

## NOTE

### THE MISAPPLICATION OF THE DMCA TO THE AFTERMARKET

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#### I. INTRODUCTION

In 1998, Congress passed the Digital Millennium Copyright Act (“DMCA”), codified at 17 U.S.C. § 1201, to prevent pirating of digital copyrighted works and thereby encourage distribution of copyrighted content in high-quality

digital formats.<sup>1</sup> Recently, some companies have sought to apply § 1201 to aftermarket products, raising the potential for significant social harm.<sup>2</sup> Aftermarket products are supplemental and replacement parts which operate only in conjunction with another product.<sup>3</sup> The application of § 1201 to aftermarket products has generated conflicting case law and confusion in the marketplace,<sup>4</sup> which in turn may lead to higher prices and lower incentives for innovation.<sup>5</sup> Part II of this Note illustrates how the DMCA could be misapplied to an inkjet printer cartridge, a ubiquitous aftermarket product. Part III demonstrates that application of § 1201 to aftermarket products runs afoul of congressional intent. This includes analysis of the general purpose behind intellectual property protection, the specific legislative history of the DMCA, and an examination of the statute's explicit exemption provisions. Part IV discusses the courts' inconsistency in applying § 1201 to aftermarket products. Part V suggests that reviewing courts should rationalize the law by strictly applying the express § 1201(f) exemption to any supposed violation of the statute by aftermarket manufacturers. Barring application of the § 1201(f) exemption, this Note recommends Congress amend § 1201(f) to specifically address the concerns about the DMCA's application to aftermarket products. This Note concludes with a summary in Part VI.

## II. THE DMCA AND THE AFTERMARKET

### A. Introduction to § 1201

Today most copyrighted work is delivered to consumers digitally – from MP3 music files to online newspapers.<sup>6</sup> To prevent unauthorized access and

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<sup>1</sup> 17 U.S.C. § 1201 (2000); *see* S. REP. NO. 105-190, at 29 (1998); H.R. REP. NO. 105-551, pt. 1, at 18 (1998); H.R. REP. NO. 105-551, pt. 2, at 38 (1998).

<sup>2</sup> Declan McCullagh, *Toner Company Fights DMCA Lawsuit*, C|NET NEWS.COM, at <http://news.com.com/2100-1023-983560.html> (Feb. 5, 2003).

<sup>3</sup> Brief of Amicus Curiae Computer & Communications Indus. Ass'n at 3, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003), (No. 02-C-6376), *available at* [http://www.ipjustice.org/skylink/skylink\\_ccai\\_amicus.doc](http://www.ipjustice.org/skylink/skylink_ccai_amicus.doc).

<sup>4</sup> Electronic Frontier Foundation, *Unintended Consequences: 5 Years Under the DMCA*, at [http://www.eff.org/IP/DMCA/unintended\\_consequences.pdf](http://www.eff.org/IP/DMCA/unintended_consequences.pdf) (Sept. 24, 2003).

<sup>5</sup> Brief of Amicus Curiae Law Professors at 3, *Lexmark Int'l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943 (E.D. Ky. 2003) (No. 02-571-KSF), *available at* <http://www.eff.org/IP/DMCA/20030213-LawProfessorsAmicus.pdf>.

<sup>6</sup> Stephen M. Kramarsky, *Digital Copyright Act: Law is Designed to Stop Pirates, Not Aftermarket Competition*, N.Y. L.J., Dec. 23, 2003, at 5, *available at* LEXIS, News Library, Nylawj File.

duplication of this content, copyright holders rely on a combination of technological and legal protections.<sup>7</sup> Typically, copyright holders encrypt the protected content before delivery and only give authorized users the keys necessary to access it.<sup>8</sup> However, no encryption scheme is ever perfect, and technically savvy consumers or copyright pirates inevitably find ways to circumvent these access controls.<sup>9</sup>

To give legal effect to these technological restrictions, Congress enacted § 1201, the Digital Millennium Copyright Act, which reinforces the “locks” copyright holders place on their copyrighted digital media.<sup>10</sup> Under § 1201, circumventing this type of technological access control on a copyrighted work constitutes an infringement entirely separate from other Copyright Act violations, such as unauthorized reproduction of the work itself.<sup>11</sup> Furthermore, if a copyrighted work is protected by a technological access control, circumventing that control to make a fair use<sup>12</sup> that would normally be permitted under the Copyright Act is still prohibited.<sup>13</sup> Section 1201(a)(1) forbids acts which circumvent a “technological measure that effectively controls access to a work” when that work is protected under the Copyright Act.<sup>14</sup> Section 1201(a)(2) further expands the range of potential defendants by prohibiting the creation and sale of devices that provide the means to circumvent technological access controls.<sup>15</sup>

A well-known example of a technological access control is the Content Scramble System (“CSS”) code used to encrypt movies on Digital Versatile Disc (“DVD”) media.<sup>16</sup> Section 1201(a)(1) of the DMCA prohibits breaking or circumventing the CSS code for any reason, whether to make an illegal copy of a movie or to watch a legally purchased movie on an incompatible DVD player.<sup>17</sup> Section 1201(a)(2), meanwhile, makes it illegal to post online or otherwise distribute a computer program designed to circumvent the CSS

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<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> See 144 CONG. REC. H7074, H7094-5 (1998); S. REP. NO. 105-190, at 29 (1998); H.R. REP. NO. 105-551, pt. 1, at 18 (1998); H.R. REP. NO. 105-551, pt. 2, at 38 (1998); see also Law Professors Brief, *Lexmark Int’l* (No. 02-571-KSF).

<sup>11</sup> See 17 U.S.C. § 1201(a) (2000); see also Dan L. Burk, *Anti-Circumvention Misuse*, 50 UCLA L. REV. 1095, 1102 (2003).

<sup>12</sup> See 17 U.S.C. § 107.

<sup>13</sup> See § 1201; see also Burk, *supra* note 11, at 1102.

<sup>14</sup> § 1201(a)(1)(A).

<sup>15</sup> § 1201(a)(2).

<sup>16</sup> See DVD Copy Control Ass’n, *Frequently Asked Questions*, at <http://www.dvcca.org/faq.html> (last visited Jan. 15, 2005).

<sup>17</sup> See § 1201(a); Burk, *supra* note 11, at 1102.

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code.<sup>18</sup>

Other than circumvention permitted by one of the limited express exemptions of the statute,<sup>19</sup> the only legal way to gain access to a technologically protected work is with the permission of the copyright holder.<sup>20</sup> For example, to create encrypted DVDs and the DVD machines that play them, manufacturers must purchase licenses to use the CSS code.<sup>21</sup>

While most commentators agree that circumvention of the CSS code protecting DVDs is a violation of § 1201,<sup>22</sup> there is confusion over whether the statute applies to aftermarket products.<sup>23</sup> Because the DMCA is a relatively new and pioneering law, this confusion is understandable.<sup>24</sup> It is also important to realize that aftermarket products are fundamentally different from typical protected digital media.<sup>25</sup>

*B. Introduction to the Aftermarket*

Aftermarket products are supplemental parts, like windshield wipers for your car, which operate only in conjunction with another product.<sup>26</sup> The aftermarket is a considerable element of the United States economy.<sup>27</sup> For example, the aftermarket for motor vehicle parts alone is an approximately \$185 billion a year industry.<sup>28</sup> A robust aftermarket provides consumers with options when making repairs and buying replacement parts and drives down

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<sup>18</sup> See, e.g., *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 441 (2d Cir. 2002) (using the DMCA to enjoin website owners from posting DeCSS software on their website).

<sup>19</sup> See §§ 1201(d)-(j).

<sup>20</sup> See § 1201(a)(3)(A); Burk, *supra* note 11, at 1102.

<sup>21</sup> See DVD Copy Control Ass'n, *supra* note 16.

<sup>22</sup> See *Universal City Studios*, 273 F.3d at 441; Robert Lemos, *Experts: Copyright Law Hurts Technology*, C|NET NEWS.COM, at <http://news.com.com/2100-1023-990689.html> (Mar. 1, 2003). But see *DMCA Takes Center Stage at Cal. Bar Assn. Meeting*, WASH. INTERNET DAILY, Vol. 4, No. 174, Sept. 9, 2003, at LEXIS, News Library, Washid File (briefly discussing the arguments against certain applications of the DMCA to CSS code).

<sup>23</sup> See McCullagh, *supra* note 2.

<sup>24</sup> Frank Ahrens, *Caught by the Act: Digital Copyright Law Ensnaring Businesses, Individuals Over Fair Use*, WASH. POST, Nov. 12, 2003, Financial, at E01, available at LEXIS, News Library, Wpost File.

