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INTRODUCTION

Computer hardware and software are key components in many products we use in our everyday lives. Such products include automobiles, garage door openers, copy machines, DVD players, and countless other electronic devices. Inevitably these devices need
maintenance and repair—tasks that may be performed by either original equipment manufacturers ("OEMs") or independent service organizations ("ISOs"). Competition for maintenance and repair work between OEMs and ISOs benefits both individuals and businesses by lowering costs. The service side of an OEM's business is often quite lucrative. It is therefore not surprising that some OEMs have attempted to use the "monopoly power" of the copyright law to impede competition and secure high profit margins by preventing ISOs from performing maintenance and repair.

The mere act of powering on a computer causes software code to automatically load into the computer's random access memory ("RAM"). This code is often copyrighted. In order to perform maintenance and repair, an ISO obviously must activate the computer. Because activation makes a copy of the program in RAM, some enterprising OEMs have claimed that the initial computer startup with its initial loading of code constitutes copyright infringement. In the 1990's, OEMs had some success restraining ISO competition by obtaining injunctions.1 In response, Congress enacted the Computer Maintenance Competition Assurance Act ("CMCAA"), codified in 17 U.S.C. § 117(c),2 to protect ISOs by exempting them from copyright infringement while engaged in maintenance or repair activities.

Until recently the full coverage and scope of the section 117 maintenance exception had been unclear. Two recent opinions address the scope and coverage of section 117 and construe section 117 as a meaningful exception available not only for one-time repairs but also for continuing maintenance of the kind often conducted on major data storage systems. On August 24, 2005, in a victory for consumers, the United States Court of Appeals for the Federal Circuit, in Storage Tech. Corp. v. Custom Hardware Engineering & Consulting, Inc. ("Storage Tech."),3 held that 17 U.S.C. § 117 excluded from copyright infringement the copying of computer programs by an ISO while performing ongoing maintenance on a computer system.4 In addition, the court further clarified the scope of the Digital Millenium Copyright Act5 ("DMCA") and the law of licensing as applied to copyrights and the DMCA. This decision was

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3. 421 F.3d 1307 (Fed. Cir.), reh'g denied, 431 F.3d 1374 (Fed. Cir. 2005).
4. Id.
followed by a second opinion further explaining the court’s reasoning ("Storage Tech. II").

I. COPYRIGHT LAW AND COMPUTER MAINTENANCE

A. BACKGROUND

In Storage Tech. I, Storage Technology Corporation ("STK") alleged that Custom Hardware Engineering & Consulting, Inc. ("CHE") committed copyright infringement when CHE caused the copying of STK’s copyrighted software while CHE performed maintenance on customers’ data storage systems.

1. STK’s Robotic Tape Libraries

STK manufactures robotic tape libraries that store computer data. These libraries, some of which are referred to as "silos," contain tape cartridges, tape drives, and robotic arms for placing the tape cartridges in the drives. A separate device known as a Library Control Unit ("LCU") controls the robotic arms and the actions within the tape library. A third device called a Library Management Unit ("LMU") manages one or more LCUs. In order to retrieve a tape, a user requests a host computer to send a signal to the LMU, which then sends a signal to the LCU, which in turn directs the robotic arm to find the appropriate tape cartridge. The robot retrieves the tape, places it in a drive and then reports success or failure data to the LCU, LMU, and the host computer in sequence.

STK claims its software is comprised of intertwined "functional" and "maintenance" code. According to STK, the maintenance code diagnoses malfunctions and aids in tape library maintenance. The
“functional” code runs the LCU and the LMU. STK attempts to protect access to the output from this unitary code through the use of a password protection system. When the tape library is powered on, all code, whether functional code or maintenance code, is automatically loaded into the RAM of both the LMU and the LCU. Significantly, even though STK claims the maintenance code does not control the operations of the library system, both the maintenance code and the functional code must be loaded into RAM for the library to function.

2. CHE’s Maintenance Business

CHE is an ISO that competes with STK for maintenance contracts on STK manufactured tape library systems. In order to repair and maintain the libraries, CHE reboots the library system thereby making a copy of STK’s computer code. To diagnose problems with the libraries, CHE uses a hardware device it developed, known as an Enhanced Library Event Manager (“ELEM”) to read data output from the LCU. CHE monitors this data, interprets it, and uses it to both maintain and repair the equipment. During CHE’s maintenance contract, the ELEM checks the library system to ensure operation is free from error. When CHE’s maintenance contract is over the owner’s tape storage library is rebooted, which destroys the copy that was created when the tape library was powered on.

