

**Before the United States Copyright Office
Library of Congress
Washington, D.C.**

In the Matter of)
Exemption to Prohibition on)
Circumvention of Copyright Protection Systems) Docket No. RM 2002-4
for Access Control Technologies)
_____)

**Petition of Static Control Components, Inc.
for Consideration of New Information**

Proposed classes of copyrighted works to be exempted:

1. Computer programs embedded in computer printers and toner cartridges and that control the interoperation and functions of the printer and toner cartridge
2. Computer programs embedded in a machine or product and which cannot be copied during the ordinary operation or use of the machine or product
3. Computer programs embedded in a machine or product and that control the operation of a machine or product connected thereto, but that do not otherwise control the performance, display or reproduction of copyrighted works that have an independent economic significance

Summary of the arguments in support of the exemption proposed above:

Technological measures applied by a manufacturer of computer printers and toner cartridges, Lexmark International Inc., prevent computer printers from interoperating with toner cartridge. Specifically, as alleged in a Complaint filed December 30, 2002, by Lexmark against petitioner Static Control Components, Inc. (“SCC”), firmware in certain Lexmark printers perform a “secret handshake” with a “Toner Loading Program” purportedly located in an EEPROM chip located on a Lexmark toner cartridge. (Complaint attached hereto as Exhibit A) The avowed purpose of this “handshake” authentication is not to protect against access to copyrighted works but rather, according

to a Lexmark employee's sworn declaration, "[t]o prevent unauthorized toner cartridges from being used with Lexmark's T520/522 and T620/622 laser printers," Declaration of Michael Robert Yaro ¶ 7, attached hereto as Exhibit B. In other words, Lexmark concedes the true purpose of this alleged technological protection measure is not to control access to copyrighted works, but to control access by competitors to the aftermarket for the recycling and resale of toner cartridges; not to protect copyrighted expression, but to enforce a marketplace exclusion.

The DMCA was not intended to protect the type of program at issue here. SCC has determined that the purported "program" at issue is a trivial routine consisting of rudimentary instructions and comprising approximately the same quantity of data required to write

Dr. James Hadley Billington, the Librarian of Congress

in ASCII. Such inconsequential functional routines that control the operation of a machine or product, cannot be copied for external purposes, and have no market value independent of the machine or product, are not the type of works that Congress intended Section 1201(a) to protect against circumvention of technological measures.

Moreover, such anticompetitive and exclusionary acts should not be permissible in light of public policies favoring the competitive recycling of used toner cartridges, and against the misuse of copyright to control the market for ancillary goods. In this regard, SCC notes that the European Parliament recently issued a Directive on waste electrical and electronic equipment making it unlawful for manufacturers, such as Lexmark, to incorporate such anticompetitive lock-out mechanisms on their toner cartridges.

Although SCC submits that Counts Two and Three of the Complaint fail to state a cause of action under Section 1201(a), and that in any event SCC's conduct would constitute permissible reverse engineering under Section 1201(f), SCC cannot remain sanguine that a court would agree in this or any future case that might be brought by a printer manufacturer against the cartridge recycling and remanufacturing industry. Furthermore, it is self-evident that Section 1201(a) could be similarly abused in other industry contexts. One readily could envision, for example, an automobile manufacturer applying technological measures to comparably trivial software routines so as to prevent competition in the aftermarket for replacement tires, wiper blades or other automotive parts; or a cell phone manufacturer applying technological measures to replacement batteries, headsets or car adapters.¹

Therefore, SCC proposes exemptions from Section 1201(a) in both the specific class of software at issue in the suit filed against SCC by Lexmark, and in two generic classes of technological measures applied to computer programs embedded in a machine or product and which cannot be copied during the ordinary operation or use of the machine or product; and to computer programs embedded in a machine or product that control the operation of one or more machines or products connected thereto, but that do not otherwise control the performance, display or reproduction of copyrighted works that have an independent economic significance.