<sup>25</sup> See *infra* Part II.B.

<sup>26</sup> Brief of Amicus Curiae Computer & Communications Indus. Ass'n at 3, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003), (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_ccai\\_amicus.doc](http://www.ipjustice.org/skylink/skylink_ccai_amicus.doc).

<sup>27</sup> Brief of Amicus Curiae Consumers Union at 6, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003) (No. 02 C 6376), available at [http://www.ipjustice.org/skylink/skylink\\_consumer\\_union\\_amicus.pdf](http://www.ipjustice.org/skylink/skylink_consumer_union_amicus.pdf).

<sup>28</sup> *Id.*

the price of these parts.<sup>29</sup> Competition in these markets encourages both original and aftermarket manufacturers to develop innovative products at reduced prices.<sup>30</sup>

Aftermarket products differ in two important ways from the typical works - such as movies, music and books - which Congress intended to protect with the DMCA.<sup>31</sup> First, aftermarket products are not independently marketed, but are advertised and sold based on their compatibility with another product.<sup>32</sup> In contrast, a movie encrypted on a DVD is not typically marketed along with a specific brand or model of DVD player. Second, aftermarket products are recognized under the law as functional works, and are not copyrightable because they do more than merely represent themselves or other information.<sup>33</sup> On the other hand, a DVD or a video game cartridge is generally not considered anything more than a delivery device for expressive content.

A replacement ink cartridge for an inkjet printer is a ubiquitous example of an aftermarket product. These cartridges are produced by both the “brand name” manufacturer of the inkjet printer and “generic” companies which often produce only replacement cartridges for various models and brands of inkjet printers. Both the brand name and generic versions of the ink cartridge function only in conjunction with a previously purchased inkjet printer. Therefore, a cartridge is marketed in reference to the specific brand and model of printer, even when it is made by a competing “generic” company. Some printer cartridges can either be refilled by the consumer using a kit sold by a competing company or refurbished by a competing company. A remanufactured printer cartridge is an excellent example of an everyday aftermarket product because it is a “useful” product under the terms of the Copyright Act,<sup>34</sup> and it is marketed as working with a previously purchased product.

### *C. Introduction to Interoperability and Reverse Engineering*

Many aftermarket products, particularly those in the consumer electronics market, must “talk” via some form of computer software to the original

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<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> See Brief of Amicus Curiae Law Professors at 5-6, *Lexmark Int’l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943 (E.D. Ky. 2003) (No. 02-571-KSF), available at <http://www.eff.org/IP/DMCA/20030213-LawProfessorsAmicus.pdf>.

<sup>32</sup> See *id.*

<sup>33</sup> See 17 U.S.C. § 101 (2000) (defining “useful article” as an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information).

<sup>34</sup> See *id.*

product with which they were designed to work.<sup>35</sup> This software often authenticates the aftermarket product and enhances the security and functionality between the original product and the aftermarket part.<sup>36</sup> When products use software in this way, they are said to “interoperate” with one another.<sup>37</sup> Two products can only interoperate if they conform to the same set of interface specifications.<sup>38</sup> Consequently, to facilitate interoperability, generic aftermarket manufacturers must write software identical or very similar to the software in the original product.<sup>39</sup> To write this software, aftermarket manufacturers typically reverse engineer the original product, and, depending on the complexity of the interoperating software, may have to copy a significant portion of the code in order to create an interoperable product.<sup>40</sup>

For example, most inkjet printers contain a computer chip with very simple software installed on it that activates upon installation of a cartridge.<sup>41</sup> The software tells the printer if the correct type of cartridge is installed, if the cartridge is running low on ink, and other useful information the printer may require for its operation.<sup>42</sup> For a competitor in the aftermarket to create a replacement cartridge it must mimic the software that communicates this information to the printer.<sup>43</sup>

Some inkjet printer manufacturers employ additional technology, known in the industry as a “killer chip,” that further influences the interoperability between inkjet printers and replacement cartridges.<sup>44</sup> Manufacturers install killer chips, which encrypt the interoperability software, onto the cartridges to act as an access control between the software in their printers and their inkjet cartridges.<sup>45</sup> The printer recognizes only a cartridge with the right software and decryption code as a valid replacement cartridge.<sup>46</sup> A printer with this technology may shut itself down if the consumer installs a non-valid cartridge,

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<sup>35</sup> See Brief of Amicus Curiae Computer & Communications Indus. Ass’n at 3, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003), (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_ccai\\_amicus.doc](http://www.ipjustice.org/skylink/skylink_ccai_amicus.doc).

<sup>36</sup> See *id.*

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> See *id.* at 5.

<sup>40</sup> See *id.*

<sup>41</sup> Brief of Amicus Curiae Computer & Communications Indus. Ass’n at 6, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003), (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_ccai\\_amicus.doc](http://www.ipjustice.org/skylink/skylink_ccai_amicus.doc).

<sup>42</sup> *Id.* at 5-6.

<sup>43</sup> *Id.*

<sup>44</sup> Zay N. Smith, *Hold on the Cheap Ink’s Coming*, CHI. SUN-TIMES, Aug. 3, 2003, at 20, available at LEXIS, News Library, Chisun File.

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

such as a generic competitor's product, that would otherwise be compatible with the printer.<sup>47</sup> This type of printer may also shut itself down if it recognizes that a particular cartridge that had "low ink" was refilled or refurbished, even if the cartridge originally contained the correct decryption code.<sup>48</sup> Unless the decryption code in a killer chip is circumvented by other manufacturers, only new cartridges sold by the manufacturer of the printer will work in that printer, thus narrowing, and often eliminating, the options available to the consumer.<sup>49</sup>

*D. Potential Effect of § 1201 on the Aftermarket*

Some manufacturers claim that § 1201 protects all of the software installed on their original products from any form of reverse engineering, as long as that code is encrypted by a technological access control such as a killer chip.<sup>50</sup> If a manufacturer could use § 1201 in this manner, it could decide which other manufacturers' products, if any, could interoperate with its own.<sup>51</sup> By leveraging its control over interoperability, a manufacturer could effectively eliminate any competition for the aftermarket parts related to its original product.<sup>52</sup> This control would grant those manufacturers, who may be the market leaders, a monopoly over the aftermarket which they would not have had otherwise.<sup>53</sup> With the power of this monopoly, any manufacturer could reduce the cost of their original product and "make up the difference" by selling all of their replacement parts at a significant markup.<sup>54</sup> Unfortunately for the consumer, the additional, repetitive cost of aftermarket parts is unlikely to be a factor when comparison shopping for the original product. Additionally, because some aftermarket products do more than mimic the functionality of the original product, control over the aftermarket may stifle

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<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *See, e.g.,* Lexmark Int'l v. Static Control Components, Inc., 253 F. Supp. 2d 943 (E.D. Ky. 2003).

<sup>51</sup> Brief of Amicus Curiae Computer & Communications Indus. Ass'n at 3, Chamberlain Group v. Skylink Techs., 292 F. Supp. 2d 1023 (N.D. Ill. 2003), (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_ccai\\_amicus.doc](http://www.ipjustice.org/skylink/skylink_ccai_amicus.doc).

<sup>52</sup> *Id.*

<sup>53</sup> *See* Brief of Amicus Curiae Consumers Union at 1, Chamberlain Group v. Skylink Techs., 292 F. Supp. 2d 1023 (N.D. Ill. 2003) (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_consumer\\_union\\_amicus.pdf](http://www.ipjustice.org/skylink/skylink_consumer_union_amicus.pdf).

<sup>54</sup> *See* Computer & Communications Indus. Ass'n Brief at 5, Chamberlain Group (No. 02-C-6376); Michael J. Meurer, *The Interface Between Intellectual Property Law And Antitrust Law: Vertical Restraints and Intellectual Property Law: Beyond Antitrust*, 87 MINN. L. REV. 1871, 1892-1894 (2003).

legitimate innovation.<sup>55</sup> Therefore, application of § 1201 to aftermarket products is a market inefficiency that would suppress the incentive for innovation, further limiting consumer aftermarket options.<sup>56</sup>

The potential effect of applying § 1201 to the aftermarket is particularly troublesome because it is relatively easy for *any* manufacturer to add this type of technological access control to existing products, even those outside the realm of the consumer electronics market.<sup>57</sup> For example, automakers could ensure that consumers only purchased licensed replacement tires, windshield wipers, or even the gas used to fill up the car, at monopolistic rates.<sup>58</sup> The same applies to camera manufacturers and interchangeable lenses or replacement film.<sup>59</sup> On the whole, the application of the DMCA to the aftermarket would likely stifle innovation and otherwise harm competition in an almost limitless number of industries.<sup>60</sup>

Moreover, manufacturers may not even need to bring a lawsuit under the DMCA to suppress competition and drive up prices.<sup>61</sup> Already, incidents of manufacturers citing § 1201 in letters threatening legal action have come to light.<sup>62</sup> Due to inconsistent application of the statute, aftermarket manufacturers and their consumers may bow to legal pressure because they are unsure of their rights.<sup>63</sup> Therefore, it is possible that the costs of aftermarket products are already artificially inflated simply because there is uncertainty whether or not the DMCA applies to the aftermarket.