3. STK’s lawsuit against CHE

In October 2002, STK filed suit in the Federal District Court of Massachusetts claiming that the copying by CHE constituted copyright infringement under section 106. CHE argued that 17

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16. *Id.*
17. *Id.*
19. *Id.*
20. *Id.*
21. *Id.* at 1067-68.
22. *Id.* at 1067. The predecessor to the ELEM was the Library Event Manager (“LEM”).
23. *Id.*
24. *Id.*
25. *Id.* at 1067-69.
U.S.C. § 117(c) permitted its copying of the program code. In July 2004, after finding there was a substantial likelihood that STK would prevail on its claim that CHE committed copyright infringement and that CHE was not saved by section 117(c), the district court enjoined CHE from using the ELEM and from making copies of STK's programs.

Fourteen months later, the Federal Circuit vacated the district court's entry of a preliminary injunction against CHE. The court of appeals found that section 117(c) exempted CHE from copyright infringement liability when CHE powered on the equipment (thus causing a copy of STK's program to load from the hard drive to the RAM) at the beginning of a contract and powered off the equipment (destroying the RAM copy) at the contract's end several years later. The court also determined that STK's license to CHE's customers did not exclude a customer's right to appoint CHE as its agent to use the computer programs to perform maintenance. Further, CHE did not violate the DMCA because CHE did not infringe any right of STK protected by copyright.

**B. DEFENSE TO COPYRIGHT INFRINGEMENT UNDER 17 U.S.C. § 117(c)**

Section 106 of the Copyright Act grants owners exclusive rights in their copyrighted works, providing in pertinent part: "[T]he owner of copyright under this title has the exclusive rights to do and to authorize any of the following: (1) to reproduce the copyrighted work [or] (2) to prepare derivative works based upon the copyrighted work . . . ."

In *MAI Sys. Corp. v. Peak Computer, Inc.*, the Ninth Circuit found that an ISO committed copyright infringement when it created a copy of a copyrighted computer program while conducting

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27. *Id.* at *3.
28. *Id.* at *3-6. The district court also found that there was a substantial likelihood that STK would prevail on its claims that CHE's actions violated the DMCA and constituted trade secret misappropriation. *Id.* at *4-5.
30. *Id.* at 1071.
31. *Id.* at 1073.
32. *Id.* at 1074. The Federal Circuit also found that STK's trade secret arguments were unavailing. *Id.* at 1076.
34. *Id.*
In that case the ISO turned on the computer in order to perform maintenance. Powering on the computer caused a copy of the operating program to be loaded into RAM. In affirming the district court’s grant of a permanent injunction against the ISO, the court noted: “[I]t is generally accepted that the loading of software into a computer constitutes the creation of a copy under the Copyright Act.”

Congress passed the Computer Maintenance Competition Assurance Act (“CMCAA”), Title III of the DMCA, as codified in section 117(c), to address the concern that case law and statutory interpretation could destroy the computer maintenance and repair industry. Section 117(c) limits the exclusive rights of owners of copyrights on computer programs under copyright law:

Notwithstanding the provisions of section 106, it is not an infringement for the owner or lessee of a machine to make or authorize the making of a copy of a computer program if such copy is made *solely by virtue of the activation of a machine* that lawfully contains an authorized copy of the computer program, for *purposes only of maintenance or repair of that machine*, if—(1) such new copy is used in no other manner and is destroyed immediately after the maintenance or repair is completed; and (2) with respect to any computer program or part thereof that is *not necessary for that machine to be activated*, such program or part thereof is not accessed or used other than to make such new copy *by virtue of the activation of the machine*.

The Massachusetts district court in *Storage Tech.* found that CHE’s actions did not fall under the protection of section 117(c) because the copies were not made “for purposes *only* of maintenance or repair.” The district court concluded that CHE exceeded the scope of section 117’s protection by making copies not just for repair but also for the purpose of circumventing STK’s password protection system in order to access the maintenance code and intercept the LCU’s data output. Further, the district court decided that because

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36. *Id.* at 519.
37. *Id.* at 518.
38. *Id.*
39. *Id.* at 519.
41. 17 U.S.C. § 117(c) (emphasis added).
43. *Id.*
CHE did not reboot the library system after each repair, and instead used the ELEM to continuously maintain and monitor the system and make repairs over the length of the contract, CHE failed to destroy the copy "immediately after the maintenance or repair."  

