No. 03-5400

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**IN THE UNITED STATES COURT OF APPEALS**
**FOR THE SIXTH CIRCUIT**

**LEXMARK INTERNATIONAL, INC.,**
**Plaintiff-Appellee,**

**v.**

**STATIC CONTROL COMPONENTS, INC.,**
**Defendant-Appellant.**

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**Appeal from the United States District Court**
**for the Eastern District of Kentucky**
**(Civil Action No. 02-571-KSF)**

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# BRIEF AMICUS CURIAE OF COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION IN SUPPORT OF STATIC CONTROL COMPONENTS, INC.

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Dated: July 1, 2003

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**v.**

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**Defendant-Appellant.**

# DISCLOSURE OF CORPORATE AFFILIATIONS AND FINANCIAL INTEREST

Pursuant to Fed. R. App. P. 26 and 6th Cir. R. 26.1, *amicus* the Computer & Communications Industry Association ("CCIA") makes the following disclosure:

1. CCIA is not a subsidiary or affiliate of a publicly owned corporation. It is a non-profit trade association and as such has no parent corporation nor any issued stock or partnership shares of any kind. A complete list of CCIA's members is publicly available at <http://www.ccianet.org/membership.php3#>.
2. Neither the CCIA nor its members have a substantial financial interest in the outcome of this litigation.

Jason M. Mahler

Dated: July 1, 2003

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## INTEREST OF AMICUS

Computer & Communications Industry Association ("CCIA") members participate in many sectors of the computer and telecommunications industry and range in size from small entrepreneurial firms to the largest in the industry.[1] CCIA members believe that computer programs deserve effective intellectual property protection to give developers sufficient incentive to create new programs. At the same time, CCIA is concerned that improper extension of intellectual property law will impede innovation and inhibit fair competition in the information technology ("IT") industry.

CCIA has long supported interpreting the intellectual property laws to permit the development of interoperable products. CCIA filed an *amicus* brief with the U.S. Court of Appeals for the Ninth Circuit in *Sega Enterprises, Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992), which held that the reverse engineering technique known as disassembly was a fair use as a matter of law when it was the only way to obtain functional elements such as the information necessary for achieving interoperability. CCIA also filed an *amicus* brief with that court in *Sony Computer*

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[1] CCIA's current roster of members is available at www.ccianet.org/membership.php3# members.

*Entertainment, Inc. v. Connectix Corp.,* 203 F.3d 596 (9th Cir), *cert. denied,* 531 U.S. 831 (2000), which affirmed its earlier holding in *Sega.* Additionally, when Congress was considering the Digital Millennium Copyright Act ("DMCA"), CCIA advocated the inclusion of an exception permitting circumvention of technological measures during the course of reverse engineering pursued for the purpose of achieving interoperability.

Neither CCIA nor its members have a direct financial interest in the outcome of this litigation. However, an improper interpretation of the scope of copyright protection for interface information, or of the DMCA's interoperability exception, could have serious anticompetitive consequences for CCIA members and the IT industry as a whole.

Filed concurrently with this brief, pursuant to Fed. R. App. P. 29(b), is a Motion for Leave to File Brief *Amicus Curiae* of CCIA In Support of Static Control Components, Inc. ("SCC").

## ARGUMENT

In this litigation, Lexmark attempts to use the Copyright Act, the DMCA, and its position in the computer printer market to thwart competition between its toner cartridges and toner cartridges manufactured (or remanufactured) by other companies. It designed the software embedded in its printer -- the Printer Engine Program ("PEP") -- to permit

the printer to operate only if it recognized the Toner Loading Program ("TLP") embedded in the toner cartridge. Lexmark argues that SCC infringed Lexmark's copyright in the TLP when SCC incorporated copies of the TLP in its chip. Lexmark further argues that SCC's chip violated the DMCA because it circumvented a technological measure that effectively controlled access to the PEP. Unfortunately, the court below agreed with both these arguments. Unless this Court reverses the decision below, other companies will use the Copyright Act and the DMCA to prevent legitimate competition in the IT market.

This brief first addresses the importance of interoperability to the IT industry. It then explains that the courts and Congress have recognized a strong public policy favoring interoperability. This recognition has led courts to withhold copyright protection from program elements necessary for achieving interoperability, and to permit the copying incidental to software reverse engineering. Consistent with the holdings of these other courts, this Court should not impose copyright liability on SCC for copying Lexmark's TLP. Congress also recognized the importance of interoperability when it enacted the DMCA. To prevent precisely the sort of anticompetitive use of the DMCA demonstrated by Lexmark, Congress crafted an exception in Section 1201(f) for the express purpose of

permitting the circumvention necessary to achieve interoperability between two software components. This exception provides SCC with a complete defense to Lexmark's DMCA claims.