This uncertainty may explain why there are very few substances on the planet more expensive, per milliliter, than the ink found in the typical inkjet cartridge.<sup>64</sup> According to one study, inkjet ink is roughly seven times more expensive than the cost of Dom Perignon 1985.<sup>65</sup> If the ink were gasoline it would cost approximately \$175,000 to fill up a typical car's gas tank.<sup>66</sup> Industry sources say it only costs inkjet printer manufacturers approximately

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<sup>55</sup> See Computer & Communications Indus. Ass'n Brief at 5, *Chamberlain Group* (No. 02-C-6376); Meurer, *supra* note 54, at 1901-1902.

<sup>56</sup> See Consumers Union Brief at 1, *Chamberlain Group* (No. 02-C-6376).

<sup>57</sup> See Brief of Amicus Curiae Law Professors at 6, *Lexmark Int'l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943 (E.D. Ky. 2003) (No. 02-571-KSF), *available at* <http://www.eff.org/IP/DMCA/20030213-LawProfessorsAmicus.pdf>.

<sup>58</sup> *Id.*

<sup>59</sup> Consumers Union Brief at 7, *Chamberlain Group* (No. 02-C-6376).

<sup>60</sup> *See id.*

<sup>61</sup> See Electronic Frontier Foundation, *supra* note 4.

<sup>62</sup> Burk, *supra* note 11, at 1119.

<sup>63</sup> *Id.*

<sup>64</sup> Smith, *supra* note 44.

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

three dollars to produce an inkjet ink cartridge, yet they are able to charge consumers approximately ten times that amount because most inkjet printer manufacturers use killer chips that stifle competition and trap unwary consumers.<sup>67</sup>

Printer manufacturers sell inkjet printers at a deceptively low price, attracting buyers who are unaware of the high cost of the required replacement inkjet cartridges and the availability of alternative products.<sup>68</sup> In a fully-functioning market, aftermarket competitors would reverse engineer killer chips and sell generic aftermarket ink cartridges, refurbishing services, or do-it-yourself refill kits at a lower cost to consumers.<sup>69</sup> However, any attempt by these competitors, or even the consumer, to avoid or bypass the killer chip's "protection" may run afoul of § 1201(a).<sup>70</sup> A cease-and-desist letter from a printer manufacturer may be enough to remove otherwise legitimate competition from the market. Moreover, this harm to the marketplace may occur even though Congress may have never intended this result when it enacted the DMCA.

### III. CONGRESSIONAL INTENT

Due to the harm that confusion in the law may generate for consumers and competition alike, it is important the courts or Congress clarify the law. To best determine how the statute should apply to aftermarket products, this Note looks at the legislative history of intellectual property law generally, and the DMCA specifically, to understand the Congressional intent behind § 1201.

#### A. *General Purpose of Intellectual Property Law*

Generally, the goal of intellectual property is "[t]o promote the Progress of Science and useful Arts."<sup>71</sup> Thus, the federal government is empowered to grant exclusive rights to inventors and authors in their respective works, for limited periods of time.<sup>72</sup> This grant of a limited monopoly allows the originator a reasonable but limited amount of time to reap an economic benefit from her work, thus encouraging research and development in the arts and

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<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

<sup>70</sup> See *Lexmark Int'l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943, 969 (E.D. Ky. 2003).

<sup>71</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>72</sup> See *Sony Corp. of Am. V. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) ("The monopoly privileges that Congress may authorize . . . motivate the creative activity of authors and inventors by the provision of a special reward, and . . . allow the public access to the products of their genius after the limited period of exclusive control has expired.").

sciences.<sup>73</sup> The gain by individuals at the expense of the public is therefore offset by a recognized public benefit.<sup>74</sup> The eventual expiration of rights means the invention or expression will eventually become part of the public domain.<sup>75</sup>

There are various modes of protection in our intellectual property system and each mode of protection has a particular role in this incentive-based system, as defined by the doctrines particular to each protection method.<sup>76</sup> For instance, certain doctrines of copyright law channel protection for functional works into the patent system, where protection of ideas is much stronger but more narrowly defined, harder to get, and persists for a shorter period of time.<sup>77</sup> Awarding strong, patent-like protection for useful articles through copyright law – with its low threshold for protection and much longer duration – would undermine the role of the patent system as the principal means for protecting utilitarian works and hinder the process of sequential innovation essential to technological production.<sup>78</sup> Congress has struck a careful balance between the power, scope and duration of the patent and copyright systems,<sup>79</sup> and an attempt by manufacturers to apply the DMCA to aftermarket competitors upsets this delicate balance.

Furthermore, copyright law's merger doctrine should prevent interoperable computer code for aftermarket products from being protected under the DMCA. The merger doctrine recognizes that in some instances, only a limited number of ways exist to express a specific idea, making it difficult for one author to vary his or her expression of the idea from another author's work.<sup>80</sup> For aftermarket products, the requirement of interoperability often limits the variations of expression available – in many cases the code must be identical to interoperate.<sup>81</sup> Courts have determined that a copyright will not apply to a

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<sup>73</sup> United States v. Elcom Ltd., 203 F. Supp. 2d 1111, 1140 (N.D. Cal. 2002).

<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

<sup>76</sup> See ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE*, 19-25 (3d ed. 2003).

<sup>77</sup> See Dennis S. Karjala, *Distinguishing Patent and Copyright Subject Matter*, 35 CONN. L. REV. 439, 452, 462 (2003) (describing examples including the "idea/expression dichotomy" and "useful articles" doctrines).

<sup>78</sup> See 17 U.S.C. § 101 (2000) ("A 'useful article' is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information. An article that is normally a part of a useful article is considered a 'useful article.'"); MERGES ET AL., *supra* note 76, at 354-55, 362.

<sup>79</sup> MERGES ET AL., *supra* note 76, at 362.

<sup>80</sup> Lisa Michelle Weinstein, Comment, *Ancient Works, Modern Dilemmas: The Dead Sea Scrolls Copyright Case*, 43 AM. U.L. REV. 1637, 1664 (1994).

<sup>81</sup> See Robert Schoenberger, *Ruling Won't End Lexmark Flap: Static Control Fails to get Exemption, Other Issues Remain*, THE COURIER-JOURNAL (Louisville, KY), Nov. 1, 2003, at

work to which the merger doctrine applies.<sup>82</sup>

Additionally, the intellectual property doctrine of misuse should protect consumers and competition from companies that attempt to control the aftermarket by invoking the DMCA.<sup>83</sup> Misuse is an equitable doctrine that denies protection to a plaintiff who has attempted either to get more than was intended by the grant of the intellectual property right, or to restrain trade in ways not contemplated by the grant.<sup>84</sup> One clear example of misuse is an antitrust tying arrangement, where a seller conditions the sale of one commodity upon the purchase of another.<sup>85</sup> A finding of misuse, however, does not necessarily require all of the elements of an antitrust tying violation, such as sufficient “market power.”<sup>86</sup> While the misuse doctrine may not specifically disclaim the application of the DMCA to the aftermarket, it suggests that our intellectual property system is cautious of situations that are very similar to an antitrust tie.<sup>87</sup>

Because our intellectual property laws direct functional works through the patent system rather than the copyright system, aftermarket products should not be protected by the DMCA. Furthermore, our intellectual property system is at best wary of manufacturers leveraging their intellectual property to control other markets. Therefore, intellectual property generally should not protect aftermarket products through application of § 1201.

#### *B. Legislative History of § 1201(a)*

In addition to general intellectual property policies, the legislative history of the DMCA should provide guidance as to whether Congress intended § 1201(a) to apply to aftermarket products or whether this application is an unintended consequence of the legislation. Because the legislative history is even more topical and relevant than broader intellectual property policies, it accurately confirms that Congress did not intend the DMCA to apply to the aftermarket.

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2F, available at LEXIS, News Library, Coujnl File.