SCC respectfully submits that good cause exists to grant this petition, inasmuch as SCC could not reasonably have envisioned that Lexmark would attempt to invoke

¹ Note in this regard the complaint in *Chamberlain Group v. Skylink Technologies*, Civ. Action 02 C 6376 (N.D. Ill. Oct. 16, 2002), in which the plaintiff contends that defendant's universal garage door opener violates Section 1201(a) by circumventing a technological measure to access copyrighted garage door opening software.

Section 1201(a) in this unanticipated and highly inappropriate context until it was served with the Complaint on January 2, 2003.

Comments

Pursuant to the Notice of Inquiry published at 67 Fed. Reg. 63578 (October 15, 2002), Static Control Components, Inc. (“SCC”) requests the Copyright Office to exempt by regulation from the proscriptions of Section 1201(a) three classes of works that control functions performed by hardware. The first class relates to the specific class of technological measures at issue in Lexmark International v. Static Control Components, Case No. 02-571-KSF (E.D. Ky., filed December 30, 2002), namely:

1. Computer programs residing in computer printers and toner cartridges and that control the interoperation and functions of the printer and toner cartridge

Recognizing the potential for similar types of technological measures to be applied in other industry contexts, for similarly anticompetitive purposes, SCC further requests an exemption for two generic classes of works that include the specific measures at issue in the above-referenced litigation, namely:

2. Computer programs embedded in a machine or product and which cannot be copied during the ordinary operation or use of the machine or product; and,
3. Computer programs embedded in a machine or product and that control the operation of one or more machines or products connected thereto, but that do not otherwise control the performance, display or reproduction of copyrighted works that have an independent economic significance

Background to SCC’s Request for Exemption

A robust and substantial market exists in the United States for the recycling and remanufacture of printer toner cartridges by third party “aftermarket” companies. These companies acquire used toner cartridges from various sources (such as printer owners, recycling companies and charitable fundraising organizations), replace worn parts with

new parts, and refill the cartridges with replacement toner. Remanufacturing recycled cartridges extends the life of material that otherwise would be relegated to our nation's landfills. Remanufactured cartridges sell at a lower price to the consumer, with performance on par with the original cartridge. Thus, remanufactured recycled cartridges benefit the consumer by providing lower priced alternatives to the marketplace, and the environment by reducing salvageable waste from electronic equipment. SCC sells replacement parts and toner to companies that remanufacture recycled print cartridges.²

For more than five years, Lexmark (and several other computer printer manufacturers) have deployed numerous strategies to thwart competition from manufacturers and sellers of remanufactured recycled printer toner cartridges, and suppliers of parts to that industry, in an effort to monopolize the market and maintain higher prices for original and replacement cartridges. In the past, computer printer companies have attempted to lock out competition in that aftermarket by changing the physical and mechanical attributes of toner cartridges, and attempting without success to wield patent or trade secret law against third party competitors selling lower-priced recycled and remanufactured cartridges. Typically, introduction of particular design or mechanical features for new model toner cartridges will buy an original printer equipment manufacturer a few months' lead in the marketplace while competitors reverse engineer the new cartridges and design compatible cartridge products. Despite this high-tech game of "cat and mouse," aftermarket competitors successfully have defended against technical and legal challenges to their right to compete in the replacement cartridge marketplace.

² Hence, Lexmark's Complaint in effect attacks the remanufactured cartridge industry as a whole, not just SCC as an individual company.

Recently, however, Lexmark and other printer manufacturers began employing a new tactic in the war against remanufacturers. Lexmark incorporates a semiconductor chip on its new model toner cartridges that, it alleges, performs an authentication or “secret handshake” in response to a cryptographic challenge from the printer firmware. If the toner cartridge chip fails to respond correctly to the printer’s cryptographic challenge, the printer returns an error message indicating that an “unsupported print cartridge” has been installed, and the printer will refuse to function – despite that the cartridge in all other respects is equivalent to the original cartridge, and compatible and interoperable with the printer. Moreover, once the toner in the Lexmark cartridge is depleted, Lexmark printers by design write a code to the cartridge chip designed to prevent cartridge reuse.