On appeal CHE argued that its actions were protected under section 117(c). STK’s counter was that (1) CHE did not destroy the copy of the computer program after its maintenance was completed; (2) the maintenance code was not “necessary for the machine to be activated” so that CHE could not access it without failing section 117(c)(2); and, (3) CHE did not make a copy of the computer program “for purpose only of maintenance or repair.”

1. Destruction of the copy after maintenance completed as required under section 117(c).

As noted above, section 117(c) requires that if a copy of a program is made while maintaining a computer, then the copy must be destroyed immediately after the maintenance is complete. The Federal Circuit found that the district court erred because it focused only on whether CHE’s repairs satisfied the statute and failed to address CHE’s maintenance. The issue was whether CHE’s monitoring during its contract was “maintenance” under the statute such that destroying the copies after completion of the contract would satisfy section 117’s destruction requirement. This required a determination of what constitutes “maintenance or repair” as used in the statute.

In order to determine if CHE’s activities fell under “maintenance or repair,” the Federal Circuit looked to section 117 and its legislative history. Section 117(d) defines maintenance as “the servicing of the machine in order to make it work in accordance with its original specification and any changes to those specifications for that machine.” Repair is defined as “the restoring of the machine to the state of working in accordance with its original specifications and any changes to those specifications authorized for that machine.” The Federal Circuit reasoned that by defining the terms separately and

44. *Id.*
45. *Storage Tech. I, 421 F.3d* at 1068.
46. *Id.*
50. *Id.* (emphasis added).
distinctly Congress must have intended these two terms to encompass two distinct activities.\textsuperscript{51}

Having determined that "maintenance" and "repair" were separate concepts, the Federal Circuit then examined the activities that would fall under each term. The court found guidance in the Senate and House reports. According to the Senate Report, "maintenance" includes "cleaning the machine, tightening connections, installing new components such as memory chips, circuit boards and hard disks, checking the proper functioning of these components, and other similar acts."\textsuperscript{52} In contrast, "repair" is defined as "replacing worn or defective components such as memory chips, circuit boards and hard disks, correcting the improper installation of new components and other similar acts."\textsuperscript{53} The court focused on the language "checking the proper functioning of [the] components," and found that maintenance has "a much broader temporal connotation" such that it is not limited to "fixing a single isolated malfunction" as in the definition of "repair," but includes monitoring computer systems for problems.\textsuperscript{54}

The Federal Circuit further reasoned that interpreting "maintenance" to include monitoring a computer system over a period of time coincides with the purpose behind section 117 stated in the House Report.\textsuperscript{55} Section 117 was enacted "to ensure that independent service organizations do not inadvertently become liable for copyright infringement merely because they have turned on a machine in order to service its hardware components."\textsuperscript{56} The House Report also notes that section 117 was "narrowly crafted" to allow making the copy while performing maintenance, but not to allow a party to claim the protection of section 117 and then use the copy for purposes that exceed maintenance.\textsuperscript{57} The Federal Circuit concluded that the

\textsuperscript{51} Storage Tech. I, 421 F.3d at 1069.
\textsuperscript{52} S. REP. NO. 105-190, at 58 (1998).
\textsuperscript{53} Id.
\textsuperscript{54} Storage Tech. I, 421 F.3d at 1069.
\textsuperscript{55} Id.
\textsuperscript{57} Id. The House Report provides:

The legislation is narrowly crafted to achieve the foregoing objective without prejudicing the rights of copyright owners of computer software. Thus, for example, the amendment does not relieve from liability persons who make unauthorized adaptations, modifications or other changes to the software. The amendment also does not relieve from liability persons who make any unauthorized copies of software other than those caused solely by activation of the machine.
purpose of section 117 would not be furthered by limiting maintenance to "fixing a single isolated malfunction." Rather, "maintenance" could include monitoring over a period of time while still fulfilling the purpose of preventing illicit copying.