## I. INTEROPERABILITY IS CRITICAL TO COMPETITION AND INNOVATION IN THE INFORMATION TECGNOLOGY INDUSTRY

In most copyright industries, there is little relation between intellectual property protection and competition. A film producer, for example, has no justification and little motivation for copying expression from another film (except in certain special cases, such as parody).

Computer products, however, are different. Unlike a film or novel, which stands by itself, a computer product can function only in conjunction with hardware and other software. For example, an application program, such as a word processor, must work together with an operating system in order to perform its task; otherwise, it is a useless set of magnetic impulses. Two computer products can work together—*interoperate*—only if they conform to the same set of rules, or *interface specifications*.[2]

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[2] In this brief, the term interface specifications refers to the rules governing a computer program's interaction with other elements of a computer. The interface specification can be concrete (a specific instruction that initiates an operation) or abstract (the syntax and semantics of permissible inputs). All the interfaces at issue in this case are between computer components. User interfaces – what the user sees on the computer monitor – are not at issue.

If a company could exercise proprietary control over the interface specifications implemented by its products, that company could determine which products made by other firms – if any – could interoperate with its software or hardware. And should that company have a dominant position in a particular market, it could use its control over interoperability to expand its dominant position into adjacent markets. Moreover, such authority would extend the rights under copyright beyond what is necessary to protect the original expressive elements that have traditionally been offered protection under American copyright law.

Such a broad monopoly would have serious implications for consumer welfare.[3] Consumers would not receive the benefit of innovative products introduced by new entrants. Moreover, in the absence of competition during the effective lifespan of the product, the first developer would have little incentive to develop more innovative and less costly products. These negative consequences would be compounded by the fact that the personal computer revolution and the emergence of the Internet have produced an overwhelming need for interconnection between different elements of digital networks. Within a given large corporation, literally

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[3] *See, e.g.,* Peter S. Menell, *An Analysis of the Scope of Copyright Protection for Application Programs*, 41 Stan. L. Rev. 1045, 1082, 1097 n.281 (1989).

thousands of personal computers and workstations scattered across the globe need to interact with each other and with the company's mainframes. Moreover, with the advent of the Internet, users around the world need to exchange vast quantities of data through their computers.[4] Increasingly, computers are being networked with other devices such as personal video recorders and personal digital assistants. Prohibiting competitors from accessing the *de facto* standard interface specifications would lock users into a particular operating system, software platform, or network software environment, and would inhibit the transfer of data between users with different computing environments. *See Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807, 821 (1st Cir. 1995), *aff'd by an equally divided Court*, 516 U.S. 233 (1996)(J. Boudin, concurring).

It should be stressed that interoperable products often are *not* mere "clones" that offer only the same functionality as the products of the first comer, but at a lower price. Even interoperable products that offer similar functionality as the original product typically offer additional features not found in the first comer's products. Thus, they compete with the first comers' products not only in terms of price (indeed, sometimes the

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[4] *See* President's Information Infrastructure Task Force, *Global Information Infrastructure: Agenda for Cooperation,* at 14-16 (Feb. 1995).

interoperable products may be more expensive), but also in terms of innovation. Furthermore, many products that interoperate with other computer products do not mimic the functionality of the original product at all, but fulfill entirely different purposes or needs. In many cases – such as with a computer operating system and applications – these new products rely on the underlying program as a platform. In these respects, interoperable developers' use of preexisting interface specifications is a transformative use of the sort accredited by the Supreme Court in *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994).

## II. THE COURTS HAVE ARTICULATED A STRONG PUBLIC POLICY FAVORING INTEROPERABILITY WHICH PERMITS THE COPYING PERFORMED BY SCC.

In the IT industry, overly broad intellectual property protection directly restricts competition and innovation. Fortunately, the courts in recent years have refused to extend copyright protection to interface information. Moreover, the courts have permitted the copying incidental to reverse engineering performed for the purpose of achieving interoperability. Consistent with the holdings of these other courts, this Court should not impose copyright liability on SCC for copying Lexmark's TLP.

### A. Copyright Does Not Protect Interface Information

When courts first looked at the issue of interoperability, they favored protection of interface information. In 1983, for example, the U.S. Court of Appeals for the Third Circuit suggested that compatibility was a "commercial and competitive objective which does not enter into the somewhat metaphysical issue of whether particular ideas and expression have merged." *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1253 (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984). Under this reasoning, copyright could protect interface specifications.

Starting in 1992, however, courts began to change their perspective. Over the last decade, courts have advanced several different theories as to why interface specifications should not receive protection. Most of these are variants of the idea/expression dichotomy articulated in 17 U.S.C. §102(b). In June 1992, the U.S. Court of Appeals for the Second Circuit in *Computer Assocs. Int'l v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1982), recognized that, as utilitarian works, computer programs are highly constrained by external factors:

> Professor Nimmer points out that "in many instances it is virtually impossible to write a program to perform particular functions in a specific computing environment without employing standard techniques." This is a result of the fact that a programmer's freedom of design choice is often circumscribed by extrinsic considerations

> such as (1) the mechanical specifications of the computer on which a particular program is intended to run; (2) compatibility requirements of other programs with which a program is designed to operate in conjunction; (3) computer manufacturers' design standards; (4) demands of the industry being serviced; and (5) widely accepted programming practices within the computer industry.

982 F.2d at 709-10 (citations omitted). Relying on the *scenes a faire* doctrine, the Second Circuit ruled that similarities resulting from the need to interoperate with other components of a computer system did not constitute copyright infringement.[5] *Id.* Thus, the Second Circuit held that interface specifications were not protected expression, and that a competitor could conform to the rules of intercommunications developed by another vendor without infringing that vendor's copyright.

In September 1992, the U.S. Court of Appeals for the Federal Circuit, citing *Computer Associates*, stated that "the court must filter out as unprotectable . . . expression dictated by external factors (like the computer's mechanical specifications, compatibility with other programs,

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[5] Under the *scenes a faire* doctrine, courts "deny protection to those expressions that are standard, stock or common to a particular topic or that necessarily follow from a common theme or setting. Granting copyright protection to the necessary incidents of an idea would effectively afford a monopoly to the first programmer to express those ideas." *Gates Rubber Co. v. Bando Chem. Indus., Inc.*, 9 F.3d 823, 838 (10th Cir. 1993) (citations omitted).

and demands of the industry served by the program) . . . ." *Atari Games Corp. v. Nintendo of America, Inc.*, 975 F.2d 832, 839 (Fed. Cir. 1992). Both the district court and the Federal Circuit in *Atari* extended protection to Nintendo program elements that currently had no purpose but which Atari argued would be necessary for Atari to achieve compatibility in the future with Nintendo products not yet on the market. The Federal Circuit stated that "[t]he district court did not abuse its discretion by refusing to allow Atari to rely on speculative future events to justify inclusion of unnecessary [Nintendo] program elements in the [Atari] program." *Id.* at 845. The Federal Circuit made it clear, however, that it would not protect program elements necessary to achieve compatibility at the time of the writing of the compatible program.

A month later, the Court of Appeals for the Ninth Circuit expressly recognized that computer programs:

> contain many logical, structural, and visual display elements that are dictated by . . . . external factors such as compatibility requirements and industry demands. In some circumstances, even the exact set of commands used by the programmer is deemed functional rather than creative for purposes of copyright.

*Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1524 (9th Cir. 1993) (citations omitted). Turning to the case before it, the Ninth Circuit concluded that there was a single "key" that unlocked the Sega console: "20

bytes of initialization code plus the letters S-E-G-A." *Id.* at n.7. Given the key's *de minimus* length and the absence of functional alternatives, the Ninth Circuit found the Sega key to be unprotected under copyright. *Id.*

In 1995, the First Circuit in *Lotus Dev. Corp. v. Borland Int'l*, 49 F.3d 807 (1st Cir. 1995), *aff'd by equally divided Court,* 516 U.S. 233 (1996), held that Lotus' 1-2-3 command structure constituted a method of operation unprotected under 17 U.S.C. § 102(b).[6] The court stated:

> The fact that there may be different ways to operate a computer program, or even many ways to operate a computer program using a set of hierarchically arranged command terms, does not make the actual method of operation chosen copyrightable; it still functions as a method for operating the computer and as such is uncopyrightable.

*Id.* at 818. Accordingly, Borland was entitled to use "the precise method of operation already employed" by Lotus. *Id.*

Two years later, the Tenth Circuit built on the *Lotus* ruling in *Mitel, Inc. v. Iqtel, Inc.,* 124 F.3d 1366 (10th Cir. 1997). *Mitel* involved simple codes programmed into communications hardware for facilitating functions such as speed dialing. Mitel was the dominant company in the industry, and the technicians who installed the hardware and software were familiar

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[6] The *Lotus* decision is discussed in greater detail in Jonathan Band, *Lotus v. Borland Through the Lens of Interoperability*, The Computer Lawyer, June 1995, at 1.

with the 60 Mitel commands. Iqtel developed competitive hardware with its own command system. The Iqtel software was capable of understanding the Mitel commands via a translation module, which contained a copy of the Mitel commands. The Iqtel manual also contained a listing of the Mitel commands with a cross index to the Iqtel commands. The district court, following the First Circuit in *Lotus,* held that the Mitel command set was an unprotected method of operation. The court also rested its decisions on grounds that Mitel's commands codes were unoriginal, dictated by external factors and unprotectable under the *scenes a faire* doctrine.

The Tenth Circuit affirmed the district court's ruling. It found all the Mitel commands unprotected. The Tenth Circuit ruled that most of the commands were unoriginal because they were either arbitrary or simply sequential. With respect to the few commands that were slightly original, the court found them unprotected under the *scenes a fair* doctrine. As noted above, under this doctrine, the court excludes from protection those elements of a work that necessarily result from external factors inherent in the subject matter of the work. The *Mitel* court listed the external factors set forth in *Computer Associates v. Altai*: hardware standards and mechanical specifications, software standards and compatibility requirements, computer manufacturer design standards, industry

programming practices, and practices and demands of the industry being serviced. *Id.* at 1375.

The decisions discussed above relied on variations of the idea/expression dichotomy – method of operation, merger, or *scenes a faire* – to reject protection for elements necessary for interoperability. Several other opinions take an even more pragmatic, flexible view. These judges first concluded that the defendant software developers should be permitted to make copies of the plaintiffs' programs to the extent necessary to achieve interoperability, then came up with a theory to justify that result.

Perhaps the clearest example of this approach is Judge Boudin's concurring opinion in *Lotus*. At the outset, Judge Boudin expressed the uneasiness with which federal judges approach questions of copyright protection for functional elements of computer software: "to assume that computer programs are just one more new means of expression, like a filmed play, may be quite wrong. . . . Applying copyright law to computer programs is like assembling a jigsaw puzzle whose pieces do not quite fit." *Lotus*, 49 F.3d at 820. Because software had "mechanical utility," protection under copyright could have the effect of patent protection, *i.e.*, limiting the ability of individuals to carry out a task in the most efficient manner. *Id.* at 821.

Turning to the facts before him, Judge Boudin remarked that "the present case is an unattractive one for copyright protection . . . ." *Id.* Judge Boudin noted that "[t]he menu commands . . . are largely for standard procedures that Lotus did not invent and are common words that Lotus cannot monopolize." *Id.* Further, if Lotus could receive a copyright in its command structure, users who invested in learning Lotus 1-2-3 and writing 1-2-3 compatible macros would be "locked" into Lotus; the copyright would preclude competitors from developing products that could interoperate with the installed base. After explaining the economic inefficiencies of users remaining "captives of Lotus," Judge Boudin concluded that for him, "the question is not whether Borland should prevail, but on what basis." *Id.*

Judge Boudin then considered two alternatives theories. First, he observed that the basis adopted by the Court—treating the command structure as an unprotected method of operation—was "a defensible position." Second, he stated that Borland's use should be "privileged" because "Borland is merely trying to give former Lotus users an option to exploit their own prior investment in learning or in macros." *Id.* Judge Boudin suggested that the fair use doctrine could serve as the source of this privilege. As between the two alternatives, Judge Boudin candidly says

that the majority's "formulation is as good, if not better, than any other that occurs to me now as within the reach of courts." *Id.* at 822.

In sum, based on his understanding of the goals of the Copyright Act and the economics of the software market, Judge Boudin decided that Borland should prevail. Judge Boudin then searched—and found—plausible theories supporting that conclusion.

The Eleventh Circuit in *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532 (11th Cir. 1996), was less obvious about its approach than Judge Boudin, but just as pragmatic. In *Bateman*, the court considered what the trial court should have instructed the jury concerning the copying of elements dictated by compatibility requirements.[7] Defendant Mnemonics on appeal argued that the trial court erred in not directing the jury to filter out those portions of the Bateman operating system dictated by the interface with Mnemonics' application program.

The Eleventh Circuit noted at the outset the critical significance of separating idea from expression in the context of computer programs:

> It is particularly important to exclude methods of operation and processes from the scope of copyright in computer programs because much of the contents of computer

[7] The *Bateman* decision is discussed in greater detail in Jonathan Band, *Interoperability After Lotus v. Borland: The Ball is in the Lower Courts Again*, The Computer Lawyer, March 1996, at 11.

> programs is patentable. Were we to permit an author to claim copyright protection for those elements of the work that should be the province of patent law, we would be undermining the competitive principles that are fundamental to the patent system.

*Bateman*, 79 F.3d at 1541 n.21. The Eleventh Circuit held that the trial court had erred "in not instructing the jury on the legal consequences of copying dictated by compatibility requirements." *Id.* The appellate court explained that other circuits had found "that external factors such as compatibility may work to deny copyright protection to certain portions of a computer program." *Id.* It then stated that "[w]hether the protection is unavailable because these factors render the expression unoriginal, nonexpressive per 17 U.S.C. § 102(b), or whether these factors compel a finding of fair use, copyright estoppel, or misuse, the result is to deny copyright protection to portions of the computer program." *Id.*

In other words, the Eleventh Circuit, like Judge Boudin, first identified its concern — that the copying necessary to the development of interoperable computer software should not be precluded by copyright law — and only then proposed various alternatives for reaching such a conclusion through accepted forms of legal reasoning. And by listing five alternatives, the Eleventh Circuit made clear that it did not much care

which legal theory the lower court used, so long as it reached the right result.

### B. The Copying Incidental To Reverse Engineering Does Not Trigger Copyright Liability.

As demonstrated in the previous section, copyright does not protect interface information. Nonetheless, a company seeking to interoperate must still learn what those interface specifications are. Because computer programs typically are distributed to the public in a form readable only by computers, a program's interface specifications usually are not readily apparent. In some instances, the developer of the program may be willing to provide the interface information to other companies. All too often, however, developers are not willing to provide the information, or the information they provide is tardy or incomplete.[8]

In these cases, the companies seeking to develop interoperable products have no choice but to perform painstaking research on the original program to discern the interface specifications. This research, known as *reverse engineering*, is a basic tool of software product development.

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[8] *See, e.g.,* Jeanette Bozo, *Bristol Has June 1 Date for Microsoft Lawsuit,* InfoWorld Daily News, Jan. 4, 1999; Richard Wolffe, *FTC says Intel Lawsuit 'Vital to Stop Abuse',* Financial Post, June 18, 1998, at 19.

Without reverse engineering, interoperability can be difficult, if not impossible, to achieve.

The U.S. Supreme Court has long recognized that there is nothing inherently wrong with studying a competitor's product to understand how it works and to figure out how to make a better product. Thus, in *Kewanee Oil Co. v. Bicron Corp.,* 416 U.S. 470, 476 (1974), the Court stated that "trade secret law ... does not offer protection against discovery by fair and honest means, such as ... by so-called reverse engineering, that is by starting with a known product and working backward to divine the process which aided in its development or manufacture."

The Court has also recognized the benefits of reverse engineering: "Reverse engineering ... often leads to significant advances in technology." *Bonito Boats, Inc., v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 160 (1989). Further, the Court has noted that "the competitive reality of reverse engineering may act as a spur to the inventor, creating an incentive to develop inventions that meet the rigorous requirements of patentability." *Id.*

Copyright law, however, has the potential of raising obstacles to software reverse engineering. Because of the nature of computer technology, software reverse engineering almost always requires the

making of a reproduction or derivative work. For example, the reverse engineering method known as *disassembly* involves "translating" the publicly distributed, computer readable program into a higher level, human readable form. In another method referred to as *black box reverse engineering*, an engineer observes a program's behavior and interaction with its environment while executing the program on a computer.[9] The computer automatically copies the program into the computer's random access memory (RAM) in order to run it.

The Ninth Circuit's 1992 landmark decision in *Sega v. Accolade* held that "where disassembly is the only way to gain access to the ideas and functional elements embodied in a copyrighted computer program and where there is a legitimate reason for seeking such access, disassembly is a fair use of the copyrighted work, as a matter of law." *Sega*, 977 F.2d at 1527-28. Since then, no less than five U.S. courts have followed *Sega*'s fair use analysis in software reverse engineering cases.[10] Other courts have

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[9] Engineers refer to this method as black box reverse engineering because the externally visible characteristics of the program are observed without looking into the program itself; the actual contents of the program remain unknown.

[10] *Atari Games Corp. v. Nintendo of America, Inc.*, 975 F.2d 832 (Fed. Cir. 1992); *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532 (11th Cir. 1996); *DSC Communications Corp. v. DGI Techs.*, 898 F. Supp. 1183 (N.D. Tex. 1995), *aff'd*, 81 F.3d 597 (5th Cir. 1996); *DSC Communications*

permitted reverse engineering under a copyright misuse theory.[11] *Sega* and its progeny have voiced the same policy rationale: if reverse engineering were not permitted, the developer would receive a monopoly to which it was not entitled. The Ninth Circuit proclaimed that prohibiting reverse engineering would

> preclude[] public access to the ideas and functional concepts contained in those programs, and thus confer[] on the copyright owner a de facto monopoly over those ideas and functional concepts. That result defeats the fundamental purpose of the Copyright Act – to encourage the production of original works by protecting the expressive elements of those works while leaving the ideas, facts, and functional concepts in the public domain for others to build upon.

*Sega*, 977 F.2d at 1527.

Likewise, the Federal Circuit stated:

> To protect processes or methods of operation, a creator must look to patent laws. An author cannot acquire patent-like protection by putting an idea, process, or method of operation in an unintelligible format and then asserting copyright infringement against those who try to understand that idea, process, or method of operation. The Copyright Act permits an individual in rightful possession of a copy of a work to

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*Corp. v. Pulse Communications, Inc.*, 976 F. Supp. 359 (E.D. Va. 1997), *aff'd in part, rev'd in part, and vacated in part,* 170 F.3d 1354 (Fed. Cir. 1999); *Sony Computer Entertainment, Inc. v. Connectix Corp.,* 203 F.3d 596 (9th Cir.), *cert. denied*, 531 U.S. 871 (2000).

[11] *DSC Communications Corp. v. DGI Techs.,* 81 F.3d 597 (5th Cir. 1996); *Alcatel U.S.A., Inc. v. DGI Techs., Inc.,* 166 F.3d 772 (5th Cir. 1999).

> undertake necessary efforts to understand the work's ideas, processes, and methods of operation.

*Atari*, 975 F.2d at 842. And the Fifth Circuit noted that the plaintiff, DSC,

> seems to be attempting to use its copyright to obtain a patent-like monopoly over unpatented microprocessor cards....If DSC is allowed to prevent such copying, then it can prevent anyone from developing a competing microprocessor card, even though it has not patented the card.

*DSC*, 81 F.3d at 601.

The European Union has also recognized the central role reverse engineering plays in maintaining legitimate competition in the computer industry. The 1991 European Union Software Directive contains a specific exception for software reverse engineering.[12] The Directive has been implemented throughout the European Union, as well as in the EFTA countries and throughout Eastern and Central Europe.[13]

Pacific Rim countries share this recognition of the importance of reverse engineering. Recently, Australia, Hong Kong, Singapore, and the

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[12] Council Directive 91/250/EEC on the Legal Protection of Software Programs, Articles 5 and 6 (May 14, 1991), O.J. No. L122/42,44 (May 17, 1991).

[13] *See* Jonathan Band & Masanobu Katoh, *Interfaces on Trial*, at 258-262 (1995).

Philippines have all amended their copyright laws to permit software reverse engineering.[14]

### C. SCC Is Not Liable For Copyright Infringement

Courts across the country have interpreted the copyright laws in a manner that does not frustrate software interoperability. They have withheld copyright protection from program elements necessary for interoperability.[15] Further, they have excused the copying incidental to reverse engineering performed for the purpose of achieving interoperability. While the courts have articulated a public policy favoring interoperability, they have reached these results by following traditional copyright principles such as the idea/expression dichotomy and fair use.

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[14] Ord. No. 92 of 1997 (H.K.); Copyright (Amendment) Bill of 1998 (Sing.); Republic Act 8293 of 1996 (Phil.); Copyright Amendment (Computer Programs) Bill of 1999 (Austl.).

[15] Significantly, the U.S. government took this position in its case against Microsoft. Jonathan Band & Taro Isshiki, *Peace at Last? Executive and Legislative Branch Endorsement of Recent Software Copyright Case Law*, The Computer Lawyer, Feb. 1999, at 1. Additionally, the D.C. Circuit condemned in harsh terms Microsoft's attempt to justify anticompetitive actions by asserting its right to use its intellectual property as it saw fit, so long as those rights were lawfully obtained. *United States v. Microsoft Corp.*, 253 F.3d 34, 63 (D.C. Cir. 2001)(*per curiam*)("That is no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability.")

Application of these principles to the facts of this case compel a reversal of the district court's holding on Lexmark's copyright claim.

The TLP appears to have two functions. First, it functions as a computer program that determines the amount of toner remaining in a toner cartridge. Second, it functions as a "key" that "unlocks" the PEP. SCC Brief at 10-11. In its brief, SCC argues that the TLP, in its capacity as a toner measuring computer program, does not possess sufficient original expression to warrant copyright protection. *Id.* at 46. SCC also argues in the alternative that its copying of the TLP is a fair use because of the TLP's function as a key. *Id.* at 48.

CCIA is not a position to comment on the expressiveness of the TLP in its capacity as a toner measuring computer program. CCIA does, however, agree with SCC's argument that courts must rigorously examine allegedly infringed computer programs to ascertain whether they contain protected expression. *Computer Associates* and its progeny teach that "a programmer's freedom of design choice is often circumscribed by extrinsic considerations" that render many program elements unprotected.[16]

To the extent that the TLP also functions as a key, CCIA is in complete agreement with SCC's fair use argument. It tracks Judge

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[16] *Computer Assocs.*, 982 F.2d at 709.

Boudin's concurring opinion in *Lotus* that Borland's replication of the Lotus command structure was a fair use. But this Court can rely on any of the other theories discussed above, including various aspects of the idea/expression dichotomy or copyright misuse, to reach the same result of no liability.

The fact that the TLP functions as a toner measuring program as well as a key enabling interoperability should in no way dissuade this Court from ruling in favor of SCC. If Lexmark used a highly expressive love poem as the key, SCC should still be allowed to copy it. When the poem functions as a key, the expression in the poem "merges" with its operation as a key, and the poem loses copyright protection. This result is not unjust. Lexmark would have voluntarily elected to use the expressive poem as a functional key. Similarly, Lexmark chose to use its toner measuring program as a key. In other words, Lexmark decided to use the TLP in a fashion that caused the TLP to lose its copyright protection. Indeed, the fact that Lexmark elected to use its toner measuring program as the key suggests that Lexmark was trying to induce legitimate competitors into infringing its copyright. This suggests copyright misuse by Lexmark that excuses SCC's conduct.

## III. SECTION 1201(f) OF THE DMCA PERMITS CIRCUMVENTION FOR THE PURPOSE OF ACHIEVING INTEROPERABILITY

Section 1201 of the DMCA, passed by Congress in October, 1998, implements the provisions of the World Intellectual Property Organization Internet Treaties relating to technological protection measures. Specifically, Section 1201 restricts the development, distribution, and use of technologies that circumvent other technologies that protect an author's copyrights. While the DMCA was pending before Congress, developers of interoperable computer products, including CCIA, explained to Congress that the act of reverse engineering – the uncovering of the interface specifications – could require the circumvention of a technological protection measure. Moreover, the incorporation of these specifications in competitive products could run afoul of the DMCA's prohibition on the manufacture and distribution of circumvention technologies. This would particularly be the case when a company placed a software "lock" on a program that prevented access to the program, and the competitor circumvented that software lock to achieve interoperability. Thus, Section 1201 could prevent a developer of interoperable products from exercising his fair use privileges recognized in *Sega* and its progeny.

Accordingly, Congress created an exception to Section 1201 explicitly directed at the development of interoperable products. Section 1201(f) allows software developers to circumvent technological protection measures in a lawfully obtained computer program in order to identify the elements necessary to achieve interoperability of an independently created computer program with other programs. A person may engage in this circumvention only if the elements necessary to achieve interoperability are not readily available and the reverse engineering is otherwise permitted under the copyright law.[17] Furthermore, a person may develop, distribute, and employ the means to circumvent technological protection measures for the purpose of achieving interoperability.[18] Section 1201(f), therefore, provides a complete defense to Section 1201 liability to qualifying developers of interoperable products. It also provides a defense to users of these products.[19]

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[17] 17 U.S.C. § 1201(f)(1) (1998).

[18] 17 U.S.C. § 1201(f)(2) and (3) (1998).

[19] Section 1201(f) provides an exception to all the prohibitions of Section 1201: Section 1201(a)(1)'s prohibition on the circumvention of access controls, Section 1201(a)(2)'s prohibition on the manufacture and distribution of devices which circumvent access controls, and Section 1201(b)'s prohibition on the manufacture and distribution of devices which circumvent copy controls.

The Senate Judiciary Committee report on the DMCA explains the policy underlying Section 1201(f). It states that this exception was "intended to allow legitimate software developers to continue engaging in certain activities for the purpose of achieving interoperability to the extent permitted by law prior to the enactment of this chapter."[20] The Committee evidently understood that if a company placed on its program a technological measure that prevented interoperability, a legal prohibition on circumventing that technological protection could preclude other companies from developing products capable of operating in that company's computing environment. Citing *Sega*, the Committee states that "[t]he objective is to ensure that the effect of current case law interpreting the Copyright Act is not changed by enactment of this legislation for certain acts of identification and analysis done in respect of computer programs."[21] The Committee concludes by noting that "[t]he purpose of this section is to foster competition and innovation in the computer and software industry."[22]

SCC qualifies for the Section 1201(f) exception. Lexmark controls communication between its TLP and its PEP by means of two

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[20] S. Rep. No. 105-190, at 32 (1998).

[21] *Id.*

[22] *Id.*

authentication sequences. SCC reverse engineered the Lexmark programs to learn how they operate, and then programmed its chips to mimic the sequences. By mimicking the authentication sequences, the program in the SCC chip can interoperate with the Lexmark PEP.

Congress intended Section 1201(f) to permit precisely this sort of activity. Section 1201(f)(1) provides that notwithstanding subsection 1201(a)(1), a person "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 an independently created computer program with other programs...." This provision permits SCC to reverse engineer the Lexmark programs to learn the authentication sequences so that SCC's independently created program can interoperate with the Lexmark PEP.

Further, subsection 1201(f)(2) provides that notwithstanding subsection 1201(a)(2) "a person may develop and employ technological means to circumvent a technological measure ... for the purpose of enabling interoperability of an independently created computer program with other programs, if such means are necessary to achieve such interoperability...." Subsection 1201(f)(3) then provides that these means

"may be made available to others ... solely for the purpose of enabling interoperability...." These provisions permit SCC to manufacture and distribute programs that mimic the authentication sequences.

The court below acknowledged the existence of the Section 1201(f) interoperability exemption. It observed that

> Section 1201(f)(2) and (3) provide that a person may develop a circumvention device and make that circumvention device available to others 'solely for the purpose of enabling interoperability *of 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.*'

*Lexmark Int'l, Inc. v. Static Control Components, Inc.*, 253 F. Supp. 2d 943, 970 (E.D. Ky. 2003) (emphasis in original). The court below, however, concluded that SCC could not take advantage of Section 1201(f) because it infringed the copyright in Lexmark's TLP. This basis for denying the 1201(f) safe harbor dissolves if this Court agrees with the argument in the preceding section that SCC's copying did not constitute infringement.

The court below also suggests that Section 1201(f) does not protect SCC because SCC's chips "cannot qualify as independently created when they contain exact copies of Lexmark's Toner Loading Programs." *Id.* But the record demonstrates that SCC copied the TLP

only because its precise sequence was necessary for interoperability, and that SCC's chip contained original elements other than the TLP. SCC Brief at 33. Thus, this rationale for withholding Section 1201(f) protection dissolves as well.

Lexmark seeks to apply Section 1201 in a manner not intended by Congress. As the Senate Judiciary Committee report makes abundantly clear, Section 1201 is aimed at preventing the dissemination of infringing copies of works over the Internet, because the threat of such dissemination will cause "copyright owners [to] hesitate to make their works readily available on the Internet...."[23] By providing additional protection for works, Section 1201 "creates the legal platform for launching the global digital online marketplace for copyrighted works. It will also make available via the Internet the movies, music, software, and literary works[24] that are the fruit of American creative genius."[25] Clearly, such concerns are not relevant here, and Congress could not have intended for Section 1201 to be used to prevent competition in the toner cartridge market or the

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[23] S. Rep. No. 105-190, at 8.

[24] CCIA also agrees with SCC's argument that Lexmark's protection system did not "effectively" control access" to a "work" within the meaning of Section 1201(a). *See* SCC Brief at 27-32.

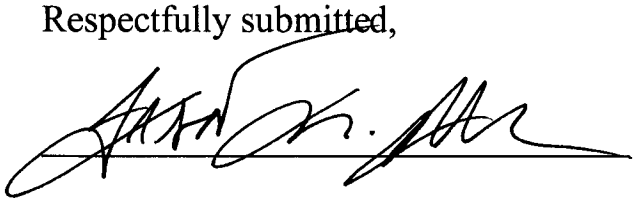
[25] *Id.* at 2.

aftermarket for any other product that interoperates with a copyrighted work. This Court should employ Section 1201(f) to prevent Lexmark from manipulating Section 1201 to lock its laser printer customers into purchasing Lexmark toner cartridges.

## IV. CONCLUSION

Interoperability is critical to competition in the IT industry. In turn, reverse engineering and subsequent use of the interface specifications learned through reverse engineering are critical to achieving interoperability. Courts around the country have concluded that the copyright law does not prevent the copying necessary to achieve interoperability. Further, Congress inserted Section 1201(f) into the DMCA to insure that the prohibition of circumvention of technological protection measures did not interfere with interoperability. This Court should interpret the Copyright Act in a manner consistent with the other courts' holdings and find that SCC did not infringe Lexmark's copyright. This Court should also apply the DMCA's interoperability exception in a manner consistent with Congress's intent and find that SCC did not violate the DMCA. Therefore, CCIA urges this Court to vacate the injunction.

Respectfully submitted,



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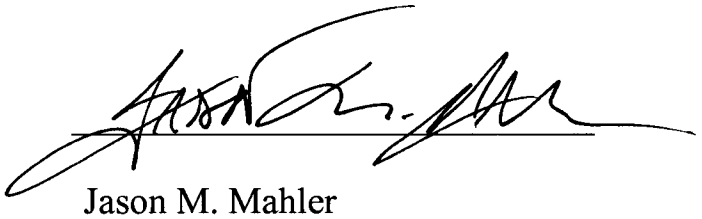
## CERTIFICATE OF COMPLIANCE WITH RULE 32(a)

This brief complies with the type-volume limitations of Fed. R. App. P. 32(a)(7)(B). It contains 6,492 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii).



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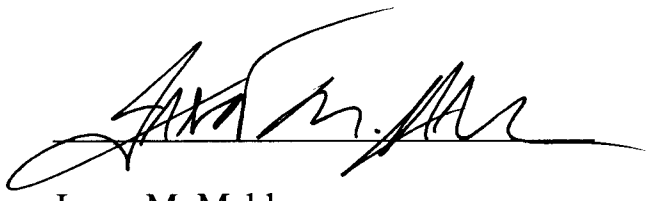

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