SCC reverse engineered the Lexmark chip and developed a replacement toner cartridge chip that permits these one-time use cartridges to be recycled, remanufactured and resold by aftermarket remanufacturers. On October 29, 2002, after seeing the SCC replacement chips at an industry trade show, Lexmark hurriedly filed applications with the Copyright Office to register copyrights in two toner cartridge routines and one printer program.³ On December 30, 2002, Lexmark filed a Complaint against SCC alleging, in pertinent part, that SCC’s chip violates Section 1201(a) by circumventing an effective technological measure (the so-called “secret handshake”) that allegedly controls access to copyrighted works, *i.e.*, a computer program located in the Lexmark toner cartridge chip (Count Two of the Complaint), and the computer program located in the Lexmark printer that interfaces with and controls the toner cartridge (Count Three of the Complaint).

³ Those expedited applications issued as registrations on December 9, 2002, as TX 5-609-284, TX 5-609-285 and TX 5-624-273.

Section 1201(a) Does Not and Should Not Apply to the Proposed Classes.

As an initial matter, SCC believes that an exemption should not be necessary. Congress never intended Section 1201(a) to apply, nor does it apply, to the claims brought by Lexmark.

First, applying Section 1201(a) to the internal functional hardware operations of a computer printer cannot be squared with the purpose of Title I of the DMCA: to secure copyrighted works in digital format against piratical reproduction and redistribution in the online and digital networked environment. The legislative history is devoid of a single suggestion that Congress even remotely considered the possibility that Section 1201(a) might apply in the type of circumstances presented here. The activity targeted by Section 1201(a) is circumvention for the purpose of obtaining a copy of a copyrighted work having an independent market and economic value. As the House Judiciary Committee analogized, the conduct proscribed under Section 1201(a) is “the electronic equivalent of breaking into a locked room in order to obtain a copy of a book.”⁴ Similarly, each of the cases in which a DMCA violation has been found involves the application of a technological measure to protect a work that has an independent economic value.⁵ The Lexmark technological measure, by contrast, does not protect an analogous type of separately-marketed copyrighted work. The toner cartridge routine has

⁴ Section-by-Section Analysis of H.R. 2281 as Passed by the United States House of Representatives on August 4, 1998, 105th Cong., 2d Sess., Committee on the Judiciary Committee Print Serial No. 6 at 5 (Sept. 1998).

⁵ See *Universal City Studios v. Reimerdes*, 273 F.3d 429 (2d Cir. 2001) (motion pictures distributed on encrypted DVD video discs); *CSC Holdings v. Greenleaf Electronics*, 2000 U.S. Dist. LEXIS 7675 (N.D. Ill. 2000) (television programming distributed in encrypted form by cable system); *Real Networks v. Streambox*, 2000 U.S. Dist. LEXIS 1889 (W.D. Wash. 2000) (audio and audiovisual works performed by streaming Internet webcast following authentication protocol); *Sony Computer Entertainment v. Gamemasters*, 87 F.Supp.2d 976 (N.D. Cal. 1999) (copyrighted imported computer games distributed on region-coded CD-ROM).

no market independent of the hardware in which it is embedded, and its functions are inseparable from that of the hardware.

Second, as Lexmark concedes, the true object of its “access control” measure is not access to a copyrighted work but, rather, access by competitors to the market for non-copyrightable, functional objects -- replacement toner cartridges. Granting such protection, as discussed *infra* at 12, would effectively enlist the DMCA to aid and abet copyright misuse and attempted monopolization, purposes far from the mind of Congress when enacting Section 1201(a).

Third, Congress accords the type of embedded computer programs herein at issue fewer protections under copyright law than other types of computer programs. When enacting the Computer Software Rental Amendments Act of 1990, Congress exempted from the scope of the rental, lease and lending right “a computer program which is embodied in a machine or product and which cannot be copied during the ordinary operation or use of the machine or product[.]” 17 U.S.C. §109(b)(1)(B)(i). If Congress viewed the scope of 1201(a) as the equivalent of breaking into a locked room in order to obtain *a copy* of a book, *supra* n.4, Congress could not have intended Section 1201(a) to apply to circumstances, like the Lexmark case, in which the technologically-protected matter cannot be copied.⁶

Notwithstanding, SCC acknowledges that the DMCA is a recent law with little precedential jurisprudence on Section 1201(a) from any circuit and, as noted above, the Lexmark Complaint poses questions of first impression. SCC cannot be sanguine that a court will find Lexmark’s claims to be meritless. While it is clear from the legislative

⁶ In any event, SCC’s reverse engineering activities would not violate the DMCA inasmuch as they fall squarely within the exemption of Section 1201(f).

history that Congress did not consider the remote and truly remarkable proposition that someone might attempt to apply the DMCA to embedded functional software routines, Congress also recognized that it lacked Delphic prescience (or, perhaps, a litigator's creativity) to anticipate all circumstances in which someone might claim protection under Section 1201(a). For that reason, Congress delegated rulemaking authority to the Copyright Office to act as a "fail-safe" mechanism or safety valve so as to grant additional exemptions in appropriate circumstances. Therefore, SCC addresses below the reasons why an exemption from section 1201(a) should be granted with respect to the narrow "species" class of works at issue in the Lexmark Complaint, and the broader "genus" classes of works to which the Lexmark claims belong.

Legal Standards and Justification for the Requested Exemptions

Section 1201(a)(1)(B) provides for an exemption from the Section 1201(a) prohibition for users of a particular class of works whose noninfringing use of the works in the succeeding 3-year period is or is likely to be adversely affected by that prohibition. In making this determination, the Librarian examines the factors set forth in Section 1201(a)(1)(C):

- (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.

Given the highly inappropriate nature of the Section 1201(a) claims lodged by Lexmark, it is cumbersome indeed to address many of the factors suggested here. One readily could restate factors (i) through (iii) to note that the measures within proposed Class 1 have a negative impact upon the availability for use of a computer printer for noninfringing purposes, or within Classes 2 and 3 upon the availability for use of a variety of products and hardware devices as to which the copyrighted work is but incidental to the functions and value of the device as a whole. Notwithstanding, observations such as these serve to emphasize just how inapposite are the Section 1201(a) proscriptions to the classes of works SCC seeks to exempt.

Concerning factor (iv), circumvention of the technological measure has an insignificant effect on the market for or value of the copyrighted works at issue in any proposed class. There is no independent market for such copyrighted work. The work has no value other than the inherent functionality provided by the purchased products and devices in which such works are embedded.

The other significant factor for this comment is the final factor. Important public policy considerations support the requested exemption. The first resonates most strongly for the subject matter of proposed Class 1, but could pertain more generally to applications of technological measures within proposed Classes 2 and 3. The particular technological measure applied by Lexmark contravenes public policies favoring the recycling of waste electrical equipment products that may contain hazardous materials. Absent remanufacturing of computer printer toner cartridges, some 25 million otherwise recyclable cartridges would be dumped annually in public landfills in the United States alone. Trashing recyclable toner cartridges introduces into the environment metals and

chemical products that further contaminate the land and seep into the water table, thus increasing risks to the public health. The depth and immediacy of this policy concern is underscored by the November 8, 2002, adoption by the European Parliament of a Directive on Waste Electrical and Electronic Equipment (“WEEE”) that would have the effect of outlawing use of the type of technological measure applied by Lexmark. More particularly:

- Article 4 of the Directive, covering Product Design, provides, in pertinent part: “Member States shall encourage the design and production of electrical and electronic equipment which take into account and facilitate the dismantling and recovery, in particular the re-use and recycling of WEEE, their components and materials. In this context, Members States shall take appropriate measures so that producers do not prevent, through specific design features or manufacturing processes, WEEE from being reused,”
- Paragraph 14 of the preamble to the Directive similarly admonishes, in pertinent part, that “Producers should not prevent, through specific design features or manufacturing processes, WEEE from being reused,”
- Toner cartridges are specifically called out in paragraph 1 of Annex II of the Directive as having to be separately removed from other waste
- Paragraph 3 of Annex II provides, “Taking into account environmental considerations and the desirability of re-use and recycling, [paragraph 1] shall be applied in such a way that environmentally-sound re-use and recycling of components or whole appliances is not hindered”

These requirements demonstrate the specific intention of the European Parliament to eradicate the pernicious practice by printer manufacturers, including Lexmark, of embedding chips in toner cartridges so as to prevent their reuse.⁷ Our government, as yet, has not adopted an outright prohibition of one-time-use chips equivalent to that of the European Directive on WEEE; nevertheless, United States government procurement laws and environmental policy encourage – indeed, mandate -- the purchasing of

⁷ See Matthew Broersma, “Printer makers rapped over refill restrictions,” <http://news.zdnet.co.uk/story/0,,t269-s2127877,00.html> December 20, 2002.

remanufactured recycled toner cartridges. *See* 42 U.S.C. § 6962(j);⁸ Exec. Order 13101, Greening The Government Through Waste Prevention, Recycling, And Federal Acquisition, Section 601(a) (Sept. 1998);⁹ 40 CFR §§ 247.6, 247.16 (2002). *See also*, GSA Office Products and Services and New Products/Technology - Schedule 75 IIA;¹⁰ “Once is Not Enough: Buying Remanufactured Toner Cartridges,” WasteWi\$e Update, Environmental Protection Agency at 9 (May 1997).¹¹ Government policies that promote acquisition of remanufactured recycled cartridges equally should disfavor efforts by original cartridge manufacturers to technologically limit such cartridges to one-time use only. Therefore, environmental policies support the exemption requested in Class 1.

More broadly, exempting Section 1201(a) protection to works in all proposed Classes will prevent the DMCA from unintentionally legitimizing copyright misuse. The fundamental characteristic of proposed Classes 1 and 2 is that the copyrighted works are wholly incidental to the commercial value of the chattel or service being sold to the public. The doctrine of copyright misuse bars the plaintiff from using its copyright to secure an exclusive right or a limited monopoly not granted by copyright law. *See, e.g., Alcatel USA v. DGI Tech.*, 166 F.3d 772 (5th Cir. 1999); *Lasercomb Am. v. Reynolds*, 911 F.2d 970 (4th Cir. 1990). Section 1201(a) protection over functional works having no

⁸ Subsection (j) provides: “Preference for recycled toner cartridges-- (a) Notwithstanding any other provision of law, a Federal agency in conducting a procurement for toner cartridges for use in laser printers, photocopiers or microphotographic printers shall purchase recycled cartridges,....”

⁹ Section 601(a)(2) provides: “In addition to white paper, mixed paper/cardboard, aluminum, plastic, and glass, agencies should incorporate into their recycling programs efforts to recycle, reuse, or refurbish pallets and collect toner cartridges for remanufacturing.” Subsection 601(b) requires that “Agencies shall set goals to increase the procurement of products that are made with recovered materials, in order to maximize the number of recycled products purchased, relative to non-recycled alternatives.”

¹⁰ Schedule available online at http://www.gsa.gov/Portal/content/offerings_content.jsp?contentOID=118306&contentType=1004

independent economic value would effectively procure for the copyright owner patent-like protection for otherwise unprotectable hardware -- just as Lexmark seeks to leverage its thin software routine copyright into patent-like protection for its toner cartridges. The consequences of such misuse further offend our economic policies by reducing competition, promoting monopolization and, having eliminated lower-priced competitors from the marketplace, increasing prices to the consumer for both original and replacement cartridges. Thus, public policies against copyright misuse and against market monopolization provide additional support for the requested exemptions.

Conclusion

SCC respectfully submits that the requested exemptions should not be necessary. The legislative history of the DMCA makes unmistakably clear Congress' intention to apply Section 1201(a) for the protection of copyrighted works against piratical copying and redistribution over digital networks. Throughout years of discussions leading up to the WIPO treaties, and the debate, hearings and drafting of the DMCA, there is no trace of legislative history indicating that Congress ever considered that the DMCA might be invoked to protect technological measures in the strained and, frankly, bizarre contexts which now face SCC. Should the Copyright Office believe it prudent to address this and similar types of claims through an express exemption under Section 1201(a), SCC

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¹¹ Available online at <http://www.epa.gov/wastewise/pubs/progrpts/pdfs/report6.pdf>

requests that exemption be granted in all three classes proposed above and, at minimum,
in proposed Class 1.

Respectfully submitted,

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