<sup>82</sup> See *Lexmark Int’l v. Static Control Components, Inc.*, 387 F.3d 522, 535 (6th Cir. 2004); see also *Kern River Gas Transmission Co. v. Coastal Corp.*, 899 F.2d 1458, 1463 (5th Cir. 1990) (noting that “when the expression of an idea is inseparable from the idea itself, the expression and idea merge” and stating that conferring copyright where merger exists would create monopoly of idea); *Morrissey v. Proctor & Gamble Co.*, 379 F.2d 675, 678-79 (1st Cir. 1967) (holding that some ideas can be expressed in limited number of ways, thus granting copyright would essentially grant monopoly over that idea).

<sup>83</sup> See *Burk*, *supra* note 11, at 1112.

<sup>84</sup> See *id.* at 1114-15.

<sup>85</sup> See *id.* at 1115.

<sup>86</sup> See *id.* at 1121-22 & n.159

<sup>87</sup> See *id.* at 1116.

The first indication that Congress would contemplate DMCA-like legislation was a 1995 report by the Information Infrastructure Task Force Working Group which recommended a provision similar to the current § 1201(a).<sup>88</sup> Likewise, the United States advocated adoption of Article 11 of the World Intellectual Property Organization (“WIPO”) Copyright Treaty to provide copyright holders with anti-circumvention protections comparable to those of § 1201(a).<sup>89</sup> Although some critics argued that the doctrine of contributory copyright infringement already protected manufacturers against circumvention of technological controls,<sup>90</sup> Congress nevertheless passed the DMCA to honor its commitment to the WIPO Treaty,<sup>91</sup> and to “best support electronic commerce in copyrighted works.”<sup>92</sup> However, due to the unprecedented nature of the protections under § 1201(a), the uncertain consequences of such protections on technological progress, and the potential abuse of the statute to thwart otherwise legal activities, Congress delayed the effective date of § 1201(a) for two years.<sup>93</sup> This hesitancy on the part of Congress to adopt the DMCA may indicate concerns about the potential misapplication of the DMCA.<sup>94</sup>

Most noteworthy, scholars have been unable to find any suggestion in the statute’s voluminous legislative history that Congress intended, or even considered, § 1201(a) to apply to aftermarket products, even those aftermarket

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<sup>88</sup> Brief of Amicus Curiae Law Professors at 3, *Lexmark Int’l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943 (E.D. Ky. 2003) (No. 02-571-KSF), available at <http://www.eff.org/IP/DMCA/20030213-LawProfessorsAmicus.pdf>; see Bruce A. Lehman, *Report of the Working Group on Intellectual Property Rights, Intellectual Property and the National Information Infrastructure*, app. 1 at 6 (Sept. 1995) (“No person shall import, manufacture or distribute any device, product, or component incorporated into a device or product, or offer or perform any service, the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent, without the authority of the copyright owner or the law, any process, treatment, mechanism or system which prevents or inhibits the violation of any of the exclusive rights of the copyright owner under section 106.”).

<sup>89</sup> Law Professors Brief at 4, *Lexmark Int’l* (No. 02-571-KSF); see World Intellectual Property Organization: Copyright Treaty, adopted Dec. 20, 1996, art. 11, 36 I.L.M. 65 (“Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.”).

<sup>90</sup> See Burk, *supra* note 11, at 1103 (arguing that contributory copyright infringement potentially assigns liability to providers of devices that lack a substantial non-infringing use).

<sup>91</sup> *Id.*

<sup>92</sup> Law Professors Brief at 5, *Lexmark Int’l* (No. 02-571-KSF).

<sup>93</sup> *Id.* at 4-5.

<sup>94</sup> See *id.* at 5.

parts that utilize technological access controls.<sup>95</sup> Congress' express purpose in adopting § 1201(a) was to promote electronic commerce in digitally formatted copyrighted works by protecting them from acts of piracy.<sup>96</sup> Some examples of claims brought under § 1201 that reflect the types of works Congress intended the statute to protect include: streamed digital sound recordings,<sup>97</sup> motion pictures distributed on DVD,<sup>98</sup> computer games,<sup>99</sup> and electronic books.<sup>100</sup> In each case, the claimant used a technological access control to prevent an independently marketed, non-functional work from potential piracy.

Congress' goal in enacting § 1201(a) was merely to prevent digital piracy of copyrighted work in digital format.<sup>101</sup> According to the legislative history of § 1201(a), application of the DMCA to aftermarket products is likely an unintended consequence of the statute which reviewing courts or the Congress itself should prevent.

*C. Reverse Engineering Exemption of § 1201(f)*

In addition to attempting to narrow the scope of § 1201(a) through the statute's legislative history, Congress also exempted from DMCA protection certain specific categories of technological access control circumvention activities.<sup>102</sup> Congress explicitly exempted nonprofit and educational organizations,<sup>103</sup> law enforcement and other governmental activities,<sup>104</sup> encryption research and security testing,<sup>105</sup> protecting personal information and minors,<sup>106</sup> and reverse engineering.<sup>107</sup> It can also be argued that the reverse engineering exemption, § 1201(f), excludes aftermarket products from the

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<sup>95</sup> *Id.*

<sup>96</sup> *Id.*

<sup>97</sup> See *Real Networks v. Streambox*, 2000 U.S. Dist. LEXIS 1889 (W.D. Wash. Jan. 18, 2000).

<sup>98</sup> See *Universal City Studios, Inc. v. Corley*, 273 F.3d 429 (2d Cir. 2001).

<sup>99</sup> See *Sony Computer Entm't Am., Inc. v. Gamemasters*, 87 F. Supp. 2d 976 (N.D. Cal. 1999).

<sup>100</sup> See *United States v. Elcom Ltd.*, 203 F. Supp. 2d 1111, 1140 (N.D. Cal. 2002); Brief of Amicus Curiae Law Professors at 3, *Lexmark Int'l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943 (E.D. Ky. 2003) (No. 02-571-KSF), available at <http://www.eff.org/IP/DMCA/20030213-LawProfessorsAmicus.pdf>.

<sup>101</sup> See Burk, *supra* note 11, at 1102.

<sup>102</sup> Law Professors Brief at 5, *Lexmark Int'l* (No. 02-571-KSF).

<sup>103</sup> 17 U.S.C. § 1201(d) (2000).

<sup>104</sup> § 1201(e).

<sup>105</sup> § 1201(g), (j).

<sup>106</sup> § 1201(h)-(i).

<sup>107</sup> § 1201(f).

scope of the DMCA.<sup>108</sup>

Congress anticipated that some companies might attempt to employ the DMCA to prevent interoperability between software components, thereby expanding the scope of their copyrights in an anticompetitive manner.<sup>109</sup> Specifically, Congress feared that the benefits created by the development of interoperable software would be jeopardized unless interoperability was protected.<sup>110</sup> Accordingly, it crafted an express exception to the DMCA in § 1201(f) which permitted circumvention of technological access controls.<sup>111</sup> However, this exception only applied to circumvention necessary to reverse engineer a copyrighted work for the sole purpose of achieving interoperability between an independently created computer program and the original protected work.<sup>112</sup> This exemption permits the circumvention of access controls, but only if the elements necessary to achieve interoperability are not otherwise available, and the reverse engineering is otherwise permitted under the copyright law.<sup>113</sup>

Rep. Tom Bliley, Chairman of the House Commerce Committee, noted that his committee added the interoperability provisions to ensure that no one would be prevented from “correcting an interoperability problem . . . resulting from a technological measure causing one or more devices in the home or business to fail to interoperate with other technologies.”<sup>114</sup> Likewise, the Senate Judiciary Committee report on the DMCA explains that the policy behind the § 1201(f) exception was “to allow legitimate software developers to continue engaging in certain activities for the purpose of achieving interoperability.”<sup>115</sup>

As “interoperability” was the goal of § 1201(f), the exemption should provide a complete defense against § 1201(a) liability to qualifying developers

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<sup>108</sup> For a general discussion of the scope of the § 1201(f) exemption, see Copyright Office: Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 68 Fed. Reg. 62011, 62017 (Oct. 31, 2003) (to be codified at 37 C.F.R. pt. 201).

<sup>109</sup> Brief of Amicus Curiae Computer & Communications Indus. Ass’n at 3, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003), (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_ccai\\_amicus.doc](http://www.ipjustice.org/skylink/skylink_ccai_amicus.doc).

<sup>110</sup> Brief of Amicus Curiae Consumers Union at 10, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003) (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_consumer\\_union\\_amicus.pdf](http://www.ipjustice.org/skylink/skylink_consumer_union_amicus.pdf) (citing 144 CONG. REC. E2136, E2138 (daily ed. Oct. 13, 1998) (statement of Rep. Bliley)).

<sup>111</sup> § 1201(f).

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*

<sup>114</sup> Computer & Communications Indus. Ass’n Brief at 10, *Chamberlain Group* (No. 02-C-6376).

<sup>115</sup> *Id.*

and users of interoperable aftermarket products.<sup>116</sup> Unfortunately, despite attempted resolution by the appellate level courts, the scope of the exception remains unclear under current case law.<sup>117</sup> For instance, reverse engineering for purposes of interoperability often requires indiscriminate copying of significant parts, if not all, of copyrighted software, which may or may not be permitted under § 1201(f).<sup>118</sup>

#### IV. CONFLICTING CASE LAW

Although it appears from the legislative history that Congress made repeated efforts to limit the statute's scope and avoid its application to aftermarket reverse engineering, two district court cases have dealt with such situations, and they yielded dissimilar results.<sup>119</sup> As the conflict between these two cases implies, the law in this area is at an early stage of development. Unfortunately, the resolution reached at the appellate level for each case still leaves many important issues unresolved, which results in uncertainty and inefficiencies in the marketplace.<sup>120</sup> This section will analyze these two cases.

##### A. Lexmark International v. Static Control Components

Lexmark is the world's second-largest manufacturer in the \$40 billion computer printer industry.<sup>121</sup> Like most printer manufacturers, a significant portion Lexmark's income is from the sale of "consumables," such as the toner cartridges for its printers.<sup>122</sup> To protect this market, Lexmark embeds a microchip in its toner cartridges that contains a tiny computer program called the Toner Loading Program ("TLP").<sup>123</sup> The TLP is an extremely short program designed to monitor toner levels and report them back to the printer.<sup>124</sup> Before a toner cartridge can operate in a Lexmark printer, the software in the printer does two things: it uses a digital handshake between the

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<sup>116</sup> *Id.*

<sup>117</sup> See *Lexmark Int'l v. Static Control Components, Inc.*, 387 F.3d 522 (6th Cir. 2004); *Chamberlain Group v. Skylink Techs.*, 381 F.3d 1178 (Fed. Cir. 2004).

<sup>118</sup> Schoenberger, *supra* note 81.

<sup>119</sup> See *Chamberlain Group*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003), *aff'd*, 381 F.3d 1178 (Fed. Cir. 2004); *Lexmark Int'l*, 253 F. Supp. 2d 943 (E.D. Ky. 2003), *vacated by* 387 F.3d 522 (6th Cir. 2004).

<sup>120</sup> See *infra* Part V.E.

<sup>121</sup> Tomas Kellner, *Protecting the Family Jewels*, FORBES, Dec. 2003, at 66, available at LEXIS, News Library, Forbes File.

<sup>122</sup> Kramarsky, *supra* note 6; Kellner, *supra* note 121.

<sup>123</sup> *Lexmark Int'l*, 387 F.3d at 528; Stephen M. Kramarsky, *The End of 'Lexmark': Court Lays to Rest Case That Threatened Aftermarket Competition*, N.Y. L.J., Nov. 23, 2004, at 5, available at LEXIS, News Library, Nylawj File.

<sup>124</sup> *Lexmark Int'l*, 387 F.3d at 528; Kramarsky, *supra* note 123.

printer and the chip on the toner cartridge to make sure that the cartridge is an official Lexmark cartridge, and it runs a checksum formula on the TLP that makes sure the TLP is exactly the same, byte for byte, as the printer expects it to be.<sup>125</sup> To make a cartridge work with a Lexmark printer, an aftermarket toner manufacturer must defeat the “handshake” and either copy the TLP exactly or otherwise fool the checksum.<sup>126</sup> Static Control Components (“SCC”) makes and sells a computer chip that performs both of these tasks to companies in the business of refilling and refurbishing toner cartridges.<sup>127</sup> The beneficial result is the availability of aftermarket products that can save consumers over \$200 a cartridge.<sup>128</sup> In 2003, Lexmark sought an injunction against SCC to stop the manufacture and sale of the computer chip.<sup>129</sup> Because of its potentially wide-ranging effect on ordinary consumers, this case was widely reported in both the legal and non-legal news media.<sup>130</sup>

In February 2003, the Federal District Court for the Eastern District of Kentucky granted Lexmark a preliminary injunction, preventing SCC from manufacturing or distributing their chip.<sup>131</sup> The district court found that SCC’s chip violated both the traditional copyright law (in that it contained an unauthorized copy of the TLP) and the DMCA (in that it was designed to circumvent the technological measures that prevent access to the copyrighted programs inside Lexmark’s printers).<sup>132</sup> The court stated that the DMCA must be intended to protect more than copyrighted works such as books, music and movies from piracy, or the prohibitions of § 1201(a)(2) against trafficking in circumvention devices would be “mere surplusage.”<sup>133</sup> The *Lexmark* court also found that “wholesale copying” of the access code was a copyright infringement, reasoning that the TLP could have been written in a number of different ways to perform the same access control function.<sup>134</sup> Scholars argued that this holding was counterintuitive because the only copying involved was of the access control programs themselves.<sup>135</sup> Some critics condemned the verdict as an unintended result of the DMCA and dangerous precedent,

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<sup>125</sup> *Lexmark Int’l*, 387 F.3d at 529-30; Kramarsky, *supra* note 123.

<sup>126</sup> *Lexmark Int’l*, 387 F.3d at 529-30; Kramarsky, *supra* note 123.

<sup>127</sup> *Lexmark Int’l*, 387 F.3d at 529-30; Kramarsky, *supra* note 123.

<sup>128</sup> See Kellner, *supra* note 121 (describing a \$244 price difference between an official Lexmark cartridge and a refurbished cartridge); Kramarsky, *supra* note 6 (describing a \$225 price difference between an official Lexmark cartridge and an aftermarket cartridge).

<sup>129</sup> *Lexmark Int’l*, 253 F. Supp. 2d at 943.

<sup>130</sup> See Kramarsky, *supra* note 123.

<sup>131</sup> *Lexmark Int’l*, 253 F. Supp. 2d at 943; Kramarsky, *supra* note 123.

<sup>132</sup> *Lexmark Int’l*, 387 F.3d at 974; Kramarsky, *supra* note 123.

<sup>133</sup> *Lexmark Int’l*, 253 F. Supp. 2d at 969.

<sup>134</sup> *Id.* at 971.

<sup>135</sup> Kramarsky, *supra* note 6.

especially because there was no risk of piracy, no separately copyrightable content, and no copying beyond that required for interoperability.<sup>136</sup> In response to the preliminary injunction, SCC appealed to the Sixth Circuit and the Copyright Office, filed an antitrust suit against Lexmark and had the legislature of its home state of North Carolina pass a law that invalidated the district court decision.<sup>137</sup>

*B. The Chamberlain Group v. Skylink Technologies*

Close on the heels of the *Lexmark* district court case came *Chamberlain Group, Inc. v. Skylink Technologies, Inc.*, in which a manufacturer of garage doors attempted to use the same provisions of the DMCA to shut down a competing manufacturer of replacement garage door openers.<sup>138</sup> A garage door opener remote works by sending a coded signal to a matching receiver inside the garage, telling a simple computer program embedded in the receiver to open the door.<sup>139</sup> Recognizing that burglars could potentially record the signal and later play it back to gain access to an owner's home, Chamberlain employs an additional protective measure, called a "rolling code."<sup>140</sup> The rolling code requires the transmitter to send a different signal to the receiver each and every time it attempts to access the garage opener program.<sup>141</sup>

Skylink, a competitor of Chamberlain, sells a universal replacement remote that exploits an essential bypass feature of Chamberlain's rolling code once the consumer programs the replacement remote.<sup>142</sup> Chamberlain claimed Skylink's remote was circumventing a "technological access control," to gain access to the copyrighted program used to open the garage door.<sup>143</sup>

The district court in *Chamberlain* disagreed and granted a motion for summary judgment in Skylink's favor.<sup>144</sup> The district court found that customers who buy garage door openers expect to be able to purchase replacement remotes, and held that Chamberlain had not contractually prohibited them from purchasing replacement remotes from other vendors.<sup>145</sup> The court stated that because Chamberlain authorized its customers to buy and use an aftermarket remote, the customers could pass the authorization along to

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<sup>136</sup> *Id.*

<sup>137</sup> *Id.*

<sup>138</sup> *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023, 1027 (N.D. Ill. 2003) ; Kramarsky, *supra* note 123.

<sup>139</sup> *Chamberlain Group*, 292 F. Supp. 2d at 1026-27; Kramarsky, *supra* note 6.

<sup>140</sup> *Chamberlain Group*, 292 F. Supp. 2d at 1027; Kramarsky, *supra* note 6.

<sup>141</sup> *Chamberlain Group*, 292 F. Supp. 2d at 1027.

<sup>142</sup> *Id.* at 1026; Kramarsky, *supra* note 6.

<sup>143</sup> *Chamberlain Group*, 292 F. Supp. 2d 1025; Kramarsky, *supra* note 6.

<sup>144</sup> *Chamberlain Group*, 292 F. Supp. 2d at 1040; Kramarsky, *supra* note 6.

<sup>145</sup> *Chamberlain Group*, 292 F. Supp. 2d at 1039-40; Kramarsky, *supra* note 6.

Skylink by purchasing and programming the replacement remote.<sup>146</sup> The district court held that Skylink's circumvention was not "without the authority of the copyright owner," and therefore not a violation of the DMCA.<sup>147</sup>

C. *The Chamberlain Appeal*

The Federal Circuit quickly affirmed the holding of the District Court in *Chamberlain*, but on different grounds.<sup>148</sup> The Federal Circuit court held that the DMCA's anti-circumvention provisions establish a cause of action for liability, not a new property right.<sup>149</sup> The distinction between property and liability was crucial to the court's analysis, which shifted the burden to the DMCA plaintiff, who must, as an element of the offense, prove "lack of authority."<sup>150</sup> Thus, § 1201 "prohibits only forms of access that bear a reasonable relationship to the protections that the Copyright Act otherwise affords copyright owners," and circumvention is not a per se infringement.<sup>151</sup> The court reasoned that no protected uses were at issue in this case because Skylink's universal remote did not copy or modify Chamberlain's opener's software, it only bypassed Chamberlain's security to get to the software.<sup>152</sup>

D. *The Lexmark Appeal*

In October 2004, the Sixth Circuit put an end to the *Lexmark* conflict by vacating the district court's preliminary injunction against SCC.<sup>153</sup> However, it also did not resolve misapplication of the DMCA to aftermarket completely.

The Sixth Circuit agreed that the complex printer control software inside Lexmark's printers (as opposed to the tiny TLP, which resides on the toner cartridge) was copyrightable, and that the "handshake" and "checksum" schemes did prevent use of that software.<sup>154</sup> Nevertheless, the court held that preventing "use" of copyrightable material is not the same thing as preventing "access," and the DMCA only prohibits "access."<sup>155</sup> According to the court,

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<sup>146</sup> *Chamberlain Group*, 292 F. Supp. 2d at 1040; Kramarsky, *supra* note 6.

<sup>147</sup> *Chamberlain Group*, 292 F. Supp. 2d at 1038-39; Kramarsky, *supra* note 6.

<sup>148</sup> See *Chamberlain Group v. Skylink Techs.*, 381 F.3d 1178, 1178 (Fed. Cir. 2004); Stephen M. Kramarsky, *A Fourth View: Circuit Considers Application of DMCA to Aftermarket Products*, N.Y. L.J., Sept. 28, 2004, at 5, available at LEXIS, News Library, Nylawj File.

<sup>149</sup> *Chamberlain Group*, 381 F.3d at 1204; Kramarsky, *supra* note 148.

<sup>150</sup> *Chamberlain Group*, 381 F.3d at 1203; Kramarsky, *supra* note 148.

<sup>151</sup> *Chamberlain Group*, 381 F.3d at 1203-04; Kramarsky, *supra* note 148.

<sup>152</sup> *Chamberlain Group*, 381 F.3d at 1204; Kramarsky, *supra* note 148.

<sup>153</sup> *Lexmark Int'l v. Static Control Components, Inc.*, 387 F.3d 522, 564-65 (6th Cir. 2004).

<sup>154</sup> *Lexmark Int'l*, 387 F.3d at 533-34; Kramarsky, *supra* note 123.

<sup>155</sup> *Lexmark Int'l*, 387 F.3d at 546-47; Kramarsky, *supra* note 123.

for purposes of the DMCA, “access” and “use” are only equivalent when the circumvented code is protecting all access to an underlying copyrighted work (for example, when CSS is protecting a copyrighted movie on a DVD).<sup>156</sup> Here, Lexmark’s copyrightable printer control software was not encrypted or otherwise protected, so the authorization scheme through the TLP alone did not “effectively control access” to the printer’s software any more “than a lock on the back door would control access to a house if the front door were left open.”<sup>157</sup>

Furthermore, the court held it likely that the checksum on the TLP functioned as a “lock-out” code, making the TLP uncopyrightable.<sup>158</sup> Lock-out codes generally are not copyrightable under the merger doctrine.<sup>159</sup> Because the precise arrangement of instructions in the TLP was necessary to pass the checksum test, the court found that the TLP was not entitled to protection.<sup>160</sup>

*E. Analysis of the Case Law*

Although both circuit courts have ruled in favor of the aftermarket manufacturer, neither case conclusively holds that aftermarket manufacturers are free from DMCA liability. In *Chamberlain*, the Federal Circuit refused to find a DMCA violation because the plaintiff failed to prove lack of authority.<sup>161</sup> Although the court found that DMCA plaintiffs have a “significant burden” of proof to show defendant’s access was unauthorized, it failed to determine whether such a showing would settle the DMCA violation issue.<sup>162</sup> In *Lexmark* the Sixth Circuit instead focused on whether plaintiff’s underlying copyright work was encrypted or otherwise protected.<sup>163</sup> However, it is a simple matter to encrypt such software, and the use of such encryption may change the outcome in a future case dealing with aftermarket products.

Uncertainty in the case law can create significant market confusion, which in turn can lead to higher consumer prices and less innovation by copyright holders and aftermarket competitors. Furthermore, the legislative history of intellectual property law and the DMCA evidences a clear intent to not apply the statute to the aftermarket.<sup>164</sup> Reviewing courts, or Congress itself, must find a way to conclusively limit the scope of copyright holder’s rights under

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<sup>156</sup> *Lexmark Int’l*, 387 F.3d at 546-47; Kramarsky, *supra* note 123.

<sup>157</sup> *Lexmark Int’l*, 387 F.3d at 547; Kramarsky, *supra* note 123.

<sup>158</sup> *Lexmark Int’l*, 387 F.3d at 537-42; Kramarsky, *supra* note 123.

<sup>159</sup> *Lexmark Int’l*, 387 F.3d at 540; Kramarsky, *supra* note 123; *see supra* Part III.A.

<sup>160</sup> *Lexmark Int’l*, 387 F.3d at 540-43; Kramarsky, *supra* note 123.

<sup>161</sup> *Chamberlain Group v. Skylink Techs.*, 381 F.3d 1178, 1194 (Fed. Cir. 2004).

<sup>162</sup> *Id.* at 1193.

<sup>163</sup> *Lexmark Int’l*, 387 F.3d at 546-47.

<sup>164</sup> *See supra* Part III.

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the DMCA to prevent manufacturers from smothering the aftermarket in this anticompetitive manner.

## V. ANALYSIS AND RECOMMENDATIONS

### A. *Application of § 1201(f)*

Arguably, the aftermarket is already protected from the provisions of the DMCA by the reverse engineering exemption of § 1201(f).<sup>165</sup> However, this argument has so far been unsuccessful in court.<sup>166</sup> In the *Lexmark* case, SCC defended itself by claiming a § 1201(f) exemption for interoperability.<sup>167</sup> The district court refused to apply the exemption, finding that SCC's microchip did not qualify as an "independently created computer program" as required by the exemption.<sup>168</sup> The Sixth Circuit, although it ruled in favor of SCC, also failed to apply § 1201(f).<sup>169</sup> Both courts deciding *Chamberlain* refused to reach the § 1201(f) question.<sup>170</sup> As it stands now, there is only one non-binding authority, a 2003 ruling by the Copyright Office, which holds that § 1201(f) applies to all aftermarket products.<sup>171</sup>

While appealing the original *Lexmark* decision, SCC applied to the Copyright Office for a new exemption under § 1201(a)(1)(C), but the Copyright Office refused, noting that "an existing exemption in § 1201(f) addresses the concerns of remanufacturers."<sup>172</sup> Perhaps because of the brevity of the ruling, both *Lexmark* and SCC claimed it as a victory for their side.<sup>173</sup> In one respect, the ruling may show that the Copyright Office agrees with the great majority of commentators that the DMCA was never intended to eliminate aftermarket competition.<sup>174</sup> However, the Copyright Office did not discuss how the § 1201(f) exemption would resolve the "independently created

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<sup>165</sup> See 17 U.S.C. § 1201(f) (2000).

<sup>166</sup> See *Lexmark Int'l*, 253 F. Supp. 2d at 970 (explicitly rejecting the applicability of § 1201(f)).

<sup>167</sup> *Lexmark Int'l*, 253 F. Supp. 2d at 943; Kramarsky, *supra* note 6.

<sup>168</sup> *Lexmark Int'l*, 253 F. Supp. 2d at 958.

<sup>169</sup> See *Lexmark Int'l*, 387 F.3d at 546-47.

<sup>170</sup> See *Chamberlain Group v. Skylink Techs.*, 381 F.3d 1178, 1178 (Fed. Cir. 2004); *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003).

<sup>171</sup> See Copyright Office: Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies, 68 Fed. Reg. 62011, 62017 (Oct. 31, 2003) (to be codified at 37 C.F.R. pt. 201); Kramarsky, *supra* note 6.

<sup>172</sup> Copyright Office, 68 Fed. Reg. at 62017. The Copyright Office did not declare that § 1201(a)(1)(C) could never be applied to protect makers of remanufactured goods, merely that its use was "unnecessary." *Id.*

<sup>173</sup> Ahrens, *supra* note 24.

<sup>174</sup> Copyright Office, 68 Fed. Reg. at 62017; Kramarsky, *supra* note 6.

computer program” requirement which the district court found relevant in *Lexmark*.<sup>175</sup> Moreover, the Copyright Office ruling is non-binding dicta on the federal courts.<sup>176</sup> However, if courts would apply § 1201(f) to DMCA aftermarket cases, it would likely resolve the legal uncertainty consistent with congressional intent.<sup>177</sup>

If § 1201(f) applied to aftermarket competition as the Copyright Office recommended,<sup>178</sup> remanufactured toner cartridges that used a computer program to circumvent an access control would be permitted under an explicit exception of the DMCA, and neither the Copyright Office nor Congress would need to take further action to protect the aftermarket. However, allowing courts to continue to determine the applicability of the DMCA exemptions to aftermarket products on a case-by-case basis could lead to further confusion, higher prices and less innovation. It is also possible that different courts will interpret the statute differently, making DMCA violations dependent on location until a final ruling on the matter by the Supreme Court.

*B. Statutory Clarification Through § 1201(a)(1)(C)*

Section 1201(a)(1)(C) of the DMCA grants the Copyright Office the power to exempt certain technologies from the scope of the DMCA. Congress included this provision because they found it “appropriate to modify the flat prohibition against circumvention of technological measures that control access to copyrighted materials, in order to ensure that access for lawful purposes is not unjustifiably diminished.”<sup>179</sup> If the Copyright Office determines that the DMCA adversely affects users in their ability to make non-infringing use of a particular class of works, then the Copyright Office can conduct a rulemaking proceeding that will exempt the users of the predetermined class of works for the ensuing three-year period.<sup>180</sup>

Because courts have not applied § 1201(f) to DMCA cases involving aftermarket products,<sup>181</sup> the Copyright Office should use the § 1201(a)(1)(C) provisions to explicitly exempt these products. In determining whether to exempt particular works from the statute under § 1201(a)(1)(C), the Copyright Office must examine, among other things, the “effect of circumvention of

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<sup>175</sup> See *Lexmark Int’l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943, 958 (E.D. Ky. 2003).

<sup>176</sup> Copyright Office, 68 Fed. Reg. at 62017; Kramarsky, *supra* note 6.

<sup>177</sup> Kramarsky, *supra* note 6.

<sup>178</sup> Copyright Office, 68 Fed. Reg. at 62017.

<sup>179</sup> H.R. REP. NO. 105-551, pt. 2, at 36 (1998).

<sup>180</sup> Alice Ritchie, *Hanging in the Balance: Fair Use for Digital Works*, 9 U. BALT. INTELL. PROP. L.J. 29, 34-35 (2003).

<sup>181</sup> See *Lexmark Int’l v. Static Control Components, Inc.*, 387 F.3d 522 (6th Cir. 2004); *Chamberlain Group v. Skylink Techs.*, 381 F.3d 1178 (Fed. Cir. 2004).

technological measures on the market for or value of copyrighted works.”<sup>182</sup>

SCC’s application to the Copyright Office is an example of an attempt to utilize the § 1201(a)(1)(C) provisions and receive an automatic exemption from DMCA liability.<sup>183</sup> This attempt was largely symbolic, however, because exemptions under § 1201(a)(1)(C) apply only to § 1201(a)(1) acts of circumvention, not to trafficking in circumvention technology, which is prohibited by § 1201(a)(2).<sup>184</sup> Had SCC won its exemption, it still may not have had the right to sell its chips, but it certainly would have had a stronger argument against Lexmark when the case went to appeal.<sup>185</sup> Nevertheless, the Copyright Office declined to introduce such an exemption.<sup>186</sup> If the Copyright Office maintains this view, Congress itself should amend the DMCA to prevent its harmful and unintended application to the aftermarket.

### C. Congressional Intervention

According to the district court in *Lexmark*, § 1201(f) did not exempt SCC’s microchip because its circumvention of technological access controls was not done with an “independently created computer program.”<sup>187</sup> The district court seemingly required aftermarket manufacturers to create interoperable computer code from scratch, or worse, from some undisclosed percentage of new code as compared to copied code.<sup>188</sup> Although the Sixth Circuit applied the merger doctrine to the TLP and invalidated Lexmark’s injunction,<sup>189</sup> another court could interpret the statutory language similarly to the *Lexmark* district court.

As previously discussed, strictly requiring interoperable computer programs to be independently created is impractical. Very few, if any, aftermarket products which rely on computer programs to interoperate would have an “independently created” computer program, as that requirement was defined

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<sup>182</sup> § 1201(a)(1)(C) (“In conducting such rulemaking, the Librarian shall examine: (i) the availability for use of copyrighted works; (ii) the availability for use of works for nonprofit archival, preservation, and educational purposes; (iii) the impact that the prohibition on the circumvention of technological measures applied to copyrighted works has on criticism, comment, news reporting, teaching, scholarship, or research; (iv) the effect of circumvention of technological measures on the market for or value of copyrighted works; and (v) such other factors as the Librarian considers appropriate.”).

<sup>183</sup> Copyright Office, 68 Fed. Reg. at 62017; Kramarsky, *supra* note 6.

<sup>184</sup> § 1201; Kramarsky, *supra* note 6.

<sup>185</sup> Copyright Office, 68 Fed. Reg. at 62017; Kramarsky, *supra* note 6.

<sup>186</sup> Copyright Office, 68 Fed. Reg. at 62017; Kramarsky, *supra* note 6.

<sup>187</sup> *Lexmark Int’l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943, 965 (E.D. Ky. 2003).

<sup>188</sup> *See id.*

<sup>189</sup> *Lexmark Int’l v. Static Control Components, Inc.*, 387 F.3d 522, 540-43 (6th Cir. 2004).

by the district court in *Lexmark*.<sup>190</sup> Some aftermarket products simply replicate or mimic the access controls themselves, which, as previously discussed, Congress never intended to protect through § 1201(a).<sup>191</sup>

Congress could easily avoid this unintended and impractical result by removing the controversial and seemingly surplus words “independently created” from the language of § 1201(f). The new § 1201(f) would thus read:

(f) Reverse engineering.

(1) . . . [A] person who has lawfully obtained the right to use a copy of a computer program may circumvent a technological measure that effectively controls access to a particular portion of that program for the sole purpose of identifying and analyzing those elements of the program *that are necessary to achieve interoperability of a ~~an independently created~~ computer program with other programs, and that have not previously been readily available to the person engaging in the circumvention*, to the extent any such acts of identification and analysis do not constitute infringement under this title.

(2) . . . [A] person may develop and employ technological means to circumvent a technological measure, or to circumvent protection afforded by a technological measure, in order to enable the identification and analysis under paragraph (1), or *for the purpose of enabling interoperability of a ~~an independently created~~ computer program with other programs, if such means are necessary to achieve such interoperability*, to the extent that doing so does not constitute infringement under this title.

(3) The information acquired through the acts permitted under paragraph (1), and the means permitted under paragraph (2), may be made available to others if the person . . . provides such information or means *solely for the purpose of enabling interoperability of a ~~an independently created~~ computer program with other programs*, and to the extent that doing so does not constitute infringement under this title or violate applicable law other than this section.

(4) For purposes of this subsection, the term “interoperability” means the ability of computer programs to exchange information and of such programs mutually to use the information which has been exchanged.<sup>192</sup>

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<sup>190</sup> Brief of Amicus Curiae Computer & Communications Indus. Ass’n at 5, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003), (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_ccai\\_amicus.doc](http://www.ipjustice.org/skylink/skylink_ccai_amicus.doc).

<sup>191</sup> *Id.* at 6.

<sup>192</sup> 17 U.S.C. § 1201(f) (2000) (emphasis and strikethrough supplied).

This amendment of § 1201(f) would permit any manufacturer, aftermarket or otherwise, to copy protected access control software, but only in very limited situations. By removing the “independently created” language from the statute, Congress would stop courts from worrying about the source of the code in DMCA litigation. Instead, the courts would focus on the important issue of interoperability.

Under the amended § 1201(f) exemption, a printer cartridge manufacturer could “wholesale copy” and then sell a competitor’s killer chip program, as long as the only reason for doing so was to achieve interoperability between the printer and cartridge. On the other hand, outright piracy of the killer chip program (copying it and selling it for its own sake), would still be a violation of the DMCA, as would be any other act of computer software piracy.<sup>193</sup>

Furthermore, under subsection (f)(1) of the amended statute, for a person to circumvent an access control to look at copyrighted code, the interoperability information he is looking for must not be otherwise readily available. If a manufacturer wanted to protect certain code from circumvention and inspection, all it would need to do would be to publicly release those elements which a competitor would find necessary to create interoperable code.

A printer manufacturer could place the elements necessary to interoperate with its killer chips online, and an aftermarket manufacturer would be forced to use that information to create interoperable code. This preemptive release of information by the printer manufacturer would prevent the aftermarket manufacturer from circumventing the access control of the printer program to study other, non-interoperability-related software.

Finally, under subsections (f)(2) and (f)(3) of the amended statute, copying code and trafficking in those copies are only permitted to the extent that the code was copied for the purpose of interoperability.<sup>194</sup> A party who does not need code for interoperability would not be permitted to create copies of copyrighted computer code. For example, an aftermarket manufacturer would be permitted to create interoperable code for printer cartridges, which necessarily interoperate with the original printer. However, a manufacturer could not simply copy a competitor’s killer chip code to create a non-interoperable printer.

Both SCC, the defendant in the *Lexmark* case, and Skylink Technologies, the defendant in the *Chamberlain* case, would be explicitly exempted from DMCA liability by this new version of § 1201(f). Both parties are remanufacturers, and both parties copied a competitor’s code solely and expressly to create an interoperable product that was not independently marketed. This is the correct outcome for both cases because it comports with

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<sup>193</sup> See § 1201(a).

<sup>194</sup> See *supra* pp. 32-33.

congressional intent,<sup>195</sup> while protecting generally consumers from anticompetitive tactics.<sup>196</sup> Furthermore, this amendment of § 1201(f) eliminates the need of courts to answer the difficult questions raised by the *Lexmark* and *Chamberlain* district court opinions.<sup>197</sup>

The requirements of the amended version of § 1201(f) are more than enough to prevent piracy of independently marketed, non-functional works and remove aftermarket products from DMCA liability.<sup>198</sup> This provision would be more consistent with the DMCA than the current version of § 1201(f).<sup>199</sup> By limiting the scope of the amendment and applying it directly to aftermarket products, this statutory amendment would achieve Congress' original intention with the DMCA by permitting circumvention of technological controls for the purpose of aftermarket interoperability. This outcome, preventing piracy of independently marketed, non-functional works, while at the same time permitting the aftermarket to flourish, is more in keeping with the purposes of both intellectual property in general and the DMCA particularly.<sup>200</sup>

## VI. CONCLUSION

Congress passed the DMCA to prevent the pirating of digital copyrighted works and encourage distribution of copyrighted content in digital formats.<sup>201</sup> Yet some companies have brought suit under § 1201 of the DMCA to prohibit aftermarket competition.<sup>202</sup> These companies claim that the computer code they use to verify their own replacement parts is a technological measure

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<sup>195</sup> See *supra* Part III.

<sup>196</sup> See Brief of Amicus Curiae Consumers Union at 7, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003) (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_consumer\\_union\\_amicus.pdf](http://www.ipjustice.org/skylink/skylink_consumer_union_amicus.pdf).

<sup>197</sup> See *Lexmark Int'l*, 253 F. Supp. 2d at 969-970 (raising the question of how much "wholesale" copying is permitted by an aftermarket manufacturer); *Chamberlain Group*, 292 F. Supp. 2d 1023 (raising the question of when implied authority has been given by a copyright holder).

<sup>198</sup> See *supra* pp. 32-33.

<sup>199</sup> See *supra* Part III.

<sup>200</sup> Congress might also consider a mandatory licensing fee for aftermarket circumvention of access controls. This scheme would be similar to the compulsory cover licensing scheme already in place under the Copyright Act. See 11 U.S.C. § 115 (2000). However, any such proposed licensing scheme would likely complicate the rights of copyright holders and access control circumventers, and is well beyond the scope of this Note.

<sup>201</sup> See 17 U.S.C. § 1201 (2000); Brief of Amicus Curiae Law Professors at 3, *Lexmark Int'l v. Static Control Components, Inc.*, 253 F. Supp. 2d 943 (E.D. Ky. 2003) (No. 02-571-KSF), available at <http://www.eff.org/IP/DMCA/20030213-LawProfessorsAmicus.pdf>.

<sup>202</sup> See Lemos, *supra* note 22.

which their competitors circumvent when they create aftermarket products.<sup>203</sup> This application of the DMCA would grant market leaders power to control an ancillary market, increasing the cost of their products with no attendant benefit to the public at large.<sup>204</sup> Additionally, the misapplication of § 1201 to the aftermarket suppresses the incentive for innovation and further limits consumer options.<sup>205</sup> Finally, it is important to recognize that manufacturers can exert this power without the benefit of explicit legal protection; they merely need uncertainty in the law which they can exploit through the use of cease-and-desist letters and the threat of lawsuits.<sup>206</sup>

This result is contrary to the general structure of intellectual property law which channels functional goods, such as aftermarket products, through the more demanding patent application process.<sup>207</sup> Furthermore, the explicit legislative history of § 1201(a), as well as the exemption § 1201(f) and the exemption expansion provisions of § 1201(a)(1)(C), lead to the conclusion that Congress never intended the DMCA to affect the aftermarket.<sup>208</sup>

The two recent court cases which deal with potential DMCA application to the aftermarket, *Lexmark*<sup>209</sup> and *Chamberlain*,<sup>210</sup> have not conclusively resolved the issue. Although the appeals courts have found in favor of aftermarket manufacturers for now, the holding of each case conflicts with the other on important points, and neither case reaches the important questions that manufacturers must know to legally create aftermarket products.<sup>211</sup>

Therefore, this Note suggests that courts should apply § 1201(f) to future aftermarket cases to irrefutably establish that aftermarket products are exempt from the DMCA. The use of this exemption is in keeping with congressional intent and protects consumers by protecting a thriving aftermarket. Barring that, this Note suggests that the Librarian of Congress should craft an exemption under the authority of § 1201(a)(1)(C). However, because this exemption may be too limited in scope and duration,<sup>212</sup> Congress itself may

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<sup>203</sup> See, e.g., *Lexmark Int'l*, 253 F. Supp. 2d at 943.

<sup>204</sup> Brief of Amicus Curiae Consumers Union at 7, *Chamberlain Group v. Skylink Techs.*, 292 F. Supp. 2d 1023 (N.D. Ill. 2003) (No. 02-C-6376), available at [http://www.ipjustice.org/skylink/skylink\\_consumer\\_union\\_amicus.pdf](http://www.ipjustice.org/skylink/skylink_consumer_union_amicus.pdf).

<sup>205</sup> *Id.*

<sup>206</sup> Electronic Frontier Foundation, *supra* note 4.

<sup>207</sup> Karjala, *supra* note 76, at 524.

<sup>208</sup> See *supra* Part III.

<sup>209</sup> *Lexmark Int'l v. Static Control Components, Inc.*, 387 F.3d 522 (6th Cir. 2004).

<sup>210</sup> *Chamberlain Group v. Skylink Techs.*, 381 F.3d 1178 (Fed. Cir. 2004).

<sup>211</sup> Two of the most important unresolved questions are: (i) by what actions does a copyright owner imply authority to copy code, and to whom?, and (ii) will simple encryption of the underlying copyrighted software lead to a finding of “access” as opposed to “use”, and thus a DMCA violation for aftermarket manufacturers?

<sup>212</sup> See § 1201(a)(1)(C).

wish to amend the DMCA to prevent it from reaching unintended results. This Note proposes a relatively simple congressional amendment to § 1201(f) that would adhere to the original intent of the statute.<sup>213</sup> This proposal would permit aftermarket manufacturers, like inkjet cartridge remanufacturers, to produce interoperable aftermarket products, while at the same time maintaining the necessary protection of copyright holders' rights from piracy of non-functional, independently marketed works.

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<sup>213</sup> See *supra* Part V.C.