The Federal Circuit then examined CHE's activities. It found CHE's uses of its ELEM tool to monitor and fix tape library malfunctions on an ongoing basis while the system operated did not fit under the definition of "repair" because the ELEM devices continued to operate after the system was restored to a "state of working in accordance with its original specifications." Nevertheless, the court found the ELEM was covered by section 117's definition of "maintenance" because CHE "check[ed] the proper functioning" of the libraries and made sure the system "work[ed] in accordance with its original specifications." Therefore, even though CHE's monitoring occurred over an extended period of time, because CHE's activities fell under the definition of "maintenance," CHE satisfied the requirement of destroying the copy "immediately after the maintenance or repair is completed" when it turned the machine off at the end of a maintenance contract.

2. Prohibition of access to maintenance code that is not necessary for computer activation under section 117(c).

Section 117(c)(2) prohibits any use of copyrighted computer programs that are "not necessary for [the] machine to be activated." In order to diagnose tape library errors and prevent errors from occurring, CHE used the ELEM to send a signal to the LCU that caused the LCU to transmit data. This data was then collected and interpreted by CHE to enable it to fix errors or prevent them from occurring. STK claimed that CHE's use of the LCU code to transmit data violated the provisions of section 117(c) because CHE was using a program that was "not necessary for [the] machine to be

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59. *Id.*
60. *Id.*
61. *Id.*
62. *Id.*
64. *Storage Tech. I*, 421 F.3d at 1067.
65. *Id.*
activated.”

In order to determine whether the code was "necessary for [the] machine to be activated," the Federal Circuit first noted that this phrase cannot mean "any" code that resides in a computer's RAM after startup is "necessary for activation." Otherwise, every program would be accessible and the requirement would essentially be read out of the statute. On the other hand, construing the phrase so narrowly as to exclude programs that, for example, allow the computer monitor to function, would conflict with the purpose of section 117 because ISOs would be hindered in performing their service by not having the use of the monitor. The Federal Circuit again found guidance in the House Report.

The House Report states the OEM or owner of a computer can configure the computer to load programs into RAM that may not be necessary to the activation of the computer. Examples of such programs are diagnostic and utility programs or application programs which are separate and distinct from the operating system. Although these "freestanding programs" may be copied into RAM upon startup, section 117 does not permit such programs to be used by the ISO.

The Federal Circuit also looked to the definitions of repair and maintenance in section 117(d). Both definitions contain language indicating that repair and maintenance include keeping the system working "in accordance with its original specifications and any changes to those specifications authorized for that machine." Such language necessarily required that the ISO be able to activate the computer to make sure it "work[ed] in accordance with its original specifications." At the same time, the court cautioned that this language provides no protection to ISO’s who use “freestanding programs” because such use would not be necessary for verifying

66. Id. at 1070.
67. Id.
68. Id.
69. Id.
71. Id.
72. Id. (stating "[i]n order to avoid inadvertent copyright infringement, these programs need to be covered by subsection (c), but only to the extent that they are automatically reproduced when the machine is turned on.").
73. Storage Tech. I, 421 F.3d at 1070.
75. Storage Tech. I, 421 F.3d at 1070.
whether the machine was working "in accordance with its original specifications."\textsuperscript{76}

The Federal Circuit rejected STK's argument that its maintenance code was a "freestanding" diagnostic or utility program not exempt under section 117(c)(2). The court found that STK had designed its maintenance code as a unitary code, inseparably intertwined with the functional code.\textsuperscript{77} Accordingly, the maintenance code was "necessary for that machine to be activated" because it was "so entangled with the functional code that the entire code must be loaded into RAM for the machine to function at all."\textsuperscript{78} Because section 117(c)(2) only restricts access to programs "not necessary for that machine to be activated," CHE's use of the maintenance code was exempt from copyright infringement under section 117(c).\textsuperscript{79}

3. CHE copied for the purpose of maintenance and repair as required under section 117(c).

Section 117(c) also requires that when a copy of a program is made, it must be "for purposes only of maintenance or repair of that machine."\textsuperscript{80} STK argued that CHE's copying of the program was not for the purpose of maintenance and repair, but to gain access to the maintenance code.\textsuperscript{81} The Federal Circuit likened this to arguing that an ISO should not be allowed to activate the computer keyboard to service the computer because the purpose of activating a keyboard would be to allow the ISO to type.\textsuperscript{82} In rejecting this argument, the court reasoned that if such logic was accepted, section 117(c) would provide no protection for ISOs.\textsuperscript{83}

\section*{C. LICENSE AGREEMENTS AND COPYRIGHTS}

1. Background

Generally, OEMs sell the hardware whereas use of the associated

\begin{itemize}
\item \textsuperscript{76} \textit{Id.}
\item \textsuperscript{77} \textit{Id.}
\item \textsuperscript{78} \textit{Id.}
\item \textsuperscript{79} \textit{Id.} It did not matter that STK theoretically could have configured a system where the maintenance code was separate from the functional code. \textit{Id.} Here, STK had not configured the library system to start up without loading both the maintenance and functional code, so what it might have done was beside the point. \textit{Id.}
\item \textsuperscript{80} 17 U.S.C. § 117(c) (2000).
\item \textsuperscript{81} \textit{Storage Tech. I,} 421 F.3d at 1071.
\item \textsuperscript{82} \textit{Id.}
\item \textsuperscript{83} \textit{Id.}
\end{itemize}
software is authorized by granting a license.\textsuperscript{84} That is the model followed by STK. It sells a library system and licenses the programs that operate the system.\textsuperscript{85} In this case, STK's licenses purported to cover the functional code and exclude the maintenance code.\textsuperscript{86} The district court rejected CHE's argument that the licenses provided to its STK library owners allowed them to copy STK's programs because the licenses "simply and explicitly do not encompass the Maintenance Code."\textsuperscript{87} On appeal, CHE argued that because the licenses allowed customers to activate their machines, this created an implicit license for CHE, as the customer's agent, to copy the maintenance code.\textsuperscript{88}

2. Copying of the Maintenance Code is Authorized by the License

Even though STK claimed its license agreements explicitly excluded maintenance code, the Federal Circuit found the license implicitly allowed the copying of the maintenance code.\textsuperscript{89} The licenses allowed customers to use STK's code "for the sole purpose of enabling the specific unit of Equipment for which the Internal Code was provided to perform its data storage and retrieval or other operating function."\textsuperscript{90} The court reasoned that the licenses authorized and exempted from copyright infringement customers who activated the LCU and LMU.\textsuperscript{91} The Federal Circuit then found that CHE was the customer's agent and, therefore, CHE did not commit copyright infringement by activating the LCU and LMU.\textsuperscript{92} Because the license agreement permitted the activation of the equipment, and both the maintenance code and functional code must be copied in order to activate the equipment, the Federal Circuit concluded that the license necessarily allows the copying of the maintenance code.\textsuperscript{93}

\textsuperscript{84} See MAI Sys., 991 F.2d at 517 (manufacturer of computers and designer of software issued licenses to customers for using software on their computers); DSC Commc'ns Corp. v. DGI Techs., Inc., 81 F.3d 597, 599 (5th Cir. 1996) (manufacturer of a phone switch system issued software licenses to its customers).
\textsuperscript{85} Storage Tech. I, 421 F.3d at 1067.
\textsuperscript{86} Id.
\textsuperscript{87} Storage Tech., 2004 WL 1497688, at *3.
\textsuperscript{88} Storage Tech. I, 421 F.3d at 1071.
\textsuperscript{89} Id. See also Storage Tech. II, 431 F.3d at 1377.
\textsuperscript{90} Storage Tech. I, 421 F.3d at 1071 (emphasis added).
\textsuperscript{91} Id.
\textsuperscript{92} Id.
\textsuperscript{93} Id.
3. Use of the Maintenance Code Does not Violate Copyright Law

STK argued CHE committed copyright infringement by using the maintenance code, which STK claimed was explicitly precluded by the license. In a copyright action involving a license, the copying must be outside the scope of the license and "the source of the copyright owner’s complaint must be grounded in a right protected by the Copyright Act, such as unlawful reproduction or distribution." The Federal Circuit concluded that these requirements for infringement were not satisfied. As discussed above, the copying of the maintenance code was within the scope of the license, which precluded an infringement claim with regard to copying by CHE. STK argued that use of the maintenance code was beyond the scope of the license. The Federal Circuit found this argument irrelevant because use of a copyrighted work is not prohibited by the Copyright Act and therefore would not constitute grounds for copyright infringement.

4. Third Parties are Authorized by the License

STK argued that third parties were restricted from copying STK’s program into RAM because its license agreement stated that the library owner could not "sublicense, assign, lease or permit another person to use the Internal Code (except as provided... below)." The Federal Circuit responded to this reasoning by noting that other language in the license stated that library owners “may transfer possession of the Internal Code only with the transfer of the
Equipment on which its use is authorized,” which indicated that the license to copy is tied to the equipment and not the user.\textsuperscript{101} Further bolstering the interpretation that the licenses granted third party use was a version of the license that excluded OEM-provided maintenance if such maintenance was required due to “misuse of the Equipment or negligence by the customer or a third party.”\textsuperscript{102} The Federal Circuit concluded that these clauses did not prohibit third party copying – they simply indicated that the license prohibited providing someone with a copy of the program without transferring the library system to them as well.\textsuperscript{103} Because the license in this case did not explicitly prohibit third parties from powering up the machines, CHE’s copying was within the scope of the license.

II. DIGITAL MILLENIUM COPYRIGHT ACT

Congress enacted the DMCA to make it illegal to decode encryption methods protecting copyrighted works that are available in a digital format.\textsuperscript{104} 17 U.S.C. § 1201(a) states in pertinent part: “No person shall circumvent a technological measure that effectively controls access to a work protected under this title.”\textsuperscript{105}

Prior to \textit{Storage Tech. I}, the seminal Federal Circuit case construing the DMCA was the 2004 decision in \textit{Chamberlain Group, Inc. v. Skylink Techs., Inc.}\textsuperscript{106} Chamberlain manufactured garage door opener systems.\textsuperscript{107} During operation, the user activated a transmitter which sent a radio frequency signal to a receiver.\textsuperscript{108} The receiver processed the signal and directed the motor to open or close the garage door.\textsuperscript{109} To prevent other devices from opening the garage door, the receiver contained a copyrighted program that constantly changed the signal required to open the door.\textsuperscript{110} The transmitter had a computer program that changed its signal to match the signal required by the receiver.\textsuperscript{111} Skylink manufactured replacement garage door

\textsuperscript{101}. \textit{Id.}
\textsuperscript{102}. \textit{Id.}
\textsuperscript{103}. \textit{Id.}
\textsuperscript{106}. 381 F.3d 1178 (Fed. Cir. 2004) (case of first impression interpreting § 1201(a)(2) of the DMCA).
\textsuperscript{107}. \textit{Id.} at 1183.
\textsuperscript{108}. \textit{Id.}
\textsuperscript{109}. \textit{Id.}
\textsuperscript{110}. \textit{Id.}
\textsuperscript{111}. \textit{Id.} at 1183-84.
opener transmitters designed to send signals that cause the software on Chamberlain’s receiver to open the garage door.\textsuperscript{112} Chamberlain sued Skylink for violation of the DMCA, alleging Skylink circumvented its security measures in order to allow customers to access the receiver’s software to open the garage door.\textsuperscript{113}

The Federal Circuit rejected Chamberlain’s DMCA claim on two grounds: (1) the access to its software was implicitly authorized, and (2) there was no copyright infringement or facilitating of copyright infringement.\textsuperscript{114} The court explained that “access” under section 1201(a) must “bear a reasonable relationship to the protections that the Copyright Act otherwise affords copyright owners.”\textsuperscript{115} Further, a violation of section 1201 requires proof of five elements: “(1) ownership of a valid copyright in a work; (2) effectively controlled by a technological measure, which has been circumvented; (3) that third parties can now access; (4) without authorization, in a manner that (5) infringes or facilitates infringing a right protected by the Copyright Act.”\textsuperscript{116} The fifth element is also referred to as the “nexus between access and protection.”\textsuperscript{117} The Federal Circuit focused on the fact that Chamberlain did not restrict the customer’s use of the software through a license, indicating access to the software was implicitly authorized.\textsuperscript{118} The court also found that there was no copyright infringement when the defendant accessed the software to open the garage door.\textsuperscript{119} The Copyright Act prohibits the public from copying a work but does not prevent mere access.\textsuperscript{120} Therefore, there was no “nexus” between the access and copyright protection necessary for a DMCA violation.\textsuperscript{121}

The Federal Circuit left open the questions of the effects of licenses on liability when a technological measure is circumvented in order to gain access to software when that access is permissible under the Copyright Act.\textsuperscript{122} These questions were answered in Storage

\textsuperscript{112} Id. at 1184-85.
\textsuperscript{113} Chamberlain Group, Inc., 381 F.3d at 1181-86.
\textsuperscript{114} Id. at 1204.
\textsuperscript{115} Id. at 1203.
\textsuperscript{116} Id.
\textsuperscript{117} Id. at 1204.
\textsuperscript{118} Chamberlain Group, Inc., 381 F.3d at 1187, 1204.
\textsuperscript{119} Id.
\textsuperscript{120} Id.
\textsuperscript{121} Id.
\textsuperscript{122} Id. at 1202 n.17.
There, the Federal Circuit indicated that, regardless of whether the license may restrict use of the software, the use must violate a right protected by the copyright laws, as opposed to a right protected only by license, in order to sustain a DMCA claim. In the other landmark case that preceded Storage Tech. I, Lexmark Int'l, Inc. v. Static Control Components, Inc., the Sixth Circuit addressed the meaning of “access” when determining whether a technological measure “effectively controls access” under the DMCA. Lexmark is an OEM of printer and toner cartridges. Each toner cartridge contained a Toner Loading Program that calculated the toner level. Each printer contained a Printer Engine Program that controlled printer functions. Lexmark attempted to prevent consumers from using refurbished toner cartridges through an authentication sequence that employed an encryption algorithm present on each printer and toner cartridge. During the authentication sequence, the encryption algorithm on each device generated a code. If the code generated by the printer matched the code generated by the toner cartridge, the printer functioned properly. After the authentication sequence was complete, a copy of the Toner Loading Program was downloaded from the toner cartridge onto the printer in order to measure the toner levels. Static Control Components, Inc., (“SCC”) manufactured microchips that contained an exact copy of Lexmark’s Toner Loading Program and satisfied the authentication sequence, allowing refurbished toner cartridges to work with Lexmark’s printers. Alleging copyright and DMCA violations, Lexmark brought suit to enjoin SCC from selling these microchips to cartridge remanufacturers.

The Sixth Circuit found the DMCA did not apply because Lexmark’s “technological measure,” the authentication sequence, did not effectively control “access” to Lexmark’s Printer Engine Program.

123. 421 F.3d at 1067.
124. Id. at 1074.
125. 387 F.3d 522 (6th Cir. 2004).
126. Id. at 529.
127. Id.
128. Id.
129. Id. at 530.
130. Id.
131. 387 F.3d at 531.
132. Id. at 530.
133. Id. at 531.
and Toner Loading Program.\textsuperscript{134} With respect to the Printer Engine Program, the authentication sequence attempted to prevent the use of the printer, and therefore also the use of the Printer Engine Program, unless authorized Lexmark toner cartridges were used.\textsuperscript{135} The Sixth Circuit found that the meaning of "access" as used in the DMCA was not limited to using the printer, but also included reading or copying the literal code.\textsuperscript{136} Without circumvention of the authentication sequence, anyone who bought the printer could read the literal code of the Printer Engine Program directly from the printer memory and create copies.\textsuperscript{137} Because no circumvention was required to read or copy the Printer Engine Program, Lexmark did not have a "technological measure that effectively controls access to a work protected under [the copyright statute]."\textsuperscript{138} For the same reasons, the DMCA did not apply to the copy of the Toner Loading Program that was downloaded onto the printer after authentication.\textsuperscript{139}

Similar to both Chamberlain and Lexmark, STK's security measures did not prevent copying of code. Instead of focusing on circumvention and the effectiveness of the technological measure in controlling access to the code, as in Lexmark, the Federal Circuit in Storage Tech. I followed Chamberlain and looked to whether CHE circumvented STK's security measures in a manner that "infringes or facilitates infringing a right protected by the Copyright Act."\textsuperscript{140}

STK employed a password protection scheme called GetKey in an attempt to protect its allegedly copyrighted maintenance code.\textsuperscript{141} GetKey was a program independent from the library system software and was kept at STK's headquarters.\textsuperscript{142} Under normal operation while performing maintenance, STK's technicians would call STK's headquarters, provide the equipment serial number, and GetKey would provide them with a password allowing the technician to

\textsuperscript{134} Id. at 547-50.
\textsuperscript{135} Id. at 550. Lexmark offered a discount to consumers who purchased cartridges and agreed under a shrink-wrap license to return the cartridge after one use. