § 271 (2010). For indirect infringement violations under Section 337, the direct infringement element may occur after importation, so long as all the other elements of indirect infringement are met at the time of importation. *See Certain Vision-Based Driver Assistance System Cameras and Components Thereof*, Inv. No. 337-TA-907, Comm'n Op. at 19 (Dec. 1, 2015) (citing *Suprema, Inc. v. Int'l Trade Comm'n*, 796 F.3d 1338, 1348 (Fed. Cir. 2015)).

**a. Induced Infringement**

Section 271(b) of the Patent Act prohibits inducement: "[w]hoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. § 271(b). *See DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1305 (Fed. Cir. 2006) (*en banc*) ("To establish liability under section 271(b), a patent holder must prove that once the defendants knew of the patent, they actively and knowingly aided and abetted another's direct infringement.") (citations omitted). "The mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven." *Id.* (citations omitted). A defendant's belief regarding patent validity is not a defense to a claim of induced infringement. *Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920, 1928 (2015).

### b. Contributory Infringement

Section 271(c) of the Patent Act prohibits contributory infringement. *See* 35 U.S.C. § 271(c). "Under 35 U.S.C. § 271(c), a party who sells a component with knowledge that the component is especially designed for use in a patented invention, and is not a staple article of commerce suitable for substantial noninfringing use, is liable as a contributory infringer." *Wordtech Sys., Inc. v. Integrated Networks Solutions, Inc.*, 609 F.3d 1308, 1316 (Fed. Cir. 2010).

Contributory infringement is premised upon a finding that: (1) Respondents sell, offer to sell, or import into the United States a component of a product; (2) the component has no substantial non-infringing use; (3) the component constitutes a material part of the claimed invention; (4) Respondents were aware of the patent and know that the product may be covered by a claim of the patent; and (5) the use of the component in the product directly infringes the claim. *See Certain Gaming & Entm't Consoles, Related Software, & Components Thereof*, Inv. No. 337-TA-752, Final Initial Remand Determination at 8 (Mar. 22, 2013).

It is well settled that "[a]bsent direct infringement of the patent claims, there can be neither contributory infringement ... nor inducement of infringement." *Met–Coil Sys. Corp. v. Korners Unltd., Inc.*, 803 F.2d 684, 687 (Fed. Cir. 1986) (citations omitted).

## B. Domestic Industry

In an investigation based on a claim of patent infringement, Section 337 requires that an industry in the United States, relating to the articles protected by the patent, exist or be in the process of being established. 19 U.S.C. § 1337(a)(2). Under Commission precedent, the domestic industry requirement has been divided into (i) an "economic prong" (which requires certain activities with respect to the protected articles) and (ii) a "technical prong" (which requires that the activities relate to the asserted patent). *Certain Video Game Systems and Controllers*, Inv. No. 337-TA-743, Comm'n Op. at 6-7 (April 14, 2011) ("*Video Games*").

### 1. Technical Prong

The technical prong of the domestic industry requirement is satisfied when the complainant in a patent-based section 337 investigation establishes that it is practicing or exploiting the patents at issue. *See* 19 U.S.C. §1337 (a)(2) and (3); *Certain Microsphere Adhesives, Process for Making Same and Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. at 8 (U.S.I.T.C. Jan. 16, 1996). "In order to satisfy the technical prong of the domestic industry requirement, it is sufficient to show that the domestic industry practices any claim of that patent, not necessarily an asserted claim of that patent." *Certain Ammonium Octamolybdate Isomers*, Inv. No. 337-TA-477, Comm'n Op. at 55 (U.S.I.T.C. Aug. 28, 2003).

The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement. *See Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, ID at 109 (U.S.I.T.C. May 21, 1990), *aff'd*, Views of the Commission at 22 (U.S.I.T.C. Oct. 31, 1990); *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). "First, the claims of the patent are construed. Second, the complainant's article or process is examined to determine whether it falls within the scope of the claims." *Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, ID at 109. To prevail, the patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent. The technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents. *Certain Dynamic Sequential Gradient Devices and Component Parts Thereof*, Inv. No. 337-TA-335, ID at 44, Pub. No. 2575 (U.S.I.T.C. May 15, 1992).

### 2. Economic Prong

The "economic prong" of the domestic industry requirement is satisfied when there exists in the United States in connection with products practicing at least one claim of the patent at issue: (A) significant investment in plant and equipment; (B) significant employment of labor or capital; or (C) substantial investment in its exploitation, including engineering, research and development, and licensing. 19 U.S.C. § 1337(a)(3). Establishment of the "economic prong" is not dependent on any "minimum monetary expenditure" and there is no need for complainant "to define the industry itself in absolute mathematical terms." *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm'n Op. at 25-26 (May 16, 2008) ("*Stringed Instruments*"). However, a complainant must substantiate the significance of its activities with respect to the articles protected by the patent. *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337-TA-690, Comm'n Op. at 30 (February 17, 2011) ("*Imaging Devices*"). Further, a complainant can show that its activities are significant by showing how those activities are important to the articles protected by the patent in the context of the company's operations, the marketplace, or the industry in question. *Id.* at 27-28. That significance, however, must be shown in a quantitative context. *Lelo Inc. v. Int'l Trade Comm'n*, 786 F.3d 879, 886 (Fed. Cir. 2015). The Federal Circuit noted that when the ITC first addressed this requirement, it found the word "'significant' denoted 'an assessment of the *relative* importance of the domestic activities.'" *Id.* at 883-4 (internal citation omitted) (emphasis added).

The Commission "has long recognized that the 'its' in the phrase 'investment in its exploitation' in subparagraph (C) refers to the asserted patent or other intellectual-property right being asserted. That conclusion is supported by the clear text of the statute." *Certain Integrated Circuit Chips and Products Containing the Same*, Inv. No. 337-TA-859, Comm'n Op. at 36 (Aug. 11, 2014) ("*Circuit Chips*"). This connection between the investment and the patent is

known as the "nexus" requirement. *Id.* at 38. "To the extent that the patented technology arises from endeavors in the United States, such a nexus would ordinarily exist." *Id.* at 39. "'Exploitation' is a generally broad term that encompasses activities such as efforts to improve, develop, or otherwise take advantage of the asserted patent." *Id.*

### C. Invalidity

#### 1. 35 U.S.C. § 101

"Patent eligibility under 35 U.S.C. § 101 is an issue of law." *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1366 (Fed. Cir. 2015). Because a patent is presumed valid, Respondents bear the burden of establishing invalidity by clear and convincing evidence. *See* 35 U.S.C. § 282(a); *CLS Bank Int'l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1284 (Fed. Cir. 2013) (*en banc*) ("[A]ll issued patent claims receive a statutory presumption of validity. And, as with obviousness and enablement, that presumption applies when § 101 is raised as a basis for invalidity in district court proceedings.") (citations omitted); *but see Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 721 (Fed. Cir. 2014) (Mayer, J., concurring) ("[W]hile a presumption of validity attaches in many contexts, no equivalent presumption of eligibility applies in the section 101 calculus.") (citation omitted); *Certain Activity Tracking Devices, Systems, and Components Thereof*, Inv. No. 337-TA-963, Comm'n Notice at 2 (U.S.I.T.C. Apr. 4, 2016) ("[T]he law remains unsettled as to whether the presumption of patent validity under 35 U.S.C. § 282 applies to subject matter eligibility challenges under 35 U.S.C. § 101.").[2]

Section 101 of the Patent Act (35 U.S.C. §§ 1 *et seq.*) provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any

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[2] Whether the presumption applies here is inconsequential because the Record evidence supports a finding that the asserted claims of the asserted patents are invalid under 35 U.S.C. § 101, even under the higher "clear and convincing" standard.

new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." *See* 35 U.S.C. § 101. Thus, the statute sets forth four categories of patent-eligible subject matter: processes, machines, manufactures, and compositions of matter. *Intellectual Ventures I*, 792 F.3d at 1366. Notably, the Supreme Court "ha[s] long held that that [section 101] contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable." *See Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 134 S. Ct. 2347, 2354 (2014). Specifically, the Supreme Court explained that:

> We have described the concern that drives this exclusionary principle as one of pre-emption. Laws of nature, natural phenomena, and abstract ideas are the basic tools of scientific and technological work. Monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it, thereby thwarting the primary object of the patent laws. We have repeatedly emphasized this concern that patent law not inhibit further discovery by improperly tying up the future use of these building blocks of human ingenuity.
>
> At the same time, we tread carefully in construing this exclusionary principle lest it swallow all of patent law. At some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas. Thus, an invention is not rendered ineligible for patent simply because it involves an abstract concept.[3] Applications of such concepts to a new and useful end, we have said, remain eligible for patent protection.
>
> Accordingly, in applying the § 101 exception, we must distinguish between patents that claim the building blocks of human ingenuity and those that integrate the building blocks into something more, thereby transforming them into a patent-eligible invention. The former would risk disproportionately tying up the use of the underlying ideas, and are therefore ineligible for patent protection.

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[3] The Federal Circuit cautioned against overgeneralizing claims and describing them at a high level of abstraction. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016) ("[D]escribing the claims at such a high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule.") (citations omitted).

> The latter pose no comparable risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws.

*Id.* at 2354-55 (citations omitted).

To distinguish between patent-eligible and patent-ineligible subject matter, the Supreme Court set forth a two-step analytical framework: "First, we determine whether the claims at issue are directed to one of [the] patent-ineligible concepts," *i.e.*, laws of nature, natural phenomena, and abstract ideas. *See id.* at 2355 (citing *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289, 1296-97 (2012)). If so, we proceed to the second step, and "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *See id.* (citing *Mayo*, 132 S. Ct. at 1297-98). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* at 2357 (citing *Mayo*, 132 S. Ct. at 1297).

"The Supreme Court has not established a definitive rule to determine what constitutes an 'abstract idea' sufficient to satisfy the first step of the *Mayo/Alice* inquiry. Rather, both [the Federal Circuit] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases." *Enfish*, 822 F.3d at 1334. The Federal Circuit has described the first step as "looking at the 'focus' of the claims, their character as a whole." *Electric Power Group LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (internal citation omitted).

With respect to the second step of the *Alice* inquiry, the Supreme Court characterized it as "a search for an 'inventive concept'--*i.e.*, an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.'" *See id.* (citing *Mayo*, 132 S. Ct. at 1294); *see also Bascom Global*

*Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016) ("The inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art. As is the case here, an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces."). The Federal Circuit has later described the second step as "looking more precisely at what the claim elements add—specifically, whether, in the Supreme Court's terms, they identify an inventive concept in the application of the ineligible matter to which (by assumption at stage two) the claim is directed." *Electric Power*, 830 F.3d at 1353.

For example, in *Alice*, the Supreme Court held that the claim elements considered "separately" and "as an ordered combination," involved no more than "generic computer functions" that are "well-understood, routine, conventional activities" and "not '*enough*' to transform an abstract idea into a patent-eligible invention." *See Alice*, 134 S. Ct. at 2359-60 (citing *Mayo*, 132 S. Ct. at 1294-98) (emphasis in original); *see also OIP Techs, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) ("Beyond the abstract idea of offer-based price optimization, the claims merely recite well-understood, routine conventional activities, either by requiring conventional computer activities or routine data-gathering steps. Considered individually or taken together as an ordered combination, the claim elements fail to transform the claimed abstract idea into a patent-eligible application.") (citations omitted); *Activity Tracking Devices*, Inv. No. 337-TA-963, Order No. 54, at 12 (Apr. 27, 2016) (not reviewed) ("The use of sensors does not render such a system patent-eligible. 'Monitoring, recording, and inputting information represent insignificant 'data-gathering steps,' and 'thus add nothing of practical significance to the underlying abstract idea.'") (citing *Wireless Media Innovations, LLC v. Maher Terminals, LLC*, 100 F. Supp. 3d 405, 416 (D.N.J. 2015), *aff'd*, 636

Fed. Appx. 1014 (Fed. Cir. 2016)).

The Federal Circuit also distinguished "general-purpose computer components [which] are added post-hoc to a fundamental economic practice or mathematical equation," but found "claims [that] are directed to a specific implementation of a solution to a problem in the software arts . . . are not directed to an abstract idea." *See Enfish*, 822 F.3d at 1339; *see also DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (finding the claimed system patent-eligible under § 101 where "the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks").

**2. 35 U.S.C. § 102**

Pursuant to 35 U.S.C. § 102, a patent claim is invalid as anticipated if:

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant;
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States;
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent;"
>
> (g)(2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it.

35 U.S.C. § 102 (2008). "A patent is invalid for anticipation if a single prior art reference discloses each and every limitation of the claimed invention. Moreover, a prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic

is necessarily present, or inherent, in the single anticipating reference." *Schering Corp. v. Geneva Pharm., Inc.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003) (citations omitted).

### 3. 35 U.S.C. § 103

Section 103 of the Patent Act states:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

35 U.S.C. § 103(a) (2008). "Obviousness is a question of law based on underlying questions of fact." *Scanner Techs. Corp. v. ICOS Vision Sys. Corp. N.V.*, 528 F.3d 1365, 1379 (Fed. Cir. 2008). The underlying factual determinations include: "(1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art, and (4) objective indicia of non-obviousness." *Id.* (citing *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966)). These factual determinations are often referred to as the "Graham factors."

The critical inquiry in determining the differences between the claimed invention and the prior art is whether there is a reason to combine the prior art references. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418-21 (2007). In *KSR*, the Supreme Court rejected the Federal Circuit's rigid application of the teaching-suggestion-motivation test. While the Court stated that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does," it described a more flexible analysis:

> Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed

> by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue . . . . As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

*Id.* at 418. Since *KSR*, the Federal Circuit has announced that, where a patent challenger contends that a patent is invalid for obviousness based on a combination of prior art references, "the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device . . . and would have had a reasonable expectation of success in doing so." *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007); *see KSR*, 550 U.S. at 399 ("The proper question was whether a pedal designer of ordinary skill in the art, facing the wide range of needs created by developments in the field, would have seen an obvious benefit to upgrading Asano with a sensor.").

In addition to demonstrating that a reason exists to combine prior art references, the challenger must demonstrate that the combination of prior art references discloses all of the limitations of the claims. *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1373-4 (Fed. Cir. 2010) (abrogated on other grounds by *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120 (2014)) (upholding finding of non-obviousness based on the fact that there was substantial evidence that the asserted combination of references failed to disclose a claim limitation); *Velander v. Garner*, 348 F.3d 1359, 1363 (Fed. Cir. 2003) (explaining that a requirement for a finding of obviousness is that "all the elements of an invention are found in a combination of prior art references").

"A reference qualifies as prior art for a determination under § 103 when it is analogous to the claimed invention." *Innovention Toys, LLC v. MGA Entm't, Inc.*, 637 F.3d 1314, 1321 (Fed.

Cir. 2011) (citing *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992)). "Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (citing *In re Deminski,* 796 F.2d 436, 442 (Fed. Cir. 1986)). One way of evaluating whether a reference is reasonably pertinent is to consider if, "logically [it] would have commended itself to an inventor's attention in considering his problem." *K-TEC, Inc. v. Vita-Mix Corp.*, 696 F.3d 1364, 1375 (Fed. Cir. 2012) (citing *Innovention*, 637 F.3d at 1321)). The requirement for prior art to be analogous is "meant to defend against hindsight." *In re Khan*, 441 F.3d 977, 986-987 (Fed. Cir. 2006).

An obviousness determination should also include a consideration of "secondary considerations" such as "commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham*, 338 U.S. at 17-18. "For [such] objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention." *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *see Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 837 (Fed. Cir. 2015).

## III. JURISDICTION AND IMPORTATION

In order to have the power to decide a case, a court or agency must have both subject matter jurisdiction and jurisdiction over either the parties or the property involved. 19 U.S.C. § 1337; *Certain Steel Rod Treating Apparatus and Components Thereof*, Inv. No. 337-TA-97, Commission Memorandum Opinion, 215 U.S.P.Q. 229, 231 (U.S.I.T.C. 1981). Respondents do not dispute the Commission has subject matter jurisdiction over this investigation as well as

personal jurisdiction.

### A. Importation and In Rem Jurisdiction

Respondents largely do not dispute the importation requirement. As recounted by CGI, "Respondents [] do not dispute that ET Door sells the Accused Products for importation and that One World imports and sells them in the U.S." (CIB1 at 12.) "Rather," as CGI explains, "Respondents' pre-hearing brief only disputes whether the importation requirement is satisfied with respect to: (1) TTi HK, TTi NA, and OWT." (*Id.*)

For respondent TTi HK, CGI argues "the importation requirement as to TTi HK is met because TTi HK facilitates the manufacture, importation, and sale of the accused products." (CIB1 at 13 (citing Hr'g Tr. at 482:24-483:7, 465:17-466:6, 468:11-470:2, 474:25-478:2).) CGI notes that "TTi HK's sign-off was required to develop the accused products" (CRPB1 at 2 (citing Hr'g Tr. at 465:17-466:6, 468:11-470:2) and one TTi witness admitted that TTi HK imports the Ryobi® Ultra-Quiet Garage Door Opener into the United States. (CRPB1 at 2 (citing Hr'g Tr. at 482:22-483:7).)

For respondent TTi NA, CGI also argues it "facilitates the sale after importation of the Accused Products" proven through [

] (*Id.* (citing Hr'g Tr. at 394:2-395:10 (admitting to [ ]); CX-0745C (TTi email [ ]); RX-0081C; CX-1152C (TTi Supp. Resp. to Interrog. Nos. 5-7)).)

For respondent OWT, CGI argues it meets the importation requirement because it [

] (CIB1 at 13 (citing RX-0081C; CX-1152C (TTi's Supp. Resp. to Interrog. Nos. 6, 33) (identifying inventory of the accused products in [ ]); CX-1148C (TTi's Resp. to Interrog. No. 23 & Ex. A) (identifying OWT as the only TTi entity with [ ])).)

In its second round of post-hearing briefing, CGI argues that, "more likely than not": TTi HK is "involved in the manufacture, importation, and/or sale of the accused products;" TTi NA "sells the Accused Products after their importation into the United States;" and OWT [

] (CIB2 at 14-15.)

Respondents do indeed argue that CGI has failed to satisfy the importation requirement for respondents TTi HK, TTi NA, and OWT. (RRSB1 at 3-5.) Essentially, Respondents argue:

> CGI cites no case supporting its argument that "facilitation" of the sale for importation, importation, or sale after importation of an accused product is sufficient to satisfy the importation requirement. CGI's argument should be rejected as legally unsupported. And even if "facilitation" could constitute importation, the evidence does not support the claim.

(*Id.* at 3-4.) Respondents continue:

> There is no evidence these Respondents have sold for importation, imported, or sold after importation any accused product, and CGI has failed to present any evidence showing the requisite nexus between TTi HK, TTi NA, or OWT on the one hand, and Et Door or One World on the other, such that they should be held responsible for the actions of the importing Respondents.

(RRSB2 at 5-6.) More specifically, for respondent TTi HK, Respondents dispute that Respondents' witness, Michael Farrah, admitted that TTi [ ] of the accused products,[ ).] (RRSB1 at 4.) Respondents suggest[ ] (*Id.*) For respondent TTi NA, Respondents, again, argue that determining

TTi NA "facilitates" the sales of accused products because witness Mark Huggins has a TTi NA email address, or the fact that One World (an agreed importer) is a subsidiary of TTi NA, has "no basis in law or fact." (*Id.*) Respondents allege [

] (*Id.* at 4-5.) Finally, for respondent OWT, Respondents do not dispute that [

] but disputes whether this satisfies the importation requirement. (*Id.* at 5.)

I find that each of TTi HK, TTi NA, and OWT are sufficiently involved in the sale for importation or sale after importation of the Accused Products. Specifically, I find credible testimony supporting CGI's assertion that [

]

(Hr'g Tr. at 465:17-466:6, 468:11-470:2.) If that is the case, it is more likely than not that [

] (*See* CX-1152C at 11 (2nd Supp. Resp. to Interrogatory No. 6).) In addition, TTi witness Mark Huggins expressed a view that [ ] (Hr'g Tr. at 482:22-483:7.) I find this to be sufficient involvement for TTi HK to meet the importation requirement.

For TTi NA, Respondents acknowledge that TTi NA [

] (RIB1 at 7.) [

] (*see* CX-1152C at 10 (2nd Supp. Resp. to Interrogatory No. 5)) is support for the sale after importation of the Accused Products. I find this support, combined with the fact that [ ]

[ ] results in sufficient involvement for TTi NA to meet the importation requirement.

For OWT, Respondents do not really dispute CGI's allegation that [ ] (*See* RRSB1 at 5.) In this way, OWT plays a critical role [ ] Combined with the fact, yet again, [ ] (CX-1152C at 12 (2nd Supp. Resp. to Interrogatory No. 6)), this is sufficient involvement for OWT to meet the importation requirement.

In addition, and regardless of the above facts, it is not Commission practice to insulate parent companies from the unfair importation, sale for importation, or sale after importation acts of their subsidiaries or affiliates. *See, e.g.*, *Certain Air Mattress Systems, Components Thereof, and Methods of Using the Same*, Inv. No. 337-TA-971, Comm'n Op. at 66 (June 20, 2017) ("the Commission has determined to issue an LEO prohibiting the unlicensed entry of infringing air mattress systems, components thereof, and methods of using the same . . . that are manufactured abroad by or on behalf of, or imported by or on behalf of Respondents, or their affiliated companies, parents, subsidiaries, or other related business entities, or their successor or assigns."); *Certain Automated Teller Machines, ATM Modules, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-989, Comm'n Op. at 2 (Aug. 3, 2017). Indeed, if this was not the case, it would be incredibly easy to circumvent limited exclusion orders. I note that Respondents cite no case to the contrary in their briefings. (*See* RRSB1 at 3-5; RRSB2 at 5-6.)

Accordingly, I find each of the Respondents has satisfied the importation requirement and the Commission has *in rem* jurisdiction over the Accused Products. *See Sealed Air Corp. v. United States Int'l Trade Comm'n*, 645 F.2d 976, 985 (C.C.P.A. 1981).

### B. Subject Matter Jurisdiction

Section 337 confers subject matter jurisdiction on the International Trade Commission to investigate, and if appropriate, to provide a remedy for, unfair acts and unfair methods of competition in the importation, the sale for importation, or the sale after importation of articles into the United States. *See* 19 U.S.C. §§ 1337(a)(1)(B), (a)(2).

CGI alleges a violation of Section 337 in the importation and sale of access control systems and components thereof. CGI alleges the accused access control systems (*e.g.*, garage door openers) directly and indirectly infringe the asserted patents. CGI observes in its post-hearing briefing that "Respondents do not dispute that the Commission has subject matter jurisdiction over this Investigation and personal jurisdiction over Respondents. . . . Respondents do not dispute that subject matter and *in rem* jurisdiction exist over the accused GD200, GD200A, and GD125." (CIB1 at 12; *see* RRSB2 at 5 ("Respondents do not dispute that the Commission has subject matter jurisdiction over this Investigation or that Respondents have submitted to personal jurisdiction of the Commission").)

CGI has alleged sufficient facts that, if proven, would demonstrate that Respondents import articles that directly infringe CGI's patents. *See Certain Elec. Devices with Image Processing Sys., Components Thereof, & Assoc. Software*, Inv. No. 337-TA-724, Comm'n Op., 2012 WL 3246515, at *7 (U.S.I.T.C. Dec. 21, 2011) (citing *Amgen, Inc. v. Int'l Trade Comm'n*, 902 F.2d 1532, 1536 (Fed. Cir. 1990)); *see also Suprema, Inc. v. Int'l Trade Comm'n*, 796 F.3d 1338, 1352-53 (Fed. Cir. 2015) ("[T]he Commission's interpretation that the phrase 'articles that infringe' covers goods that were used by an importer to directly infringe post-importation as a result of the seller's inducement is reasonable.").

Accordingly, I find the Commission has subject matter jurisdiction over this Investigation

under Section 337 of the Tariff Act of 1930. *Amgen, Inc.*, 902 F.2d at 1536.

### C. Personal Jurisdiction

Respondents have fully participated in this Investigation by, among other things, responding to the complaint and fully participating in discovery, the claim construction process, and filing and responding to motions for summary determination. Respondents have participated in the evidentiary hearing, filed pre-hearing briefs, and post-hearing briefs. Accordingly, I find, and Respondents do not dispute (*see* RRSB2 at 5), that Respondents have submitted to the jurisdiction of the Commission. *Certain Lithium Metal Oxide Cathode Mats., et al.,* Inv. No. 337-TA-951, ID at 10-11 (Feb. 29, 2016); *Certain Miniature Hacksaws*, Inv. No. 337-TA-237, Pub. No. 1948, ID at 4, 1986 WL 379287 (U.S.I.T.C. Oct. 15, 1986) (not reviewed by Commission in relevant part).

## IV. U.S. PATENT NO. 7,339,336

### A. Level of Ordinary Skill in the Art

CGI contends that "the level of ordinary skill in the art for the '336 patent is an individual with an undergraduate degree in Electrical Engineering, Computer Engineering, or Computer Science, and at least two years of experience working with embedded computer systems or related technologies." (CIB1 at 14 (citing CX-1251C [Direen WS] at Q32).) CGI states that it cannot discern a meaningful difference between its proposed level of skill and that from Respondents. (*Id.* at 14-15; *see* CRSB1 at 5.)

Respondents treat my order on the level of ordinary skill in the art for the '319 and '611 patents, as described in Order No. 13, as the level for the '336 patent. (RIB1 at 8.)

I find that, as CGI describes, that a person with ordinary skill in the art of the '336 patent at the time of the invention is an individual with an undergraduate degree in Electrical Engineering, Computer Engineering, or Computer Science, and at least two years of experience

working with embedded computer systems or related technologies; where superior experience or education could compensate for a deficiency in the other.

**B. Claims-at-Issue**

The following claims of the '336 patent are at-issue in this investigation, either through allegations of infringement of technical prong domestic industry.

> 12. A method for use with a movable barrier operator having both a user-initiable dedicated learning mode of operation and a normal mode of operation, comprising:
>
> during the normal mode of operation:
>
> monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move between at least a first position and a second position;
>
> automatically changing an excess force threshold value in response to the monitored at least one parameter to provide an updated excess force threshold value;
>
> using the updated excess force threshold value and the monitored at least one parameter to determine when excess force is being applied to the movable barrier via the movable barrier operator;
>
> taking a predetermined action when excess force is being applied to the movable barrier via the movable barrier operator.

> 14. The method of claim 12 and further comprising monitoring operation of a motor and wherein automatically changing an excess force threshold value in response to the monitored at least one parameter to provide an updated excess force threshold value further includes using a motor operation compensation value to automatically change the excess force threshold value.

> 15. A method for use with a movable barrier operator, comprising:

monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move;

automatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter;

using an updated characteristic force value to determine a corresponding excess force threshold value;

determining when force in excess of the excess force threshold value is being applied to the movable barrier;

taking a predetermined action when excess force is being applied to the movable barrier.

19. The method of claim 15 and further comprising monitoring operation of a motor and wherein using an updated characteristic force value to determine a corresponding excess force threshold value includes using an updated characteristic force value and a motor operation compensation value to determine a corresponding motor operation-compensated excess force threshold value.

34. A method for use with a movable barrier operator, comprising:

monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move;

automatically increasing a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met;

automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met;

using the updated characteristic force value to determine a corresponding excess force threshold value;

determining when force in excess of the excess force threshold value is being applied to the movable barrier; and

taking a predetermined action when excess force is being applied to the movable barrier.

(CIB1 at 6, 47.)[4]

### C. Claim Construction

During the Markman process, no disputed claim terms were construed for the '336 patent. (*See* Order No. 13 at 80-81.) Separately, the parties stipulated to the following constructions for other claim terms:

| Claim Term | Agreed Construction |
|---|---|
| excess force threshold value (claims 7, 12-13, 15, 19, 34) | a value used to identify when excess force is being applied by the moveable barrier operator |
| characteristic force value (claims 11, 13, 15-19, 34-36) | value that corresponds to the force applied to move a barrier |

Both CGI and Respondents identify one remaining claim-construction issue for this initial determination—the proper construction of "automatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter." (CIB1 at 15-16; RIB1 at 8.)

| Claim Term | CGI's Construction | Respondents' Construction |
|---|---|---|
| automatically changing a characteristic force value in response to the monitored at | Plain and ordinary meaning, or automatically changing a characteristic force value in | Automatically replacing a previous characteristic force value with an updated |

[4] While only claim 34 is presently asserted against Respondents, CGI's alleged practice of claims 14, 19, and 34 implicate independent claims 12 and 15.

| | | |
|---|---|---|
| least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter (claim 15) | response to the monitored at least one parameter to provide an updated characteristic force value based on a comparison of values associated with the characteristic force value and the at least one parameter | characteristic force value, where the updated characteristic force value differs from the previous characteristic force value by the amount of the difference between the previous characteristic force value and the monitored at least one parameter |

CGI argues "[t]his clear claim language does not require construction." (CIB1 at 16.) CGI argues its construction is the plain and ordinary meaning. (*Id.*) CGI argues it is also "consistent with the intrinsic evidence, which teaches that the difference between the characteristic force value and the monitored parameter determine whether the characteristic force value is updated." (*Id.* (referring to '336 patent at 7:4-18, 7:53-67, 3:43-52).) CGI criticizes Respondents' construction as too narrow because it requires strict replacement of values but the "word replace does not even appear in the '336 patent" and no other content from the specification supports that reading. (*Id.* at 16-17.)

Respondents argue that the particular "function of a difference" language found in this term sets it apart from other, conceptually similar, but differently-worded terms in other claims. (RIB1 at 9.) In particular, Respondents point to "claims 1, 7, and 12 recited changing a force value 'in response to' a monitored parameter, and claim 27 recites changing a force value by 'incrementing it toward' a force measurement." (*Id.* (citing '336 patent at claims 1, 7, 12, 27).) Respondents contend their construction follows from the differences between these terms, whereas CGI's construction is overly broad and introduce ambiguity. (*Id.*) Respondents point specifically to the phrases "comparison of values" and "values associated" as problematic and absent from the patent's specification. (*Id.* at 9-10.) Respondents then argue that CGI's expert,

Dr. Direen, admits "to get a difference of two values, you have to subtract the two values" but avoids using a subtraction-derived value in his construction to avoid infringement problems. (*Id.* at 10 (citing Hr'g Tr. at 223:23-224:1, 227:16-230:11, 234:14-18).)

I find neither party's proposed construction is correct. The language of the claim is plain and clear, and the starting point for interpreting the claims. *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009); *see GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) ("the specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal"). The "characteristic force value" is changed as a "function of a difference between the characteristic force value and the at least one parameter." ('336 patent at claim 15.) Put another way, the function that is used to change the "characteristic force value" *somehow* involves the difference between the characteristic force value and the at least one parameter. Expressed mathematically, this would read:

$$F(x) = F([\text{characteristic force value}] - [\text{at least one parameter}])$$

CGI's construction is improper because it is too broad. It recites a comparison between the "at least one parameter" and "values *associated with* the characteristic force value"—rather than the "characteristic force value" itself. This is not the meaning of the plain language of the claim, and I see no reason to expand the claim scope in this way. CGI's explanation for its construction also misses the mark. CGI states: "the difference between the characteristic force value and the monitored parameter determine whether the characteristic force value is updated." (CIB1 at 16.) I disagree. The recited difference is not what determines *whether* to update; that decision has already been made "in response to the monitored at least one parameter." ('336

patent at claim 15; *see* '336 patent at Figures 4 (*compare* step 43 *with* step 45), 6 (*compare* step 63 *with* step 66).)

On the other hand, Respondents' construction is also improper, because it is too narrow. It recites setting the "updated characteristic force value" to be exactly the prior "characteristic force value" plus the difference between that "characteristic force value" and the "at least one monitored parameter." This approach takes away the breadth of "as a function of a difference" by defining what the function must be—a strict one-to-one replacement of values. The plain language of the claim leaves this question open, however, and I see no reason to overturn it with Respondents' construction.

Thus, the plain and ordinary meaning of the term controls here. "[A]utomatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter" means what it says and cannot be expressed more clearly.

**D. Infringement**

At the time of the evidentiary hearing, CGI had alleged that Respondents, through the '336 Accused Products, directly and indirectly infringe claims 19-23, 34 of the '336 patent. (CIB1 at 6.) As noted above, on October 17, upon joint motion, I terminated the investigation with respect to the accused products loaded with the "V26" software and claims 19-23. (Order No. 36.) Thus, only claim 34 remains asserted against the '336 Accused Products, and only against the subset of products loaded with the "C02" software. Of these remaining products, the parties' experts have agreed that the GD200 is sufficiently representative of the GD200A and

GD125 for the purposes of evaluating infringement. (CX-1251C [Direen WS] at Q66-69; RX-0228C [Heppe WS] at 408-410.)

I find that the '336 Accused Products, represented by the GD200 as loaded with C02 software, have not been shown to infringe claim 34 of the '336 patent. In short, Respondents removed the portion of the products' code that *might* have infringed upon the '336 patent claims when it switched from the V26 to the C02 version of the code. (*See* CX-1251C [Direen WS] at Q78.) CGI's expert, Dr. Direen, explains the effect of the change as follows:

> Q. What effect does this change have on the operation of the Accused Products?
>
> A. As I described earlier, this change means that the C02 version does not [
>
> ]

(CX-1251C at Q86.) In other words, according to Dr. Direen, the C02 software does not [

]

Respondents' expert, Dr. Heppe, explains the V26 and C02 switch with:

> Q. What are the differences between the two versions of source code V26 and C02 that you previously mentioned?
>
> A. The difference between the two versions is simply the [
>
> ]

(RX-0228C at Q430.) Dr. Heppe explains how the switch from V26 to C02 impacts CGI's infringement as follows:

> Q. What is the difference in Dr. Direen's infringement opinions between the V26 and C02 source code versions?

> A. Basically, Dr. Direen lays out in his table the claims that are asserted against the V26 Products and the Accused C02 Products as I previously stated. I do think it is worth noting that there is a discrepancy at a high level in his analysis. For the V26 products, Dr. Direen relies on the "monitored . . . parameter that corresponds to force" to be the [ ] whereas in the C02 version of the product he relies on the "monitored . . . parameter that corresponds to force" to be [ ]. These two disparate variables are not carried through the claim analysis for claim 34. I recognize that CGI had [ ] in its previous claim 15 arguments, but have since dropped them, as seen in the witness statement at A95. Thus, it seems to be the case that [ ] no longer "works" for CGI's infringement read in claim 15 and is implicitly not applicable to claim 34 either. However, CGI has based its new infringement theory of claim 34 on this variable that, as explained earlier, does not correspond to force as applied to the movable barrier operator.

(*Id.* at Q436.) In other words, despite the striking similarity between independent claims 15 and 34, CGI's infringement theory dramatically switches what it accuses as the "monitored at least one parameter" and as the mechanisms by which thresholds are updated under the two claims. Respondents argue that this is a strong indication that CGI's infringement theory for claim 34 is a "stretch." (*See* RRSB1 at 7, 17.) I agree.

I also tend to believe Respondents' [ ], is a primary reason why CGI's infringement theory comes off as a stretch for the C02 software. As it was explained at the hearing from Respondents' witness, Mark Huggins:

> The Court: Where did they – how were they able to get [ ]
>
> The Witness: I'm not sure. In discussions with them, they said [ ]
>
> The Court: [ ]

The Witness: [

]

(Hr'g Tr. at 446:7-24.)

**a. Direct Infringement**

**i. Limitation 34[pre]**

Moving on to a limitation-by-limitation analysis, Claim 34 requires, "A method for use with a movable barrier operator." ('336 patent at claim 34.) I find credible and unrebutted testimony demonstrates that the '336 Accused Products are garage door openers, and thus, movable barrier operators. (CX-1251C [Direen WS] at Q150-151.)

**ii. Limitation 34[a]**

Claim 34 further requires, "monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move." ('336 patent at claim 34.) Respondents dispute that this limitation is met in the '336 Accused Products.

*CGI's position*

CGI unequivocally states, "[t]he Accused Products satisfy this limitation by monitoring the parameter that corresponds to the motor's operational mode, [ ]" (CIB1 at 33.) CGI explains, "[

]" (*Id.* (citing Hr'g Tr. at 531:15-19).)

Continuing, CGI argues "[

]" (*Id.* (citing CX-1251C at Q152; RX-0228C [Heppe WS] at Q418; CX-1251C [Direen WS] at Q153).) CGI points out that "Respondents' expert also acknowledged the correspondence between [ ] testifying that, other factors being equal, the [ ]" (*Id.*

at 34 (citing Hr'g Tr. at 551:9-553:4).) Thus, according to CGI "[ ] corresponds to the force applied to a moveable barrier to selectively cause the barrier to move." (*Id.* at 34.)

CGI also contends, as is required by the claim, that [ ] is a "monitored" parameter. (*Id.* at 35.) CGI argues that Respondents are wrong when they say [ ] is not a monitored parameter "due to lack of [ ]" (*id.* (referring to Hr'g Tr. at 510:12-511:3)), and then goes on to explain how [ ] supposedly works with [ ]:

The Accused Products implement a [

.]

(*Id.* (emphasis added).) CGI continues:

One example of the Accused Products [

]

(*Id.* at 36.)

In addressing Respondents' defenses, CGI observes that Respondents' expert "repeatedly testified that motor speed corresponds to force for purposes of his invalidity analysis." (*Id.* at 37 (citing Hr'g Tr. at 595:14-22, 601:2-6, 601:18-22; RX-1C [Pedram WS] at Q251, 254, 256, 275, 287).) CGI also argues that any alleged distinction between average force and force, is meaningless because "claim 34 does not require an exact one-to-one relationship between the

monitored parameter and force[;] Claim 34 requires that the monitored parameter correspond to force." (*Id.*) In short, CGI argues, "[e]ven Respondents' validity expert testified that the only requirement for the monitored at least one parameter was that it correspond to force." (*Id.* at 37-38 (citing Hr'g Tr. at 604:7-18).)

In its reply brief, CGI argues flatly "Dr. Heppe testified that when the transistor is on then current is delivered to the motor, and when the transistor is off then current is not delivered to the motor. . . . [ ]" (CRPB1 at 5 (citing Hr'g Tr. at 525:22-526:4).) CGI then identifies various moments where Respondents' validity expert allegedly testified that speed of the motor corresponds to force. (*Id.* (referring to Hr'g Tr. at 595:14-22, 601:2-12, 601:18-22; RX-0001C [Pedram WS] at Q251, 254, 256, 275, 287).) CGI describes Respondents' non-infringement expert as holding a "litigation-induced contrary opinion" that "should be rejected as lacking credibility" when compared to Respondents' validity expert's testimony on the prior art. (*See id.* at 6-7.)

CGI then argues that Respondents' remaining defenses are "predicated on an unduly narrow interpretation of 'corresponds' that the claim language does not support." (*Id.* at 7.) First, the sequence of values which [ ] takes on is irrelevant because "the claim does not prohibit a pre-set sequence of values if it corresponds to force." (*Id.*) Second, the difference between [ ] is irrelevant because the claim "requires only that the monitored parameter correspond to force." (*Id.*) Third, the claim does not require that [ ] or any other parameter "control" the motor's speed by itself. (*Id.*) Finally, CGI suggests that any opinion from Dr. Heppe as to what the force "might be doing in the Accused Products at certain locations or positions of the door" is "irrelevant because he admitted that he did not conduct any force tests with the Accused Products."*Id.* at 8 (citing Hr'g Tr. at 566:14-

567:22, 570:2-6).)

Regarding [ ] as a "monitored" parameter, CGI contends that "[t]here is no dispute that [

]" (*Id.* at 8 (citing CX-1251C [Direen WS] at Q79, RX-228C [Heppe WS] at Q81, Hr'g Tr. (Direen) at 155:24-156:3).) CGI argues this even though it states clearly that "claim 34 does not require 'feedback' or 'learning' based on the monitored parameter." (*Id.*) CGI then considers how [ ] fits into later claim limitations regarding first and second conditions to argue "[i]n the accused products , [

]" (*Id.* at 9.) CGI's purpose of exploring satisfaction of these later limitations is to explain how "[t]o the extent claim 34 requires feedback based on the monitored parameter, this [

]" (*Id.*)

*Respondents' position*

Respondents dispute the limitation is met on two fronts: (1) [ ] does not correspond to force, and (2) [ ] is not a monitored parameter. (*See* RRSB1 at 8-9.) Respondents argue that [ ] does not correspond to force because it is instead "[

]" (*Id.* at 9 (citing Hr'g Tr. at 155:18-157:21; RX-0228C [Heppe WS] at Q418-429).) More specifically, as Respondents explain:

[

]

[
]

(*Id.*) More generally, Respondents consider that:

> [I]f there were any correspondence between [ ] and force, one would expect the [ ] to have some relationship with the operating conditions of each accused product. [
> ] As such, there can be no correspondence between [ ] and force when [
> ]

(*Id.* (citing Hr'g Tr. at 163:1-4, 163:9-11).) Respondents contend that, in this way,

[ ],

which is important because, according to Respondents, the force applied to the door corresponds to [ ]. (*Id.* at 10 (citing Hr'g Tr. at 542:25-543:4).) Respondents also take issue with CGI's use of their expert's testimony to argue that [ ] (*Id.* at 12.) Rather, Respondents argue, their expert testified that "[t]ypically, that's true; although, not always." (*Id.* (citing Hr'g Tr. at 531:15-20).) This, according to Respondents, proves a failure to show correspondence between [ ] and force, because "an occasional change in [ ] corresponds with force." (*Id.*) Finally, Respondents argue lack of correspondence because, for example, when [ ]. (*Id.* (referring to Hr'g Tr. at 550:20-553:5).) This, according to Respondents, "disproves any correspondence between [ ] and force." (*Id.*)

On the second front, Respondents dispute that [ ] is "monitored." Respondents argue that in the '336 patent the point of monitoring is to determine force, but no

such monitoring of [ ] takes place in the 336 Accused Product. (RRPB1 at 13.) Regarding CGI's alleged [ ] Respondents argue "the only alleged [ ]" which "does not provide any [ ]" (*Id.* at 14.) This, according to Respondents, "is not the type of feedback (or learning) required by claim 34, as the claim requires the monitored parameter to drive an increase or decrease in a characteristic *force* value." (*Id.*) Respondents then emphasize that it is the first and second conditions that trigger "the selection of the determination process" as opposed to[ ], whose purpose is "to provide a response (*i.e.*, feedback) for automatically increasing or decreasing a characteristic force value so that the value can be updated." (*Id.*) Respondents conclude with "[ ] does not perform the 'monitored parameter' role because it [ ]" (*Id.* (citing RX-0228C at Q413-414; Hr'g Tr. at 510:12-511:3).) Respondents then discuss how the purported "inconsistencies" between its non-infringement and invalidity experts do not resolve this issue in CGI's favor. (*See id.* at 14-16.)

*Analysis*

Regarding whether or not [ ] "corresponds" to force, I find that it does. "Corresponds" is a very broad term, and it is clear that [ ] indirectly corresponds to force. For example, I found credible testimony from both parties explaining that if one is given the value of [ ], one would have some idea of the [ ] (*See* RX-0228 [Heppe WS] at Q418-419; CX-1251C at Q153; Hr'g Tr. at 531:15-19 (a change in [ ]), 551:9-553:4; CX-1140C [Yongwen

Huang Dep.] Tr. at 35:15-19, 36:14-16 ("Q. Do you know what the [

]"), 79:4-20; CX-1146C [Shao Dep. Tr.] at 35:20-36:7

(confirming [ ]), 37:22-38:10 ("[

]"), 38:17-22).] I find this connection to average force [ ] meets the loose requirement of "corresponding" to force. Additionally, Respondents' invalidity expert, Dr. Pedram, freely associates parameters corresponding to motor current or motor speed in the prior art with the requisite "at least one parameter that corresponds to force as applied to a movable barrier." (*See* RX-0228C [Pedram WS] at Q254 ("As noted by Mullet at column 12, lines 60-61, the monitored 'speed of the motor 48 is directly proportional to the force applied to the door.' Accordingly, it is clear in Mullet that the monitored speed of the motor is a parameter that corresponds to force."); Hr'g Tr. at 595:14-22 (agreeing that motor current and speed correspond to the amount of force applied to the movable barrier).)

Respondents' argument that their invalidity expert's admissions do not apply because the '336 Accused Products "do not measure motor speed" as the prior art explicitly does (RRSB1 at 15), this argument misses the point. Whether or not motor speed is directly measured does not diminish the correspondence a motor's speed has to the force it applies upon the movable barrier. I find Respondents' other arguments are generally not persuasive because they apply "corresponds" too narrowly. [(*See* RRSB1 at 9-10 ("there can be no correspondence between [ ] and force because [

]), 10-12 (force is technically the result of current amplitude [ ]), 11-12 (sometimes force can go down [ ]).) Thus, I find [ ] in the '336 Accused Products is a parameter which corresponds to force.

Regarding whether or not [ ] is a "monitored parameter," I find that it is monitored. I can readily understand Respondents' position that [

] (RRSB1 at 8 (citing Hr'g Tr. at 155:18-156:3), 15), and in this way not a "monitored parameter." Indeed, CGI's initial post-hearing brief description of accused product operation is telling in how [ ] and is not a "monitored" parameter as compared to, for example, the "[ ]," where [ ] (*See* CIB1 at 20 (citing CX-1251C at Q95-97; CX-1140C [Yongwen Huang Dep. Tr.] at 120:3-15; CX-1146C [Shao Dep. Tr.] at 29:3-22).) In a first sentence, CGI states "after this phase, the motor enters the [

]" (CIB1 at 35.) This implies [

] In the next sentence, CGI states, "[l]ikewise, when the door is [

]" (*Id.*) This implies the motor's [

]

I find that the second statement is accurate and the first is not. [

] In other words, [ ] and this is reflected accurately in CGI's second statement—"[

]" (CIB1 at 35.)

The C02 source code in the '336 Accused Products, however, is clear and dispositive here. The code explicitly [

]

[1623] [ ]

....

[1654] [ ]

....

[1716] [ ]

....

[(CPX-0224C at line 1623; CPX-0225C at line 1654; CPX-0226C at line 1716.) I find it hard to argue that code which [

] under a plain and ordinary meaning of "monitor." The standard for deviating from this plain and ordinary meaning is "exacting" and requires "a clear and unmistakable disclaimer." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1366-67 (Fed. Cir. 2012).]

On this issue, the parties argue a bit over "feedback," and whether it is present with [ ] or not. (*See* CIB1 at 35; RRPB1 at 13-14.) I find [ ] but I also find the question to be irrelevant. The presence or absence of feedback does not define or establish a data value as a "monitored" parameter. Indeed, there is no mention of "feedback" in the '336 patent's specification or claims, and no process flow in the patent's figures suggest it. (*See generally* '336 patent.) The monitoring or measurement of force as applied to a moveable barrier would be considered "feedback" only if the goal of the control system was to control the force (*i.e.*, achieve a certain value) as applied to a moveable barrier (*i.e.*, closed loop control). This is not the focus of the '336 patent, as it does not mention anywhere adjusting the force as applied by the motor (*i.e.*, the monitored parameter) to achieve a certain value. Rather, the focus is on monitoring force as applied in order to intelligently update threshold limits. (*See, e.g.*, '336 patent at Abstract ("An excess force threshold value is automatically changed in response to the monitored at least one parameter to provide an updated excess force threshold value.").)

Thus, I find the '336 Accused Products have been shown to meet the limitation

"monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move."

### iii. Limitation 34[b]

Claim 34 further requires, "automatically increasing a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met." ('336 patent at claim 34.) Respondents dispute that this limitation is met in the '336 Accused Products.

*CGI's position*

CGI argues clearly, "[t]he first determination process includes [

]" (CIB1 at 38.) CGI describes this first determination process as "[u]nder these *conditions*, the Accused Products automatically [

]" (*Id.* (citing Hr'g Tr. at 247:24-275:3; CX-1251C [Direen WS] at Q156, 157 (emphasis added).) CGI continues, "[t]his determination process is responsive to [

]" (*Id.* (citing Hr'g Tr. at 247:15-23; CX-1251C at Q156, 157).)

CGI asserts that "Respondents agreed that this determination process increases the characteristic force value, at least sometimes." (*Id.* (citing RX-0228C [Heppe WS] at Q471, 485).) CGI then explains how, using the "[ ]" and "[ ] "for any position along the travel path of the door, the characteristic force value is automatically [

]" and "[ ] results in an updated characteristic force value."

(*Id.* at 38-39 (citing CX-1251C [Direen WS] at Q158, 159; CX-1140C [Yongwen Huang Dep. Tr.] at 69:16-70:5).)

CGI then addresses Respondents' argument that the limitation can only be satisfied when the first determination process *always* increases the characteristic force value, as opposed to *sometimes*. (*See id.* at 39.) CGI contends this is wrong under the law, where "[i]t is well settled that that an accused device that 'sometimes, but not always, embodies a claim[] nonetheless infringes." (*Id.* (citing *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1333 (Fed. Cir. 2013) and discussing *Versata Software, Inc. v. SAP America, Inc.*,717 F.3d 1255, 1263 (Fed. Cir. 2013); *Hilgraeve Corp. v. Symantec Corp.*, 265 F.3d 1336, 1343 (Fed. Cir. 2001)).) CGI adds that Respondents did not raise this argument at the claim construction phase of the investigation indicting it is now a "desperate attempt to manufacture a noninfringement argument." (*Id.*) CGI concludes by clarifying its understanding of how the variable [ ] serves as the "characteristic force value" and the "excess force threshold generated by [ ]" (*Id.* at 39-40 (citing CX-1251C at 156-159).) For this limitation specifically, CGI argues "[t]he selecting and loading of [ ] satisfies this limitation. . . . It is not the value of [ ]" (*Id.* at 40.)

In its reply brief, CGI argues again that "the first and second determination processes need not always increase or decrease" because "[the law] is well settled that an accused device that 'sometimes, but not always, embodies a claim nonetheless infringes." (*See* CRPB1 at 9-11 (citing *Broadcom Corp.*, 732 F.3d at 1333 and discussing *UltimatePointer, L.L.C. v. Nintendo Co., Ltd.*, 816 F.3d 816, 825 (Fed. Cir. 2016); *Dippin' Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007); *Hilgraeve*, 265 F.3d at 1343).) In particular, CGI distinguishes *Ferguson*

*Beauregard/Logic Controls Division of Dover Resources, Inc. v. Mega Systems, LLC*, 350 F.3d 1327, 1346 (Fed. Cir. 2003) because "the court held that claims required always decreasing or increasing a length of time because the claims covered every possible circumstance that could arise." (*Id.* at 10.) CGI explains that under presently asserted claim 34, "situations could arise under which neither condition is satisfied." (*Id.* at 11.) In conclusion, CGI argues it has "identified a first determination process that automatically increases a characteristic force value at least sometimes . . . and a second determination process that automatically decreases a characteristic force value at least sometimes" (*id.* at 12 (citing CX-1251C [Direen WS] at Q156-159, 170-173)), and that this satisfies claim 34.

With respect to the first and second processes being different from each other, CGI argues three differences exist. (*Id.* at 13.) First, the processes constitute different lines of code, which CGI claims is "the clearest evidence that the processes are different." (*Id.*) Second, a [ ] (*Id.* (citing Hr'g Tr. at 268:16-269:5; CX-1251C at Q181).) Third, "one determination process occurs when the Accused Products are [ ] and the other occurs when the accused products are [ ]" (*Id.* (citing Hr'g Tr. at 267:1-268:11).) CGI contends that "Respondents have no answer for these differences." (*Id.*)

*Respondents' position*

Respondents dispute the limitation is met for three reasons: (1) the alleged "first determination process" does not increase or update the "characteristic force value;" (2) the alleged "first determination process" does not "automatically" update the characteristic force value when a first condition is met; and (3) the "first determination process" is actually no different from the "second determination process." (*See* RRSB1 at 16, 18, 21.)

Under the first reason, Respondents argue:

> Limitation 34[b] requires a "first determination process" that will "increase" and "update" a characteristic force value. It is insufficient to identify a process that merely selects and applies previously stored force values to determine whether the motor is applying too much force to the door. RX-228C at Q&A 486, 493-94. Yet that is exactly what CGI has done.

(RRSB1 at 16.) More specifically, Respondents explain how CGI has identified the "[ ]" as the "first determination process," but this function cannot satisfy the claims because it "merely [ ]" (*Id.* (citing RX-0228C at Q83, 412, 413, 485, 486, 493; RDX-243C; CDX-5.21C; CPX- 215C to -218C at lines 1595, 1601, 1657, 1662, 1724, 1729; CPX-225C-227C at lines 1629, 1635, 1691, 1696, 1758, 1763).) Respondents point out how, at the hearing, CGI's expert, Dr. Direen, "confirmed that the [ ]" (*Id.* at 17 (citing Hr'g Tr. at 214:14-25).)]

Under the second reason, Respondents contend that the "[ ]" will not always increase what Dr. Direen identified as the "characteristic force value." (*See id.* at 18.) More specifically, Respondents explain how the values in the [ ] may actually decrease, which will result in [ ]" (*Id.* (citing RX-228C at Q485, 471, 510; Hr'g Tr. at 204:7-207:20).)] This behavior, according to Respondents, cannot satisfy a limitation which requires "*automatically increasing* a characteristic force value pursuant to a first determination process … *when a first condition is met.*" (*Id.* (citing '336 patent at claim 34).) Respondents then explain why "automatically increasing," as it is used in the claim, must mean "always increasing." (*See id.* at 18-21 (discussing *Ferguson Beauregard/Logic Controls*, 350 F.3d at 1346; *Dippin' Dots*, 476

F.3d at 1343; *UltimatePointer*, 816 F.3d at 825; *Broadcom Corp.*, 732 F.3d 1325 (Fed. Cir. 2013); *Versata Software*, 717 F.3d 1255 (Fed. Cir. 2013); *Hilgraeve*, 265 F.3d 1336 (Fed. Cir. 2001)).) Respondents argue clearly, "CGI's alleged first determination process is never configured to meet limitation 34[b]." (*Id.* at 20.)

Under the third reason, Respondents argue simply:

> CGI did not identify a "first determination process" that is "different" from the "second determination process" as claim 34 requires. CGI's expert, Dr. Direen, asserts that the first determination process occurs when [ ] and the second determination process occurs when [ ]. But the code routines that Dr. Direen identified as [ ] for the first determination process (*i.e.*, [ ]) are found verbatim in the code for his alleged second determination process (*i.e.*, [ ]). Hr'g Tr. at 181:25-182:13.]

(*Id.* at 21.) Respondents then refer to demonstratives which allegedly show, through color coding, how the determination process for when [ ] are the same. (*Id.* at 22 (showing RDX-0417C and citing CPX-0225; CPX-0226; CPX-0217; CPX-0218).) Respondents quote CGI's expert, Dr. Direen, as testifying "all you've shown here is just two – two sections of code that are the same." (*Id.* (citing Hr'g Tr. at 182:14-183:9).) Respondents continue to cite Dr. Direen with:

> Q. Now, each of these sections of code, which you say show the second determination process, are actually found in the code that we looked at previously where the [ ], correct?
>
> A. The code is very similar, but you're -- the door is [ ], and that's what's key here. That's what we're missing.
>
> Q. They're not just similar, right? Each one of these sections of code is found in the other part of the code, correct?
>
> A. Yes.

(*Id.* at 23 (citing Hr'g Tr. at 189:7-189:19).)

Respondents summarize, "[t]hus, the operations used to set [

] are identical to the ones used to set [

]" (*id.* at 24) and argue that CGI cannot pick and choose different portions, of what is a single process, to manufacture an appearance of two different processes (*id.* at 25). Respondents point to one portion of the code in particular, a [ ], as having been omitted by Dr. Direen to create such a difference. (*Id.* (citing Hr'g Tr. at 178:13-179:25).) Respondents then characterize CGI's remaining arguments regarding different lines of code, different conditions, and the effect of the [ ] as irrelevant. (*Id.* at 26.)

*Analysis*

I find the Respondents' first non-infringement reason is their weakest because it addresses an infringement theory that CGI has not made. For example, Respondents call out one moment from Dr. Direen's hearing testimony as an "admission:"

> At the hearing, Dr. Direen admitted that the [
>
> ] (which he claims is the characteristic force value). Hr'g Tr. at 204:1-18.]

[(RRSB1 at 17.) ] I do not view this as an "admission." It appears to be exactly CGI's infringement theory where the [ ] variable is the "characteristic force value" which is [ ]. (*See* CIB1 at 38-39; CX-1251C [Direen WS] at Q159.) In this way, Respondents' argument regarding [

]" as unable to meet a limitation requiring updating—misses the mark. CGI does not accuse the [

] as the "characteristic force value."]

I find Respondents' second non-infringement reason to be stronger than the first and ultimately rooted in the legal question of what impact the term "automatically" has on the claim. Respondents essentially argue it means "always." (RRSB1 at 18 ("[a]t the hearing, Dr. Direen admitted that the MAX() function will not always increase what he identified as the characteristic force value").) CGI disputes that meaning as a matter of law, but does not provide its own an alternative interpretation. (*See* CIB1 at 38-40; CRPB1 at 9-12.) Rather, CGI wants me to follow that body of law which states "[i]t is well settled that that an accused device that 'sometimes, but not always, embodies a claim[] nonetheless infringes." (*See* CIB1 at 39 (citing *Broadcom*, 732 F.3d at 1333); CRPB1 at 9-10.)

I find that even if I take CGI up on its offer, the result is non-infringement. In other words, I consider whether the '336 Accused Products "sometimes" "automatically increase. . . when a first condition is met." The answer is no because when the '336 Accused Products [

] it is always possible that [ ] The only "automatic" act under these conditions is that [ ] (CX-1251C [Direen WS] at Q158-159; RX-0228C [Heppe WS] at Q485; *see* CPX-0225; CPX-0226; CPX-0227.) In this way, [ ] is

---

[5] [

]

not a condition which "automatically" results in [ ] and the limitation is not met.

I understand how this approach can be viewed as overly narrow, given the 'sometimes, but not always" law from *Broadcom*, but I find two circumstances that should ameliorate this concern. First, the word "automatically" as used in the claim must be presumed to impart meaning and should not be read out. *Warner-Jenkinson Co., Ind. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 29 (1997) ("[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention."); *Foremost in Packaging Sys., Inc. v. Cold Chain Techs., Inc.*, 485 F.3d 1153, 1156 (Fed. Cir. 2007) (refusing to read out "together"); *Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361, 1369 (Fed. Cir. 2005) (refusing to read out "preformed").

If the claim had omitted "automatically" and simply read "increasing . . . when a first condition is met," then Respondents would have no defense because, occasionally,

[

] Yet, the patentee included the word "automatically," and I must avoid an interpretation that reads "automatically" out of the claim. As noted above, CGI does not offer its own suggested meaning for "automatically" (*see* CIB1 at 38-40; CRPB1 at 9-12) which makes it difficult to understand how an accused product can meet it.

Second, the restriction brought on by the term "automatically" is counteracted by the breadth of the term "a first condition." In other words, an accused system can have *any* condition or set of conditions (which could collectively be called a "first condition") under which automatically causes the characteristic force value to increase, without further consideration, and meet the limitation. I find CGI most likely recognizes this flexibility when it states, "[t[herefore,

the claims require increasing or decreasing only under *some circumstances* to satisfy the limitations of claim 34." (CRPB1 at 11 (emphasis added).) I find it is CGI's burden and freedom to identify whatever it wants as the "some circumstances" for the recited "first condition" in the claim. Truly, if an accused system operates in a way in which *no* possible set of conditions guarantees, or "automatically" results in, an increased characteristic force value, then it should not, on principle, infringe claim 34 of the '336 patent.

With that said, I make no finding on whether there are *any* possible set of conditions which guarantee an increase [ ] in the '336 Accused Products. I imagine there could be. The barrier to infringement in this case, though, is that CGI has clearly and unmistakably identified the "first condition" as when [ ] (CIB1 at 38; CX-1251C [Direen WS] at Q156.)[6] These two conditions, as CGI itself states, do not guarantee or automatically result in [ ] being increased. (CRPB1 at 12 ("Complainant has identified a first determination process that automatically increases a characteristic force value at least sometimes . . . and a second determination process that automatically decreases a characteristic force value at least sometimes").) For this reason, I find the '336 Accused Products running the C02 version of the code do not infringe claim 34.

I find Respondents' third non-infringement reason to reflect one of the most difficult issues surrounding the '336 patent and claim 34; specifically, what makes one determination

---

6 [ ]

process different from another.[7] I find it difficult because the claim recites "increasing a characteristic force value pursuant to a first determination process" and "decreasing the characteristic force value pursuant to a second determination process," and then adds "which second determination process is different from the first determination process." ('336 patent at claim 34.) I find it difficult to imagine how a first process which automatically increases a value could be the exact same (*i.e.*, not different) as a second process which automatically decreases that value, and yet, the patent's drafters seem to have believed it possible and guarded against it by adding the language "which second determination process is different from the first determination process." Again, I must avoid reading out this explicit language in the claim. *Foremost in Packaging Sys., Inc. v. Cold Chain Techs., Inc.*, 485 F.3d 1153, 1156 (Fed. Cir. 2007) (refusing to read out "together"); *Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361, 1369 (Fed. Cir. 2005) (refusing to read out "preformed").

Forced into this corner, I find, based on the plain language of the claim and a review of the '336 patent specification, the meaning of "which second determination process is different from the first determination process" to be "which second determination process is different in operators or called-upon variables." This comports with, but is not limited to, what is shown in Figure 6 of the '336 patent and described at column 7, line 19 to column 8, line 65.

Moving on, CGI contends three differences between the alleged "first determination process" and "second determination process" to satisfy the claims: (1) the first and second processes "constitute different lines of code;" (2) the presence of [ ] in the second process; and (3) one process occurs when the products are in [ ] and the

---

[7] I also note that this non-infringement reason arises by way of the subsequent limitation, 34[c], but Respondents' discussed it in the context of limitation 34[b], so I do as well. (*See* RRSB1 at 21.)

other occurs during [ ] (*See* CRPB1 at 13.)

I do not find differences (1) and (3) to be meaningful or to satisfy the construction I put forward above. Regarding the first, which CGI contends is "the clearest evidence that the processes are different," I find it is the least compelling. It is akin to arguing two copies of the same program are "different" because they are stored on different discs, and is not persuasive at all. Regarding the third, this is nearly as unpersuasive. [

]

(RX-0228C [Heppe WS] at Q414, 418-421.)] These, under CGI's theory of infringement, are components of the "first condition" and "second condition," and rightfully not part of either "determination process." Indeed, if the "first condition" and "second condition" could be rolled into the "first determination process" and "second determination process," then the language "which second determination process is different from the first determination process" would be even more redundant than it already is. I decline to take up such a reading of the claim.[8]

This leaves the second alleged difference—"the [

]" (CRPB1 at 13.) CGI explains in its initial post-hearing brief:

> The source code of the second determination process includes [ ] that is not found in the first determination process. Hrg Tr. (Direen) at 197:2-7; 264:19-25. The [ ] in the second determination process [ ]
> Hrg Tr. (Direen) at 191:14-22; 192:6-21; 264:6-18.]

(CIB1 at 42.) Respondents' defense is straightforward. They contend that this "[ ]" as admitted by CGI's expert, has no effect on the alleged characteristic force value and therefore "does not render the alleged determination processes different from one another." (RRSB1 at 26

[8] This reasoning applies equally to CGI's argument that "[a]nother code difference is the [ ]" (CRPB1 at 13.) These "differences" are already accounted for as the first and second "conditions" required by the claim.

(citing Hr'g Tr. at 198:6-10 and referring to RX-0228C [Heppe WS] at Q506, 507).) CGI does not contest this fact that "[ ] (*See* CRPB1 at 13.)

Upon review of the source code, the operation of the C02 version code is clear. There is [

](CPX-0225 at lines 1653-1660 (annotated); CPX-0226 at lines 1715-1725 (annotated).) In the above excerpt I have placed red brackets showing how [

]

(*Compare* CPX-0225 at line 1658 – CPX-0226 at line 1715 *with* CPX-0226 at line 1723 – CPX-0227 at line 1715; *see also* RDX-0431C.)[9] In other words, [

]

I do not find that this constitutes a "difference" under the spirit of the '336 patent or the

[9] In their demonstratives, the parties often compared CPX-0225 and CPX-0226 to CPX-0217 and CPX-0218. (*See* RRSB1 at 22, 24; CIB1 at 42.) CPX-0217 and CPX-0218 belong to the V26 software, however (*see* CX-1251C [Direen WS] at Q77), so I cite what is the same code but taken from its location within the C02 version (*i.e.*, CPX-0225 to CPX-0227).

construction I adopted above for "which second determination process is different from the first determination process." [ ] is more of a precondition than a part of the determination process because, as Respondents argue and CGI does not dispute, it [ ] (RRSB1 at 26; CRPB1 at 1.) That values comes solely from [ ] (CPX-0226 at lines 1689-1693; CPX-0227 at lines 1756-1760.) Additionally, the system [ ] (CPX-0225 at lines 1659, 1687-1690; CPX-0226 at line 1724; CPX-0227 at lines 1754-1757.) This is significant because CGI argues these are two of the three conditions for the second determination process, and at least one of the conditions for the first. (*See* CIB1 at 38, 40.) Respondents have shown convincingly that, while left out by CGI, the [ ] applies equally to the first process as well. (*See* RRSB1 at 24-25; Hr'g Tr. at 178:13-179:25; CPX-0225 at line 1687.) It is contrary to an ordinary understanding for a step of a process (*e.g.*,[ ]) to begin before its defined preconditions [ ] are met.

The bottom line is, as Respondents allege, "the operations that [ ]" (RRSB1 at 24.) This does not allow for, what the '336 patent describes as, the benefit of having different processes:

> In this embodiment, this step size L is smaller than the step size K used when incrementing the characteristic force value $TH_c$ towards a larger value as described above, and it is at least this difference that distinguishes the second determination process 62 from the first determination process 61. So configured, the operator can track (closely or loosely, depending upon the nature of the force peak excursions) changing force needs and reflect those changes in the excess force threshold value (by, in these embodiments, adjusting a characteristic force value $TH_c$). *These*

> *processes, however, permit more significant immediate increases in the characteristic force value $TH_c$ than decreases.* This preferred approach aids in ensuring that the operator does not quickly (and possibly inappropriately) reduce the excess force threshold value to a point where the movable barrier cannot be moved without triggering a false obstacle detection event.

('336 patent at 8:50-65 (emphasis added).)

Thus, I find the '336 Accused Products have not been shown to meet the limitations "automatically increasing a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met" or "which second determination process is different from the first determination process."

### iv. Limitation 34[c]

Claim 34 further requires, "automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met." ('336 patent at claim 34.) Respondents dispute this limitation is met in the '336 Accused Products.

*CGI's position*

CGI argues that "the characteristic force value is automatically decreased from a maximum expected motor current to a lower expected motor current" in a second determination process when three conditions are met: (1) [ ]; (2) [ ]; and (3) [ ] (CIB1 at 40 (citing CX-1251C [Direen WS] at Q168, 170; Hr'g Tr. at 248:4-9).) Specifically, CGI explains the process as where the characteristic force value [ ] (*See id.* at 40-41.)

CGI accuses Respondents' defenses as distracting from the facts. (*Id.* at 41.) CGI disputes that the characteristic force value needs to be changed as a result of two different "functions." (*Id.* (referring to RX-0228C [Heppe WS] at Q490, 495).) CGI disputes that, as it understands Respondents to contend, there can be no "overlap" between the two processes, pointing specifically to step 64 in Figure 6 of the '336 patent. (*Id.* (referring to RX-0228C at Q466-470, 491-493).)

CGI asserts "Respondents' last resort was highlighting similarities between the first and second determination processes in the source code." (*Id.*) CGI continues, "[t]he fact remains, CGI identified different lines of the source code as the first and second determination processes that [ ]" (*Id.* (citing Hr'g Tr. at 265:22-266:11; CX-1251C at Q174, 175).) CGI points to Respondents' demonstrative RDX-0429C as showing the processes where "[ " (*id.*), and, as shown, "[t]he source code of the second determination process includes a [ ] that is not found in the first determination process" (*id.* at 42 (citing Hr'g Tr. at 197:2-7, 264:19-25)). The result, according to CGI, is that "[t]he [ ] in the second determination process allows for [ ]" (*Id.* (citing Hr'g Tr. at 191:14-22, 192:6-21, 164:6-18).) CGI contends this difference is dispositive. (*See id.* at 42-43.)]

CGI's reply brief arguments for limitation 34[c] are captured in its discussion of limitation 34[b] above. (*See* CRPB1 at 9.)

*Respondents' position*

Respondents largely argue that this limitation is not met for the same reasons as limitation 34[b], in part because the second determination process is no different than the first. (RRSB1 at 26.) Respondents add that the identified second determination process also does not

"decrease" or "update" a characteristic force value because it "merely involves [

]" (*Id.* at 27.) Respondents argue there is a situation here where the [

]" (*id.* (citing Hr'g Tr. at 213:1-15)), and that the [

] (*id.* (citing Hr'g Tr. at 215:11-15, 218:23-219:9; CX-1251C at Q74)). Respondents conclude with:

> Finally, even if [ ] is somehow deemed to constitute changing and updating these values, there is still no selection in response to a monitored parameter that corresponds to force. Rather, as CGI acknowledges, the [
>
> ] CGI's IPHB at 40; Hr'g at 209:6-17; *see also* RX-228C at Q&A 495-97; RDX-249C. At the hearing, Dr. Direen admitted the [ ] does not constitute a monitored force parameter and thus cannot be the monitored parameter required by claim 34. Hr'g Tr. at 210:8-17.

(*Id.*)

*Analysis*

As CGI suggests, much of the discussion for limitation 34[b] applies equally to limitation 34[c]. Due to the nature of the [ ], the '336 Accused Products do not "sometimes" "automatically decreas[e] the characteristic force value pursuant to a second determination process." The [

] which CGI's expert conceded. (Hr'g Tr. at 213:1-15.) Further, as explained above, that second determination process by which [ ] is the same as the first determination process:

[

]

(CPX-0226 at lines 1687-1691.)

[

]

(CPX-0227 at lines 1754-1758.)

Thus, I find the '336 Accused Products have not been shown to meet the limitation "automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met."

**v. Limitation 34[d]**

Claim 34 further requires, "using the updated characteristic force value to determine a corresponding excess force threshold value." ('336 patent at claim 34.) I find credible and unrebutted testimony demonstrates that the '336 Accused Products [

] to determine the excess force threshold. (CX-1251C [Direen WS] at Q185.)

**vi. Limitation 34[e]**

Claim 34 further requires, "determining when force in excess of the excess force threshold value is being applied to the movable barrier." ('336 patent at claim 34.) I find credible and unrebutted testimony demonstrates that the '336 Accused Products [

] to

determine if excess force has been applied. (CX-1251C [Direen WS] at Q186-187.) It should be noted that the "[

] (*see* CX-1251C at Q88), and this is its first appearance in CGI's infringement theory for the C02 products, whereas for the V26 products and claims 15 and 19, the "[

] served as the cornerstone "at least one parameter that corresponds to force as applied to a movable barrier." (*Compare* CIB1 at 33-43 *with* CIB1 at 19-27.) I find this to be another indicator of how the [

]

#### vii. Limitation 34[f]

Finally, claim 34 requires, "taking a predetermined action when excess force is being applied to the movable barrier." ('336 patent at claim 34.) I find credible and unrebutted testimony demonstrates that the '336 Accused Products [

] when the threshold value is reached—a basic safety feature. (CX-1251C at Q188, 189.)

All taken together, I find CGI has not proven by a preponderance of the evidence that the '336 Accused Products infringe claim 34 of the '336 patent.

### b. Indirect Infringement

CGI argues that "Respondents' activities constitute induced infringement and contributory infringement" of the '336 patent. (CIB1 at 45.) CGI argues that Respondents have been aware of the'336 patent "[

] (*Id.* (citing CX-1144C [Ben-David Dep. Tr.] at 35:20-36:20; CX-1251C [Direen WS] at Q206).) CGI argues the evidence shows that "Respondents' employees emailed each other [

] which constitutes specific knowledge of the '336 patent. (*Id.* at 45-46.) CGI

then argues that Respondents "encourage the infringing use of the Accused Ryobi Products in several ways," such as through discussions with customers on "performance applications of the Ryobi GDOs," as well as "product manuals and instructional videos that instructs end users to operate the Accused Ryobi Products in a manner that practices the asserted claims of the '336 patent." (*Id.* at 46 (citing CX-1251C at Q209, 213; CPX-0029C; CPX-0030C; CPX-0031C; CPX-0032C; CPX-0033C; CPX-0122C; CPX-0123C; CPX-0124; CPX-0125C; CPX-0126C; CPX-0127C; CPX-0128; CPX-0006C; CPX-0178C; CX-0419; CX-1048; CX-1050; CX-0016C; CX-0364; CX-0424C; CX-0439C; CX-1152C at Nos. 46, 48).) CGI alleges that "these manuals instruct the user to use and test the accused obstacle detection feature." (*Id.* (citing CX-1251C at Q213; CX-0364; CX-0049C; CX-0053; CX-0054; CX-0055C; CX-0056C; CX-0057C; CX-0058C; CX-0361; CX-0369C).) CGI concludes by stating that the '336 Accused Products are not suitable for any substantial noninfringing use because "[t]he Accused Product's firmware is specifically adapted to [

] (Id. at 46-47 (citing CX-1251C at Q210).)

In their responsive briefing, Respondents do not address these claims of indirect infringement. (*See* RRSB1.)

A finding of indirect infringement requires a predicate finding of direct infringement by any actor. *Met–Coil*, 803 F.2d at 687. As discussed above, I do not find the '336 Accused Products directly infringe the '336 patent. Thus, I find Respondents do not indirectly infringe either.

### E. Domestic Industry - Technical Prong

CGI argues the '336 Domestic Industry Products practice claims 12, 14, 15, 19, and 34 of

the '336 patent. (CIB1 at 47.)[10] Generally, CGI argues "[t]he Chamberlain Products monitor the force applied to the door and reverse the door when applied force exceeds a threshold" and that this features is internally called "AutoForce." (CIB1 at 47-48.) CGI claims AutoForce "adjusts the force reversal threshold to be slightly above the amount of force required to move the door along its travel path" and does so "after each successful full open or close cycle." (*Id.* at 48.) According to CGI, "[t]he adapted values are updated based on different rules depending on whether the measured force is greater than or less than the stored adapted value." (*Id.* at 48.)

Respondents argue that CGI relies on a representative-product approach to showing this practice but fails to provide sufficient evidence in support—particularly for twelve '336 Domestic Industry Products for which, Respondents allege, no evidence has been put on. (*See* RRSB1 at 32 (referring to the HD220P, HD720EV, LW3000EV, LW3500EV, 349544EV, WD962KLD, Airman II, Corporal II, Pilot II, 8350, Admiral II, and Ultra II products).) Respondents also argue that "[a] close analysis of the source code is necessary to determine whether a given product practices the claims at issue," but claim CGI's expert relied on old, outdated, code to form his opinions due to [

] (*Id.* at 33-35 (referring to RX-0228C [Heppe WS] Q527-534).) Respondents also point to an apparent admission by Dr. Direen, that he is "unable to map which domestic industry products use which version of the code." (*Id.* at 34-35 (citing Hr'g Tr. at 243:5-8, 240:11-13).) Generally, and as CGI notes, Respondents do not argue that the '336 Domestic Industry Products *do not* practice claims of the '336 patent—only that they have not been shown to or have not been "proven" to do so. (*See* CIB1 at 47; RRSB1 at 32-33.)

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[10] Independent Claims 12 and 15 are not alleged to be practiced *per se*, but are implicated by assertion of practice of dependent claims 14 and 19, respectively.

In its reply brief, CGI maintains its position that its expert, Dr. Direen, did not rely on "representative products or representative engineering specifications" to form his opinions. (CRPB1 at 16.) Rather, according to CGI, "Dr. Direen provided an example of his methodology using two of the product requirements documents which specifically identify the products and specifications related to those products." (*Id.* (referring to CX-1251C at Q225, 230).) CGI also disputes that Dr. Direen "had to reply on source code to form his opinions," especially with respect to claim 34, because Dr. Direen "testified that the specifications explained the increasing and decreasing processes within the domestic industry products." (*Id.* (citing CX-1251C at Q290).) CGI also dismisses Respondents' concerns over the source code discussed by Dr. Direen as irrelevant because Dr. Direen, again, did not rely on it when forming his opinions, and moreover, comment blocks in that code and filenames have no bearing on the functionality of the code. (*Id.* at 16-17.) Finally, CGI argues that source code was needed to form an opinion about the Accused Products, as opposed to the Domestic Industry Products, because TTi admitted it did not have access to its own code and thus could not have created technical specifications in the way CGI could and does. (*Id.* at 17.)

Keeping in mind the ultimate burden falls upon CGI to show it has practiced each limitation of one or more claims of the '336 patent, *Microsoft,* 817 F.3d at 1313 (quoting *Southwall Techs*, 54 F.3d at 1575), I first address Respondents' criticisms.

Regarding source code, I disagree with Respondents that "given the importance of the source code to Dr. Direen's opinions regarding the alleged DI products, his failure to link the source code to any specific CGI product is fatal to his analysis." (RRSB1 at 35.) It is not clear how important the source code was to the formation of Dr. Direen's opinions. Dr. Direen gave direct testimony that he formed his opinion before reviewing the code. (CX-1251C at Q235-

239.) Also, the elements of the algorithm which is the '336 patent are described at a very high and ambiguous level—"first determination process," "first condition," "at least one parameter that corresponds to force," "second process is different from the first determination process," "taking a predetermined action," etc. (*See, e.g.*, '336 patent at claim 34.) This allows for similar high-level descriptions to sufficiently show practice of the claim; source code is not necessarily needed here.

Additionally, and perhaps more importantly, Respondents do not allege that either autoforce.c or autoforce_old.c fail to perform the steps Dr. Direen ascribes to them. (*See* RRSB1 at 32-35.) Thus, to the extent there is a meaningful difference between the two versions—one that would alter whether or not a '336 patent claim is practiced—Respondents have not identified it. (*See id.*)

It also stands in stark contrast to the credible testimony of Dr. Direen who recounted how [

] (Hr'g Tr. at 240:4-8), and in response to a question on which code was used in any given product, stated "No. That's why I evaluated both, to verify that both had effectively the same functionality." (*Id.* at 242:19-21). I also found CGI witness and '336 patent inventor, James Fitzgibbon, to be a credible witness. In his direct testimony he explains succinctly that the invention of the '336 patent is implemented in CGI's products through a feature known as "Adaptive AutoForce." (CX-1256C at Q74.) Each of the filenames considered by Dr. Direen are entitled "Autoforce." Mr. Fitzgibbon also states that "[b]ecause of how critical we believe this invention is to safety, all of our GDOs and gates use the Adapative [sic] AutoForce feature." (*Id.* at Q75.) I agree that the '336 patent is related to safety (*see* CX-1251C at Q51) and given

how it is algorithmic in nature, it is credible that CGI places it into many if not all of its products, either through [ ] Respondents have not pointed to anything in the Record to overcome the evidence CGI has presented to show the '336 Domestic Industry Products employ AutoForce.

Regarding representative products, after a thorough review of Dr. Direen's written testimony, I can understand why Respondents allege a representative product-approach has taken place. In Dr. Direen's limitation-by-limitation analysis, some of his answers cite and identify documents according to their respective product model number (*see, e.g.*, CX-1251C at Q252-253 (identifying CX-0069C with product number "8550W")), whereas other answers refer to smaller collections of documents and identify them by their CGI-internal "Document" number (*see, e.g.*, *id.* at Q24 (identifying CX-1020C with document number [ ] as found on the exhibit's first page)). The former technique suggests a true product-by-product claim analysis, while the latter suggests a representative product or some other all-in-one approach.

Classifying Dr. Direen's approach as representative product-based or not is not especially material, however. What matters is whether he fulfills CGI's burden on technical prong domestic industry, which is to show each and every limitation of one or more '336 patent claims is practiced by a 336 Domestic Industry Product. On this point, Respondents' criticisms of CGI's technical prong are telling in exactly the way CGI points out—"Respondents *did not challenge a single limitation* of claims 14, 19, or 34 or the claims from which they depend as being not satisfied by CGI's products." (CIB1 at 47.)

Hence, based on CGI's unrebutted claims and the evidence provided, I find it more likely than not that the '336 Domestic Industry Products practice claims 12, 14, 15, 19, and 34 of the '336 patent through the feature known as "Autoforce." (*See* CX-1256C [Fitzgibbon WS] at Q74,

75; CX-1251C [Direen WS] at Q220-222, 240; RX-0228C [Heppe WS] at Q521-534).) I will note that this feature is very different than the processes within Respondents' Accused Products discussed above and found not to infringe.

**1. Claims 12 and 14**

The evidence adduced at the hearing shows the '336 Domestic Industry Products practice independent claim 12 of the '336 patent.

Claim 12 requires, "[a] method for use with a movable barrier operator having both a user-initiable dedicated learning mode of operation and a normal mode of operation." ('336 patent at claim 12.) I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products are garage door openers, and thus, movable barrier operators. (CX-1251C [Direen WS] at Q252; CX-1256C [Fitzgibbon WS] at Q43-45.) I also find credible and unrebutted testimony shows the '336 Domestic Industry Products have user initiated learning and normal modes of operation. (CX-1251C at Q253, 254; *see, e.g.*, CX-0068C at 3263-66; CX-0179C at 47001-05; CX-0069 at 3360-61; CX-0093 at 4503-4.)

Claim 12 further requires, "during the normal mode of operation: monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move between at least a first position and a second position." ('336 patent at claim 12.) I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products implement the Autoforce feature during a normal mode of operation (CX-1251C at Q254-256; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000-05; CX-0183C at -47298-303; CX-0072C at -3403-4; CX-0187C at -47645), and, during this time, the motor's (which moves the door up and down) current or RPM are monitored (CX-1251C at Q257-263; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000; CX-0183C at -47294, -47298-303; CX-0072C at -3403-4; CX-0187C at -47645). Motor current or speed (*e.g.*, RPM) are understood by

the experts in this investigation to fairly represent the force applied to a barrier to make it move. (*See, e.g.*, CX-1251C at Q257, 258; RX-0001C [Pedram WS] at Q254.)

Claim 12 further requires, "automatically changing an excess force threshold value in response to the monitored at least one parameter to provide an updated excess force threshold value." ('336 patent at claim 12.) I find and unrebutted credible testimony demonstrates that the '336 Domestic Industry Products utilize an excess force threshold data value to determine when an obstruction or other unsafe condition has been met, and that this threshold is based on the stored peak motor current or RPM measured, which is itself updated during normal operation. (CX-1251C at Q264-266; *see, e.g.*, CX-0068C at 3279; CX-0179C at 47000; CX-0183C at 47298-303; CX-0072C at 3403-4; CX-0187C at 47645.)

Claim 12 further requires, "using the updated excess force threshold value and the monitored at least one parameter to determine when excess force is being applied to the movable barrier via the movable barrier operator." ('336 patent at claim 12.) I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products can determine when a measured current and/or RPM value exceeds a threshold value thereby signaling excess force is applied to the barrier, occasionally referred to as a "force event." (CX-1251C at Q267-268; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000; CX-0183C at -47298-303; CX-0072C at -3403-4; CX-0187C at -47645.)

Claim 12 finally requires, "taking a predetermined action when excess force is being applied to the movable barrier via the movable barrier operator." ('336 patent at claim 12.) I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products reverse the direction of the barrier when the threshold value is reached—a basic safety feature. (CX-1251C at Q269-270; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000; CX-0183C at -

47298-303; CX-0072C at -3403-4; CX-0187C at -47645.)

Claim 14 depends from claim 12 and requires:

> [F]urther comprising monitoring operation of a motor and wherein automatically changing an excess force threshold value in response to the monitored at least one parameter to provide an updated excess force threshold value further includes using a motor operation compensation value to automatically change the excess force threshold value.

('336 patent at claim 14.) I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products monitor [

] (CX-1251C at Q271-272; *see, e.g.*, CX-0068C at -3279; CX-0183C at -47300-301; CX-0072C at -3404; CX-0187C at -47645.) While CGI does not expressly indicate where [

] I find it more likely than not that it is taken on or near the motor so that it may accomplish the stated goal of

[ ]

Thus, I find CGI has proven by a preponderance of the evidence that the '336 Domestic Industry Products practice claims 12 and 14 of the '336 patent.

**2. Claims 15 and 19**

The evidence adduced at the hearing shows the '336 Domestic Industry Products practice independent claim 15 of the '336 patent, which is very similar to claim 12 discussed above.

Claim 15 requires, "A method for use with a movable barrier operator." ('336 patent at claim 15.) As with the similar preamble to claim 12, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q273.)

Claim 15 further requires, "monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move." ('336 patent at

claim 15.) As with the similar limitation in claim 12, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q274.)

Claim 15 further requires, "automatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter." ('336 patent at claim 15.) I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products record and then store [ ] during a normal mode of operation, and when a newly measured [ ] is greater than the stored value, replace the stored value with the newly measured value. (CX-1251C at Q275-278; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000; CX-0183C at -47300; CX-0072C at -3403-4; CX-0187C at -47645.) This act of replacement of a stored value (*i.e.*, the "characteristic force value") with the newly measured value (*i.e.*, the "monitored at least one parameter") is a form of updating "as a function of the difference" between the stored and measured values (*e.g.*, replacing A with B is the same as updating A based on the difference between B and A).

I note here that I find the limitation is met under the construction I concluded upon in Section IV.C. above. I find that it would also be *literally* met under either of CGI's or Respondents' proposed constructions as well.[11] The act of replacing the stored value with the newly measured value meets CGI's broader construction—"updated characteristic force value based on a *comparison of values associated* with the characteristic force value and the at least

[11] I emphasize "literally" because CGI's post-hearing brief suggests literal infringement while its expert, Dr. Direen, states clearly "Yes. Under Respondents' construction, the Chamberlain Domestic Industry Products satisfy this limitation under the *doctrine of equivalents*." (CX-1251C at Q278 (emphasis added).)

one parameter"—and Respondents' narrower construction—"where the updated characteristic force value *differs* from the previous characteristic force value *by the amount of the difference* between the previous characteristic force value and the monitored at least one parameter."

Moving on, Claim 15 further requires, "using an updated characteristic force value to determine a corresponding excess force threshold value." ('336 patent at claim 15.) As discussed in claim 12, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products base their excess force threshold values on the [

] which are themselves updated from time-to-time. (CX-1251C at Q279, 280; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000; CX-0183C at -47298-303; CX-0072C at -3403-4; CX-0187C at -47645.)

Claim 15 further requires, "determining when force in excess of the excess force threshold value is being applied to the movable barrier." ('336 patent at claim 15.) As with the similar limitation in claim 12, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q281.)

Claim 15 finally requires, "taking a predetermined action when excess force is being applied to the movable barrier." ('336 patent at claim 15.) As with the similar limitation in claim 12, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q282.)

Claim 19 depends from claim 15 and requires:

> [F]urther comprising monitoring operation of a motor and wherein using an updated characteristic force value to determine a corresponding excess force threshold value includes using an updated characteristic force value and a motor operation compensation value to determine a corresponding motor operation-compensated excess force threshold value.

('336 patent at claim 19.) As with the similar limitation in claim 14, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation.

(*See* CX-1251C at Q283, 284.)

Thus, I find CGI has proven by a preponderance of the evidence that the '336 Domestic Industry Products practice claims 15 and 19 of the '336 patent.

**3. Claim 34**

The evidence adduced at the hearing shows the '336 Domestic Industry Products practice independent claim 34 of the '336 patent.

Claim 34 requires, "A method for use with a movable barrier operator." ('336 patent at claim 34.) As with the similar limitation in claims 12 and 15, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q285.)

Claim 34 further requires, "monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move." ('336 patent at claim 34.) As with the similar limitation in claims 12 and 15, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q286.)

Claim 34 further requires, "automatically increasing a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met." ('336 patent at claim 34.) As discussed above, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products [ ]values during a normal mode of operation, and when [ ] replace the[ ] (CX-1251C at Q287, 289; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000; CX-0183C at -47300; CX-0072C at -3403-4; CX-0187C at -47645.) This act of replacement is a form of "increasing a characteristic force value pursuant to a first

determination process" and it happens when a first condition, [

] is met.

Claim 34 further requires, "automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met." ('336 patent at claim 34.) I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products[

] (CX-1251C at Q290, 291; *see, e.g.*, CX-0068C at -3279; CX-0179C at -47000; CX-0183C at -47300; CX-0072C at -3403-4; CX-0187C at -47645.) Under the [

] (CX-1251C at Q291; CX-0183C at 47300.) This decrease by a fixed amount is a different "determination process" than the exact-replacement of values that occurs when [ ] and it only happens when the stored value is greater than the measured value, which is a different prerequisite condition.

Claim 34 further requires, "using the updated characteristic force value to determine a corresponding excess force threshold value." ('336 patent at claim 34.) As with the similar limitation in claims 12 and 15, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q292.)

Claim 34 further requires, "determining when force in excess of the excess force threshold value is being applied to the movable barrier." ('336 patent at claim 34.) As with the similar limitation in claims 12 and 15, I find credible and unrebutted testimony demonstrates that

the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q293.)

Claim 34 finally requires, "taking a predetermined action when excess force is being applied to the movable barrier." ('336 patent at claim 34.) As with the similar limitation in claims 12 and 15, I find credible and unrebutted testimony demonstrates that the '336 Domestic Industry Products meet this limitation. (*See* CX-1251C at Q294.)

Thus, I find CGI has proven by a preponderance of the evidence that the '336 Domestic Industry Products practice claim 34 of the '336 patent.

## F. Validity

### 1. 35 U.S.C. § 101

As noted above, at the time of the evidentiary hearing on the '336 patent, the parties had already fully briefed Respondents' motion for summary determination of invalidity of the '336 patent under 35 U.S.C. § 101, and I was approaching finality on my written order. I instructed the parties that they could largely leave alone that topic following the evidentiary hearing and dedicate their post-hearing briefs to other topics. (Hr'g Tr. at 654:19-22, 657:12-24.) Below, I summarize the parties' arguments from the summary determination briefing, and supplement it where appropriate with post-hearing brief content.

#### a. Respondents' Position

Respondents describe the '336 patent as "a method of updating an 'excess force threshold value' for a garage door opener or barrier movement operator ('BMO') on an ongoing basis" where "an 'excess force threshold value' is a threshold value or limit for determining whether the BMO's motor is exerting too much force." (R101B at 4.) Respondents describe the point of novelty of the '336 patent as updating this threshold value during the normal mode of operation of the BMO as opposed to only during a distinct learning mode. (*See id.* at 4-5.) Essentially, according to Respondents:

> In other words, the alleged invention of the '336 patent merely takes a conventional method that was performed during the learning mode and/or manually performed by the user during the normal mode of operation, and instead performs it automatically during the normal mode of operation. At bottom, the '336 patent is drawn to nothing more than the abstract concept of automatically updating an excess threshold value during the normal mode of operation

(*Id.* at 5-6.)

Regarding step one of *Alice*, Respondents argue "[a]ll asserted claims of the '336 patent are 'on their face' drawn on the abstract idea of automatically updating an excess force threshold value for a BMO." (*Id.* at 6.) Respondents argue this is the direction of independent claim 15, and then assert the challenged claims 19, 20-23, and 34 "are directed to the same abstract idea" with the difference being "*how* the claimed methods calculate an excess force threshold value." (*Id.* at 7 (emphasis in original).) Respondents urge that "the asserted '336 patent claims simply recite a commonplace calculation for updating a threshold value which, under well-settled Federal Circuit precedent, is a patent-ineligible abstract idea." (*Id.* (citing *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014)).) Respondents also analogize the challenged claims to those invalidated in *Parker v. Flook*, 437 U.S. 584 (1978) (*id.* at 8), and argue the claimed methods are "mental processes that 'can be performed in the human mind'" (*id.* at 9 (citing *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1376 (Fed. Cir. 2011))). Regarding the field of art, Respondents argue "[t]he asserted claims are no less abstract because they recite methods 'for use with' a BMO." (*Id.* at 10 (referring to *Alice*, 134 S. Ct. at 2358-59).)

Regarding step two of *Alice*, Respondents contend that "[n]othing in the asserted claims amounts to an inventive concept sufficient to transform the abstract idea of updating an excess force threshold value into a patent-eligible invention." (*Id.* at 11.) Respondents' argument here focuses on the purported ability of a user to manually perform the steps now claimed by the '336

patent and the patent's admissions to this effect. (*See id.* at 11-13.) Respondents state, "[j]ust as the test-data gathering and application steps in *Grams* failed to confer patentability, the force-data gathering and application steps here likewise fail to impart an inventive concept." (*Id.* at 13 (referring to *In re Grams*, 888 F.2d 835 (Fed. Cir. 1989)).) Effectively, "[t]he only purported novelty of the asserted '336 patent claims lies in *automatically* performing these conventional steps in the normal mode of operation—*i.e.*, on a *continuous* basis . . . But merely automating a process that was previously performed manually does not transform an abstract idea into a patentable invention." (*Id.* at 13.)

Respondents conclude to argue "the asserted claims of the '336 patent do not recite an inventive concept merely because they are limited to use with a barrier movement operator. The Federal Circuit has repeatedly explained that limiting the use of an abstract idea to a particular technological environment is 'insufficient to save a claim.'" (*Id.* at 15 (citing *Ultramercial*, 772 F.3d at 716).)

In their post-hearing brief, Respondents argue that "[t]he '336 patent claims do not require novel or specialized BMO components. On the contrary, the '336 patent describes the BMO components as 'elements [that] are generally well understood in the art and hence additional description will not be presented here.'" (RIB1 at 14 (citing '336 patent at 4:31-46).) Respondents repeat that "[e]ven if the asserted claims did require a physical BMO (they do not), implementing an idea in a physical device cannot confer patentability." (*Id.* (citing *Alice*, 134 S. Ct. at 2358).) Respondents also suggest that the holding in *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607 (Fed. Cir. 2016), is "particularly instructive" in that it rejected "an identical argument" to that which CGI makes regarding the '336 patent requiring "real-world physical moveable barrier operators" and "real-world" actions. (*Id.* at 15.) Respondents continue to

undercut CGI's claim of similarity with *Diamond v. Diehr*, 450 U.S. 175 (1981) by stating "[i]n sharp contract [to *Diehr*], the "'336 patent does not claim 'otherwise statutory' subject matter; it claims only the abstract idea of automatically updating an excess force threshold 'for use with' a generic BMO." (RIB1 at 17.) Respondents then assert the goal of the '336 patent is to avoid the need to *manually* set force threshold limits while arguing that "automating conventional activities using generic technology does not amount to an inventive concept." (RIB1 at 17-18 (citing, *inter alia*, *LendingTree, LLC v. Zillow, Inc.*, 656 Fed. Appx. 991, 996-97 (Fed. Cir. 2016)).) Respondents conclude their brief to note that patent eligibility is not conferred by the "'regular (or essentially constant)' performance of a conventional process" under *Bancorp Servs. LLC v. Sun Life Assur. Co. of Can.*, 687 F.3d 1266, 1277-78. (*Id.* at 18 (citing '336 patent at 3:12-17).)

**b. CGI's Position**

CGI asserts the '336 patent "addresses issues in movable barrier operators used to control operation of a motor that applies force to a movable barrier to move the movable barrier between positions." (C101B at 10.) In particular, "the '336 Patent can be accurately described as being directed to controlling operation of a movable barrier, and particularly directed to detecting the presence of an obstacle using an excessive force threshold." (*Id.*)

CGI argues that the improvement offered by the '336 patent involves a "'characteristic force value' ($TH_C$) that is automatically changed in response to 'changing conditions regarding the application of force during normal operation.'" (*Id.* at 11-12.) CGI goes on to describe the process by which the characteristic force value is updated. (*See id.* at 12-13.)

Regarding step one of *Alice*, CGI first describes the "direction" of the '336 patent claims as "directed to methods of operating physical moveable barrier operators and are therefore very similar to the claims found patent eligible in *Diehr*—which used a mathematical formula to

control movement of injection mold pieces." (*Id.* at 13 (referring to *Diehr*, 450 U.S. at 192).) Regarding claim 15, from which the identified claims depend, "recites actions performed by a real-world physical moveable barrier operator (such as opening or closing the garage door) in response to detecting excess force that involve automatically changing a characteristic force value and determining an excess force threshold value using an updated characteristic force value." (*Id.*) Moving on, "independent claim 34 recites a real-world physical moveable barrier operator performing actions in response to excess force that involves automatically changing a characteristic force value and determining an excess force value using an updated characteristic force value." (*Id.* at 14.)

CGI then criticizes Respondents for "never" mentioning the *Diehr* decision, and instead looking to *Flook* and *Benson*, which were distinguished by *Diehr*. (*Id.* at 15.) CGI argues Respondents' challenge "can be denied on this basis alone." (*Id.*) CGI contends that "even if the '336 Patent claims were found to involve a mathematical formula, as Respondents allege, the process of claims 15, 19-23, and 34, implements such a formula in the real world process of operating a moveable barrier operator . . . ." (*Id.*) CGI then, in turn, distinguishes *Flook* with "the claim at issue in *Flook* was directed to using numbers to calculate a number, and nothing more" and leverages *Thales Visionix* to argue that under a "modern day Alice test," the '336 patent's claims are directed to "an improvement in the operation of movable barriers, not a mathematical formula." (*Id.* at 16.) CGI repeats the comparison to the claims at issue in its own *Linear* decision[12] and that of *Enfish*. (*Id.* at 16-17.) Indeed, CGI argues that the '336 patent claims are similar to those of *Enfish* in that "the plain focus of the claims is on an improvement

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[12] *Chamberlain Group v. Linear LLC*, 114 F. Supp. 3d 614, 625 (N.D. Ill. 2015).

to" movable barrier systems, and "not on economic or other tasks for which a computer is used in its ordinary capacity." (*Id.* at 17 (internal citation omitted).)

CGI finally criticizes Respondents' "mental processes" argument as failing because it addresses only limited features of the identified claims (*id.* at 19) and Respondents' use of the specification to demonstrate that the claims are just the automation of a prior art knob-turning technique (*id.* at 20-21). Key to most of CGI's discussion is the idea that "the '336 Patent claims are clearly limited to a moveable barrier operator." (*Id.* at 21.)

Regarding step two of *Alice*, CGI again argues that claims 19-23 and 34 are "'necessarily rooted' in movable barrier systems 'in order to overcome a problem specifically arising in the realm of" movable barrier systems." (*Id.* at 22 (referring to *DDR Holdings*, 773 F.3d at 1257).) According to CGI, each of the claims recites "a specific, discrete implementation" of automatically updating an excess force threshold value" (*id.*) and there is no pre-emption concern because the techniques of the '336 patent can be used "alone, or as a complement to one or more of the prior techniques" of force-setting. (*See id.* at 23.)

In its post-hearing brief, CGI promotes Figure 2 of the '336 patent as demonstrating "a function which the patent laws were designed to protect." (CRSB1 at 9.) CGI continues:

> Indeed, if the '336 patent claims did not concern measuring physical properties relating to and affecting the motor, the hearing transcript would not have been replete with the discussion of measuring physical values that turn transistors on and off, that allow current to flow to a motor, that change the speed of a motor, that affect force, and that ultimately move a garage door.

(*Id.*) CGI disputes that it has ever conceded or acknowledged, as Respondents may have suggested, that the '336 patent claims are directed to an abstract idea. (*Id.* at 9-10.) CGI claims that "the '336 patent does not claim automation of a prior manual system" because a user does not "measure a 'parameter that corresponds to force as applied to a moveable barrier' or

'determine when force in excess of the excess force threshold value is being applied to the movable barrier'" (*id.* at 10, 20-21), nor does the '336 patent invention "describe automatically adjusting knobs of a user-adjustment interface" (*id.* at 20).

Regarding an *Alice* step one analysis, CGI then claims that Respondents' position is that "any claim to an algorithm cannot be statutory" which is a "serious misstatement of law and logic" because "all method claims are algorithms, recited as a series of steps. The fact that claims are directed to an algorithm does nothing to advance or detract from the eligibility analysis." (*Id.* at 13.) In numerous places, CGI argues plainly that claims, like those of the '336 patent, are patent eligible any time they "improve[] an existing technological process." (*See, e.g.*, *id.* at 14 (referring to *Diehr*, 134 S. Ct. at 2358).)

Regarding an *Alice* step two analysis, CGI argues:

> That is, absent the existence of motor-operated movable barrier systems, the technical problem that the claims of the '336 patent address, and the technical solution they provide, would not exist. As established in the '336 patent, prior movable barrier systems having static, and/or manually updated excess force threshold values are unable to account for variance in physical dimensions of installations, variance in the physical interface between the barrier and its corresponding track or pathway, variance in operating environment, such as temperature, as well as variance in force measurements and/or behaviors due to changes in physical conditions, such as motor age, and/or how recently the motor operated.

(*Id.* at 16.) Regarding Respondents' selected caselaw, CGI suggests that "[t]he claims of the '336 patent are distinct from those at issue in these cases in that the real-world, physical components *implicated by the claims* are part-and-parcel of the technical solution the claims provide to the technical problem of barrier movement operators. . . ." (*Id.* at 18 (emphasis added).)

CGI continues "[i]n contrast, the focus *of the patentee* and of the claims of the '336 patent is squarely on an improved barrier movement system, and not some trivial use of movable

barriers, or movable barrier operators" (*id.* (emphasis added)), and:

> [T]he '336 patent is deeply rooted in measuring and compensating the physical aspects of the barrier movement system (e.g., "the force sensor 13 comprises a mechanism (such as a current-sensing resistor) to detect current flow through the motor 11 (in general, current flow through a motor will correspond to loading and hence will tend to provide a relatively reliable indication of force being exerted by the motor)." JX-1 at 4:53-60.

(*id.* at 19). CGI also proposes the '336 patent claims would pass an eligibility test whereby if the "real-world physical components" recited in the claims were extracted, the remaining algorithm limitations would be meaningless. (*Id.* at 19-20.) CGI concludes, as it states many times over, that the '336 patent "provides a technical solution to a technical problem." (*Id.* at 20.)

On September 21, 2017, CGI filed a notice of supplemental authority on this topic, providing me with *Visual Memory LLC v. Nvidia Corp.*, No. 2016-2254 (Fed. Cir. August 15, 2017), where, according to CGI, "a claim that was found to recite generic and conventional computer components" was held eligible under Step One of the *Alice* test. (EDIS Doc. No. 623537 at 1.)

**c. Analysis**

I agree with the Respondents that, under the *Alice* framework, the '336 patent claims are directed to an abstract idea and do not consist of eligible application of that idea.

*Alice Step One*

Independent claim 15 of the '336 patent recites:

> 15. A method for use with a movable barrier operator, comprising:
>
> monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move;
>
> automatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a

> difference between the characteristic force value and the at least one parameter;
>
> using an updated characteristic force value to determine a corresponding excess force threshold value;
>
> determining when force in excess of the excess force threshold value is being applied to the movable barrier;
>
> taking a predetermined action when excess force is being applied to the movable barrier.

('336 patent at claim 15.) Generally, this claim presents a method used for keeping the barrier movement operator in safe working conditions. This method arguably takes place entirely within a controller or general-purpose processor, and involves: (1) monitoring data; (2) updating a first stored data value according to a specific rule; (3) determining a second stored data value; (4) comparing data values; and (5) taking an action in response to the comparison. I need look no further than the language of this claim to determine that it is directed to a software-based routine which could take place entirely within a controller or other general-purpose processor.

Taking a cue from CGI and its proffered *Linear* decision, claim 15 lines up squarely with the flowchart presented in Figure 2 of the '336 patent where there is nothing structural at all shown:

| |
|---|
| 15. A method for use with a movable barrier operator, comprising: |
| monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move; |
| automatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter; |
| using an updated characteristic force value to determine a corresponding excess force threshold value; |
| determining when force in excess of the excess force threshold value is being applied to the movable barrier; |
| taking a predetermined action when excess force is being applied to the movable barrier. |

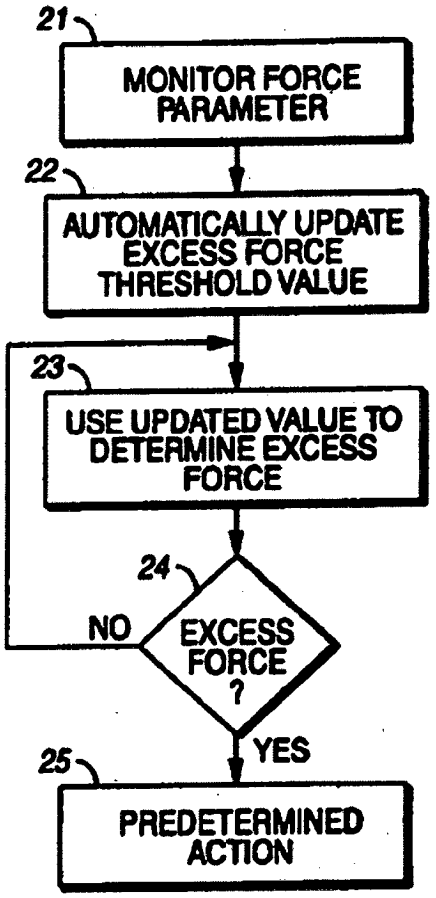


***FIG. 2***

Indeed, all but three of the '336 patent's twenty-nine figures are either flowcharts or data plots illustrating the routines by which the controller or other processor takes in and manipulates data. (*See* '336 patent at Figures 2-16, 18-22, 24-29.) The language of the claim is itself dispositive, but the '336 patent's focus on *calculation* is strong circumstantial evidence that claim 15 is directed to a software-based routine, or algorithm—an ineligible concept under 35 U.S.C. § 101. *Electric Power*, 830 F.3d at 1354 ("we have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category").

Dependent claims 19-23 fare no better. Claim 19 recites:

> 19. The method of claim 15 and further comprising monitoring operation of a motor and wherein using an updated characteristic force value to determine a corresponding excess force threshold value includes using an updated characteristic force value and a motor operation compensation value to determine a corresponding motor operation-compensated excess force threshold value.

('336 patent at claim 19.) This is nothing more than the creation of yet two more data values through calculation, the "motor operation compensation value" and the "motor operation-compensated excess force threshold value." This language does not change the direction of the claim out of the abstract; it only drifts in further.

Independent claim 34 recites:

> 34. A method for use with a movable barrier operator, comprising:
>
> monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move;
>
> automatically increasing a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met;
>
> automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met;
>
> using the updated characteristic force value to determine a corresponding excess force threshold value;
>
> determining when force in excess of the excess force threshold value is being applied to the movable barrier; and
>
> taking a predetermined action when excess force is being applied to the movable barrier.

('336 patent at claim 34.)

This is a method which is nearly identical to that of claim 15, except it elaborates on the *rules* behind the alteration or updating of the "characteristic force value" (increasing in one context and decreasing in another):

| 15. A method for use with a movable barrier operator, comprising: | 34. A method for use with a movable barrier operator, comprising |
|---|---|
| monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move; | monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move; |
| automatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter; | automatically increasing a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met;<br><br>automatically decreasing the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met; |
| using an updated characteristic force value to determine a corresponding excess force threshold value; | using the updated characteristic force value to determine a corresponding excess force threshold value; |
| determining when force in excess of the excess force threshold value is being applied to the movable barrier; | determining when force in excess of the excess force threshold value is being applied to the movable barrier; and |
| taking a predetermined action when excess force is being applied to the movable barrier. | taking a predetermined action when excess force is being applied to the movable barrier. |

| | |
|---|---|

Just like claim 15, I need look no further than the language of claim 34 to determine that it is directed to a software-based routine which could take place entirely within a controller or other general-purpose processor. Taking the same cue from CGI and its *Linear* decision described above, claim 34 lines up squarely with the flowchart presented in Figure 2 coupled with the flowchart presented in Figure 6 (which provides the elaboration on rules behind the alteration of $TH_C$):

| | |
|---|---|
| 34. . . .<br>automatically **increasing** a characteristic force value pursuant to a first determination process in response to the monitored at least one parameter to provide an updated characteristic force value when a first condition is met; | 34. . . .<br>automatically **decreasing** the characteristic force value pursuant to a second determination process, which second determination process is different from the first determination process, in response to the monitored at least one parameter to provide an updated characteristic force value when a second condition is met; |

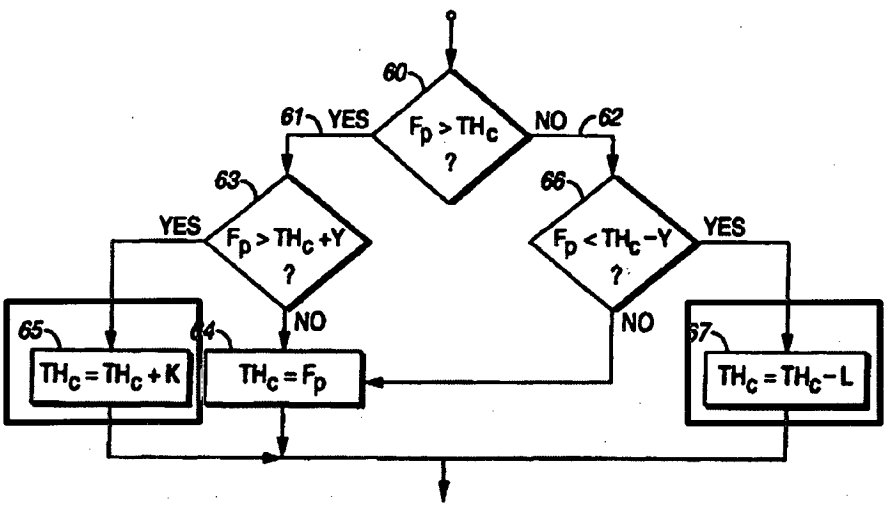


***FIG. 6***

('336 patent at claim 34 (emphasis added), Figure 6 (annotated).)

Like Figure 2, there is nothing structural in Figure 6; it is literally the algorithm by which the contrived data value $TH_C$ is updated. The language of the claim is itself dispositive, but these figures' focus on *calculation* is strong circumstantial evidence that claim 34 is directed to a software-based routine, or algorithm—an ineligible concept under 35 U.S.C. § 101. *Electric Power*, 830 F.3d at 1354. Indeed it is hard to reconcile the above claim language and figures with CGI's position that "in terms of the modern day *Alice* test, the '336 Patent claims are 'directed to' an improvement in the operation of movable barriers, *not a mathematical formula.*" (C101B at 16 (emphasis added).)

CGI's points in opposition do not move me from this conclusion. CGI begins with "Independent claim 15, from which each of claims 19-23 ultimately depends, recites actions performed by a real-world physical moveable barrier operator (such as opening or closing the garage door) in response to detecting excess force that involve automatically changing a characteristic force value and determining an excess force threshold value using an updated characteristic force value." (C101B at 13.) CGI argues essentially the same regarding independent claim 34. (*Id.* at 14.)

At best, CGI is only partially right. Claims 15 and 34 do "recite[] actions performed by a real-world physical moveable barrier operator," but these actions are software based and can take place entirely within the controller or other general purpose processor of the otherwise "real-world physical moveable barrier operator."

At worst, CGI is incorrect. Each claim's preamble states "a method for use *with* a moveable barrier operator" (emphasis added). That, on its face, allows, perhaps even suggests, for the method to be performed by some entity or component *apart* from the moveable barrier

operator. In other words, something, somewhere, that is associated with a moveable barrier operator, performs the claimed method.

Next CGI draws a comparison between the present claims and those in *Diehr* and *Flook*, arguing the '336 patent is similar to *Diehr* and dissimilar to *Flook*. (C101B at 15.) I disagree. The claims at issue in *Diehr* included physical, tangible, or structural elements which the *Alice* Court described as "transform[ing] the process into an inventive application of the formula," *Alice*, 134 S. Ct. 2358 (internal citation omitted); elements such as:

> opening the press automatically . . .
>
> heating said mold to a temperature range . . .
>
> installing prepared unmolded synthetic rubber of a known compound in a molding cavity of predetermined geometry as defined by said mold . . .
>
> closing said press to mold said rubber to occupy said cavity in conformance with the contour of said mold and to cure said rubber by transfer of heat thereto from said mold . . .
>
> heating said mold during said closure . . .
>
> removing from said mold the resultant precision molded and cured rubber article . . .

*See Diehr*, 450 U.S. 175, 181, n.5 (1981). As shown, the method claims in *Diehr* recite plenty of tangible elements which is why, "when considered as a whole, [they were] performing a function which the patent laws were designed to protect." *Diehr*, 450 U.S. at 192; *see also id.* at 181, n.5.

Claim 15 of the '336 patent has no such tangible elements save for "movable barrier," but even then none of the claimed steps involve that barrier or act upon it; the "movable barrier" that is not actually part of the method. Claim 19 invokes "a motor," but the method simply monitors its "operation." In other words, the claimed method is still completely contained within the controller or other general purpose processor. The claims in *Diehr*, on the other hand, go outside

that controller or processor (involving a "mold," "press," "article"). In note CGI makes the comparison without presenting the actual language of *Diehr*'s claims. (*See* C101B at 13, 15.)

CGI does present the claim at issue in *Flook*, however (C101B at 15) and it looks a lot like claim 15 of the '336 patent. A tangible process or structure is recited in the preamble—"movable barrier operator" in the '336 patent and "catalytic chemical conversion of hydrocarbons" in *Flook*—and the remaining limitations are center around gathering information and manipulating it. Indeed, the "direction" of the claims is really the same—updating "alarm limits" in *Flook* and updating "threshold values" in the '336 patent. CGI argues the claim in *Flook* was "directed to using numbers to calculate a number" (C101B at 16), but that is a prime ingredient of claim 15 of the '336 patent as well. (*See* '336 patent at claim 15 ("automatically changing a characteristic force value . . . using an update characteristic force value to determine a corresponding excess force threshold value").)

CGI's comparison to its own *Linear* decision (C101B at 16-17) is not persuasive principally because the mere recitation of "taking a predetermined action" (the only step which might not be software-based) at the end of claim 15 does not alter the direction that the preceding four software-routine steps provide.

I also do not find CGI's comparison to the recent *Thales Visionix v. United States*, 850 F.3d 1343, 2017 WL 914618 (Fed. Cir. March 8, 2017) effective or persuasive. *Thales Visionix* involved two claims: claim 1 which recited, *inter alia*, "a first initial sensor mounted on the tracked object; a second inertial sensor mounted on the moving reference frame;" and claim 22 which recited "two inertial sensors mounted respectively on the object and on the moving reference frame." 2017 WL 914618 at *2. The claims also make reference to determining an

orientation of the object based on these sensors' signals, *id.*, but it was the placement of the sensors which the Court held defined the direction of the claim:

> These claims are not merely directed to the abstract idea of using "mathematical equations for determining the relative position of a moving object to a moving reference frame," as the Claims Court found. *Thales*, 122 Fed. Cl. at 252. Rather, *the claims are directed to systems and methods that use inertial sensors in a non- conventional manner* to reduce errors in measuring the relative position and orientation of a moving object on a moving reference frame.

*Id.* at *5 (emphasis added).

CGI's comparison fails because claims 15, 19, and 34 of the '336 patent do not contain any structures analogous to claims 1 and 22 of *Thales Visionix*, regardless of conventional or non-conventional use. (*See* '336 patent at claims 15, 19, and 34.) As discussed above, the only structures implicated by these claims are a movable barrier and motor, but even then, they are not actually part of the claimed methods. (*See id.*) Rather, they are recited to explain the identity of data values like "characteristic force value" (claim 15) and "motor operation compensation value" (claim 19). This usage does not affect the direction of the claims as the unconventional sensor placement in *Thales Visionix* did.

In reality, CGI accurately captures the direction of the '336 patent claims when it states, "the '336 patent introduces a 'characteristic force value' ($TH_C$) that is automatically changed in response to "changing conditions regarding the application of force during normal operation," where the characteristic force value is updated based on a difference between the characteristic force value and the monitored force parameter." (C101B at 18-19 (citing '336 patent at 5:41-44, 7:24-8:55, Figure 6).) This is a description of an algorithm, involving data values and logical operators, and it fairly applies to each of claims 15, 19, and 34. The fact that the data values have names which connote tangible interactions (*e.g.*, "force" value) does not change their identity as mere data values. *See Electric Power*, 830 F.3d at 1353 ("collecting information,

including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.")

CGI next addresses whether the '336 patent claims "are essentially directed to mental processes that 'can be performed in the human mind'" (C101B at 19), and whether they can be "manually performed by a user on a generic [movable barrier operator (MBO)]" (*id.*). CGI essentially argues that both findings would be based on an oversimplification of the claims by leaving out key limitations. (*See id.* at 19-20.)

Setting aside whether or not Respondents omitted discussion of key limitations, I find the '336 patent claims can be performed in the human mind because of their precise wording. "[C]ourts must be careful to avoid oversimplifying the claims by looking at them generally and failing to account for the specific requirements of the claims." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016) (internal citations omitted). Starting with claim 15, the literal actions which are the steps of the claim are:

> monitoring at least one parameter,
>
> automatically changing a characteristic force value,
>
> using an updated characteristic force value,
>
> determining when force in excess . . . is being applied, and
>
> taking a predetermined action.

('336 patent at claim 15.) The human mind can do all of these things; it can monitor data values (that are provided to it by a display); it can change a stored value based on what it sees; it can use stored values in simple equations (as in Figure 6); and it can take unnamed predetermined actions (decide to press a door stop button). The human mind can also accomplish the steps of claims 19 and 34, which simply add additional "monitoring," "using [force/motor] value,"

"determining that a [status/condition] exists," and "[increasing/decreasing] characteristic force value" steps. (*See* '336 patent at claims 19, 34.)

Indeed, the reason the human mind can accomplish this claim is because of the technological aspects the claim-in-practice omits; for example, *gathering the data* "that corresponds to force" through sensors, *communicating that data* to a processor through a wired or wireless link, *providing electrical current* to the motor, or even *moving the barrier*. None of these acts are recited in the claims but they are almost certainly present when a covered product is in operation. I imagine this is why CGI repeatedly emphasizes the idea that the '336 patent is a "technical solution to a technical problem" (*see, e.g.*, CRSB1 at 20) but it is also the reason CGI is forced to describe "real-world, physical components" as "implicated by the claims" rather than "*recited* by the claims" in the following passage:

> The claims of the '336 patent are distinct from those at issue in these cases in that the real-world, physical components *implicated by the claims* are part-and-parcel of the technical solution the claims provide to the technical problem of barrier movement operators. . . .

(*Id.* at 18 (emphasis added).)

Truly, the effect of this omission is straightforward. You avoid the risk of the claims being too narrow to capture the sensors, communication links, or movement patterns your competitors eventually use by keeping the claim language to the basic blocks of a software routine for updating force threshold values—a useful feature in practice, but ineligible for patent protection without more. *See, e.g.*, *Activity Tracking Devices*, Inv. No. 337-TA-963, Order No. 54, at 15 ("An abstract idea does not become nonabstract by limiting the invention to a particular field of use or technological environment. Nor does it matter that computers are more accurate, efficient and economical than humans at observing and recording data about sleep.") (citing *Intellectual Ventures I*, 792 F.3d at 1366); *Affinity Labs*, 838 F.3d at 1258 ("The '379 patent

claims the function of wirelessly communicating regional broadcast content to an out-of-region recipient, not a particular way of performing that function.").

For these reasons, claims 15, 19, and 34 are directed to a software-based routine, or algorithm, for updating force threshold values which is an ineligible concept under 35 U.S.C. § 101.

*Alice Step Two*

Having found the asserted claims of the '336 patent are directed to an abstract idea, I must proceed to the second step of the *Alice* framework and determine whether the asserted claims contain an inventive concept. As explained below, I find that the asserted claims lack an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible invention; *i.e.*, I do not find "an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible] concept itself.'" *Alice*, 134 S. Ct. at 2355 (alteration in original) (citing *Mayo*, 132 S. Ct. at 1294).

Claim 15 essentially has five parts. The first part requires "monitoring at least one parameter" where the parameter "corresponds" to force which is applied to move a movable barrier. Notably, there are no limits on what constitutes "corresponds." The second part requires "changing" a data value ("characteristic force value") as a function of the difference between it and the first monitored parameter, where any mathematical function is sufficient as long as it incorporates this difference. The third part requires "using" the updated data value to update a second type of data value ("excess force threshold value"). Again, there is no limit on how this update occurs.

The fourth part of claim 15 is a little unique because it may be poorly worded. It reads, "determining when force in excess of the excess force threshold value is being applied to the movable barrier." This requires determining the *actual force* being applied to the movable barrier as opposed to "monitoring at least one parameter that *corresponds to force* as applied to a movable barrier" (emphasis added). Nevertheless, there is no limit on how that information is gathered; the only requirement is that it is gathered. Similarly, the fifth part of claim 15 requires "taking" some "predetermined action," when there is excess force being applied, but it places no limit on what kind of action.

Claim 34 is almost identical to claim 15, but it expands on the "updating" of the first data value as either: (1) "increasing" that value "pursuant to a first determination process;" or (2) "decreasing" that value "pursuant to a second determination process." Again, there are no limits on the "determination process[es]" which are the heart of this claim.

Claim 19 is more of the same. Claim 19 requires "monitoring" the "operation" of a motor presumably to create the required "motor operation compensation value." There are no limits placed on how the "monitoring" is effected or what "operation" is monitored.

I find nothing in the above claims to remove the invention from the abstract idea of gathering information and then analyzing it. The only tangible elements recited at all are the "movable barrier" and the "motor." Yet none of the method steps actually involve or affect these structures; they are recited only as targets of information gathering.

In this way, I find claims 15, 19, and 34 of the '336 patent as exceedingly similar to those in *Electric Power*. Those claims too involved gathering specific types of information (related to real-world electric power grid structural elements), analyzing that information, and displaying results. *See Electric Power*, 830 F.3d at 1351-52, 1355. Yet the connection of the

information to real world elements, like "movable barrier" and "motor," was not enough to move the claims out of ineligibility:

> [A] large portion of the lengthy claims is devoted to enumerating types of information and information sources available within the power-grid environment. But merely selecting information, by content or source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes, whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas.

*Id.* at 1355. *Electric Power* states, "[i]nquiry therefore must turn to any requirements for *how* the desired result is achieved." *Id.* The Court held "[n]othing in the claims, understood in light of the specification, requires anything other than off-the-shelf, conventional computer, network, and display technology for gathering, sending, and presenting the desired information." *Id.*

I cannot discern how claims 15, 19, and 34 are any different. Their limitations, viewed individually or in ordered combination simply do not contain a suggestion of eligible subject matter and do not appear to require anything but conventional components. (*See* '336 patent at 1:21-26, 60-67 (describing prior movable barrier operators which monitor force, compare it thresholds, and update thresholds in learning modes).)

CGI's briefing in opposition to summary determination with respect to *Alice* Step Two is largely irrelevant. CGI does not discuss the limitations of claim 15, "taking the claim elements separately" or "considered 'as an ordered combination,'" *Alice*, 134 S. Ct. at 2359, but rather discusses the practical benefits of the invention as described in the specification. (*See* C101B at 21-22.) Additionally, CGI's argument regarding pre-emption misses the mark. It is not a concern whether claims 15, 19, and 34 pre-empt the "prior techniques or using user-adjustments and learn mode settings." (C101B at 33.) The concern is whether these claims pre-empt the updating of force threshold values using data commonly gathered from barrier movement operators; and I find that it does. Even if I were to accept the argument that the asserted claims

do not entirely pre-empt the use of that abstract idea, it does not negate a finding that the asserted claims are patent-ineligible. *See Vehicle Intelligence*, 635 Fed. Appx. at 918.

For these reasons, I find claims 15, 19, and 34 are invalid under 35 U.S.C. § 101.

**2. 35 U.S.C. § 102**

**a. Claims 12 and 14**

Claims 12 and 14 (which depends from claim 12) of the '336 patent are not asserted against respondents, but rather used for CGI's technical prong of domestic industry. (*See* RIB1 at 61; CIB1 at 47.) Respondents attack the validity of claims 12 and 14 nonetheless and argue prior art reference U.S. Patent No. 6,326,751 to Mullet ("Mullet") (RX-0006) anticipates both of them. (RIB1 at 61.) Respondents argue that claim 12 is similar to asserted claim 15, and "Dr. Direen made no effort to rebut Dr. Pedram's analysis." (RIB1 at 51 (citing CX-1307C).) Respondents observe that claim 14 is similar to asserted claim 19 (*id.* at 63), which CGI does contest however (*see id.* at 59-61; CRSB1 at 38-41.)

CGI argues that "[f]or the first time in their post-hearing brief, Respondents advance a new argument regarding the limitations of claim 12" in contravention of Ground Rule 15.1.2. (CRSB1 at 41.) Effectively, CGI argues that Respondents did not sufficiently disclose an anticipation theory for these claims in their pre-hearing brief, and "[e]ven if the argument was timely raised, Respondents fail to meet their burden by relying on the same evidence for claims 15 and 12 because the claims are different." (*Id.*)

Upon review of claims 12 and 15, and Respondents' pre-hearing brief and pre-hearing statement, I find Respondents have waived an invalidity challenge to claims 12 and 14 of the '336 patent. My Ground Rule 15.1.2 states, "[t]he initial post-hearing briefs shall discuss the issues and evidence tried within the framework of the pre-hearing briefs and any permitted amendments thereto." Moreover, my ground rule concerning pre-hearing briefs, G.R. 11.2,

states:

> [T]he pre-hearing brief shall set forth with particularity the party's contentions with respect to each issue in the investigation. . . . To meet the requisite level of particularity, the pre-hearing brief must provide the other parties fair notice of each issue and argument the party wishes to advance at the hearing or in post-hearing briefing and any evidence the party intends to rely on in support thereof. Any contentions not set forth with the level of particularity required herein shall be deemed abandoned or withdrawn . . . .

(G.R. 11.2.)

Respondents' pre-hearing brief does not present an anticipation theory for claim 12 with the requisite level of particularity. I also agree with CGI that the differences between claim 12 and claim 15 prevent simple statements such as "[the evidence used for claim 15] applies equally to the anticipation of claim 12" (*see* RPB1 at 112) from providing sufficient notice of *how* a body of evidence applies to claim 12. For example, claim 12 requires "taking a predetermined action when excess force is being applied to the movable barrier *via the movable barrier operator*." ('336 patent at claim 12 (emphasis added).) Claim 15 does not require "via the movable barrier operator," thus making it broader. (*Id.* at claim 15.)

As another example, and perhaps more importantly, claim 12's preamble contains particular language concerning the existence of "both a user-initiable dedicated learning mode of operation and a normal mode of operation," and then requires the method steps occur during the "normal mode." (*Id.* at claim 12.) Claim 15 leaves out any mention of these modes, again, making it broader than claim 12. (*Id.* at claim 15.) In light of these differences, an invalidity theory presented for claim 15 would not be of sufficient particularity to be copied over, without additional explanation, for claim 12. I find that claim 14 is similarly affected due to its dependence on claim 12 and its own differences with the language of claim 19. (*See, e.g.*, '336 patent at claims 14 ("using a motor operation compensation value to automatically change the

excess force threshold value"), 19 ("using an updated characteristic force value and a motor operation compensation value to determine a corresponding motor operation-compensated excess force threshold value").) I also note that Respondents' invalidity expert, Dr. Pedram, intentionally does not address how the prior art anticipates claims 12 or 14 in his witness statement, based on his understanding that they are no longer asserted in the investigation. (*See* RX-0001C at Q240-241.)

For these reasons I find Respondents have waived an anticipation challenge to claims 12 and 14 of the '336 patent.

**b. Claim 15**

Respondents argue that each of U.S. Patent No. 6,456,027 to Pruessel ("Pruessel") (RX-0008), Mullet, and U.S. Patent No. 5,539,290 to Lu et al. ("Lu") (RX-0010) "discloses every step recited in method claim 15" and that there is not dispute over this. (RIB1 at 50.) I agree with Respondents insofar as CGI does not respond at all to these claims of anticipation in its responsive post hearing brief. (*See* CRSB1 at 38-43.) In addition, I find credible testimony from Respondents' expert explaining how Pruessel, Mullet, and Lu anticipate claim 15. (RIB1 at 51-59; RX-0001C at Q249-260 (Mullet), 315-325 (Lu), 332-342 (Pruessel).)

To begin, claim 15 requires "A method for use with a movable barrier operator; comprising." ('336 patent at claim 1.) Mullet discloses a "[s]ystem and related methods for detecting and measuring the operational parameters of a garage door utilizing a lift cable system." (RX-0006 at Title.) Lu discloses a "motor control system for controlling operation of an electric motor associated with a motor-operated vent in a vehicle" and "[t]he system monitors and stores data relating to the operating current and detects occurrences of abnormal loads applied to the vent by determining whether the monitored operating current exceeds one of several predetermined thresholds." (RX-0010 at Abstract.) Pruessel discloses a "closing device .

. . having a drive motor (4) for pushing a closing element such as a window pane or roof panel across an opening." (RX-0008 at Abstract.)

Claim 15 further requires "monitoring at least one parameter that corresponds to force as applied to a movable barrier to selectively cause the movable barrier to move." ('336 patent at claim 15.) Mullet discloses "monitor[ing] … a pulse counter to determine motor speed and thus the torque of the door as it travels" and "speed of the motor 48 is directly proportional to the force applied to the door." (RX-0006 at 6:47-52, 12:60-61.) Lu discloses moving the barrier by "altering the operating current provided to the motor" and "monitor[ing] and stor[ing] data relating to the operating current and detect[ing] occurrences of abnormal loads applied to the vent. . . ." (RX-0010 at 1:62-2:20, Abstract.) Pruessel discloses "a sensor (3) for detecting a force acting on the closing element in the opposite direction to the direction of closing" but clarifies that "the voltage drop across resistor 3 is proportional to the output of motor 4 and is thus proportional to the torque and, respectively, the force acting against the movement of the closing element, which is being pushed by motor 4." (RX-0008 at Abstract, 4:55-59.)

Claim 15 further requires "automatically changing a characteristic force value in response to the monitored at least one parameter to provide an updated characteristic force value as a function of a difference between the characteristic force value and the at least one parameter." ('336 patent at claim 15.) As discussed above, the parties have a dispute over the proper construction of this claim term, but I have found it to mean exactly as it is worded—that the function used to change the "characteristic force value" *somehow* involves the difference between the characteristic force value and the at least one measured parameter.

Each of Mullet, Lu, and Pruessel discloses this limitation under this construction. Mullet discloses "said control circuit (50) updates said plurality of door profile data points to the motor

torque values for each respective said plurality of positional locations if the predetermined threshold is not exceeded" and "[i]n the event the newly acquired torque value varies less than the plus/minus 15 pounds or other predetermined threshold, then the processor 66 *replaces the previously stored profile data with the newly acquired value*." (RX-0006 at Abstract, 11:17-20 (emphasis added).) Even if the Commission chooses to adopt CGI's or Respondents' proposed constructions, I find the limitation is met—updating a stored value to a newly measured value is effectively "a comparison of values associated with the [stored value] and the [measured value]" (CGI's construction) and exactly an "updated [stored value which] differs from the previous [stored value] by the amount of the difference between the [stored value] and the [measured value]" (Respondents' construction).

Lu discloses, "[d]uring the measurement of the operating current, the control module operates to both store and update values associated with a dynamic average measurement 95 of the operating current $I_{AVG}$ and *a time incremental storage of the operating current* $I_{TRACE}$. Both $I_{AVG}$ and $I_{TRACE}$ are constantly updated during vent operation, and frequently at very short time intervals." (RX-0010 at 6:57-63 (emphasis added); *see also* RX-0010 at Figures 10A, 14A.) According to the unrebutted and credible testimony of Respondents' expert, this updating of $I_{TRACE}$ means "the trace current value is updated with the newly measured operating current." (RX-0001C at Q322.) By this method of replacing the old trace value with the newly measured operating current value, Lu satisfies the limitation in the same way as Mullet, and would likewise do so under CGI's or Respondents' proposed constructions as well.

Pruessel discloses:

> In Step 36, mean ΣFt is compared with value F(x) for the corresponding position x of the closing element stored in table F of memory 13. If the newly measured mean ΣFt is greater, in Step 37 the stored value F(x) of the force for the corresponding position x plus increment ε is entered in

> buffer B(0). If the mean ΣFt is less than F(x), in Step 38the value F(x)−ε is entered in B(0). Herein, *ε may be a fixed predefined amount; it may also be proportional to difference ΣFt−F(x)*, and if so the proportionality relationship is a measure of how quickly the stored values F(x) are following the actual conditions if the frictional forces that are occurring are changing.

(RX-0008 at 7:46-57 (emphasis added); *see* RX-0008 at Figure 3.) "ΣFt−F(x)," which is used to update the stored characteristic force value of "F(x)," (*see* RX-0008 at 7:26-45 (discussing how data stored in buffer B(0, 1, . . . 15) is moved to memory location F(x)), 7:64-8:9) is exactly the "difference between the characteristic force value and the at least one parameter" recited in this claim limitation. I therefore find the limitation is met under the plain and ordinary construction I outlined above. Respondents argue the limitation is similarly met under CGI's proposed construction, but not their own. (*See* RIB1 at 58-59.)

I decline to address whether the limitation is met under Respondents' proposed construction, as it has not been alleged, but I do agree that the limitation is met under CGI's construction. "ΣFt−F(x)," which is used to update the stored characteristic force value of "F(x)," qualifies as "a comparison of values associated with the characteristic force value and the at least one parameter." F(x) is the characteristic force value and ΣFt, a running average of four prior measured force values (*see* RX-0008 at 7:26-30), is the at least one parameter.

Moving on, claim 15 further requires "using an updated characteristic force value to determine a corresponding excess force threshold value." ('336 patent at claim 15.) Mullet discloses "utiliz[ing] door profile data acquired during a set-up or installation routine to determine the appropriate force limits for when the door is opening and for when the door is closing" and "the internal entrapment system triggers whenever the force applied exceeds a plus/minus 15 pound limit for each monitored door position throughout the operational cycle." (RX-0006 at 9:61-65, 10:9-13.) Lu discloses, "[t]he predetermined thresholds are dynamically

modified in accordance with the monitored condition variations of the operating current" and "a detailed view of the current measurement timing diagram of $I_{OP}$ is shown with respect to the use of the final threshold $I_{TRACE} + I_{GAP}$. The $I_{TRACE}$ values 1100 correspond to previously measured values of IOP 1108 occurring at predetermined time increments" (RX-0010 at Abstract, 7:52-64.) Pruessel discloses how a closing device which "allows one to choose a sufficiently low closing force limit value is provided, the closing movement being interrupted, or reversed if the limit value is exceeded, so that there is no absolutely no risk of injury if a body part becomes trapped in the opening to be closed" (RX-0008 at 2:34-38) and:

> In all instances, the closing device according to the present invention varies the limit value with which the force exerted by the motor on the closing element is compared, not based on acceleration exerted from outside and measured using an additional external sensor but rather solely based on a force measured at an earlier point in time.

(*id.* at 6:25-30.)

Claim 15 further requires "determining when force in excess of the excess force threshold value is being applied to the movable barrier." ('336 patent at claim 15.) Mullet discloses that "processor 66 detects that the door 12 is applying any force greater than the upper force limit (high speed value) plus 15 pounds" and "if the processor 66 detects that the door 12 is applying any force greater than the upper force limit (high speed value) plus 15 pounds, then the door stops if moving up or reverses if moving down." (RX-0006 at 12:53-13:5) Lu discloses, "[s]tarting at step 146, the system begins comparing the operation current IOP to the predetermined thresholds" and " final determination is made at 120 as to whether the operating current $I_{OP}$ is less than a final threshold corresponding to the value of $I_{TRACE}$ plus the gap current value $I_{GAP}$." (RX-0010 at 9:25-26, 7:46-50.) Pruessel discloses "the stored force value F(x) is subtracted from current measured value Ft. Ideally the force value Ft that has been adjusted in this way should only deviate from 0 if external forces such as acceleration forces or forces

associated with a trap event are acting on the closing element" and "control circuit 1 monitors force value Ft that has been adjusted in this way to determine whether a force limit value has been exceeded." (RX-0008 at 7:58-63, 7:65-8:9.)

Claim 15 finally requires "taking a predetermined action when excess force is being applied to the movable barrier." ('336 patent at claim 15.) Mullet discloses "if the processor 66 detects that the door 12 is applying any force greater than the upper force limit (high speed value) plus 15 pounds, then the door stops if moving up or reverses if moving down." (RX-0006 at 12:53-13:5) Lu discloses "when the system detects an abnormal load on the vent, the operating current is altered so as to stop or reverse the vent operation" and "[a]ccordingly, if $I_{OP}$ (at 1106) suddenly increases or decreases to a level which exceeds the threshold 1110 associated with the incremental value of $I_{TRACE}$ +$I_{GAP}$ at $T_3$, an object is determined to be detected, and therefore the motor current will be altered." (RX-0010 at 5:63-65, 8:5-9.) Pruessel discloses how a closing device which "allows one to choose a sufficiently low closing force limit value is provided, the closing movement being interrupted, or reversed if the limit value is exceeded, so that there is no absolutely no risk of injury if a body part becomes trapped in the opening to be closed." (RX-0008 at 2:34-38.)

Thus, in light of the above, I find that each of Mullet, Lu, and Pruessel have been shown to anticipate claim 15 of the '336 patent by clear and convincing evidence.

**c. Claim 19**

Claim 19 depends from claim 15 and reads:

> [F]urther comprising monitoring operation of a motor and wherein using an updated characteristic force value to determine a corresponding excess force threshold value includes using an updated characteristic force value and a motor operation compensation value to determine a corresponding motor operation-compensated excess force threshold value.

('336 patent at claim 19.) Respondents argue that Mullet "discloses this added requirement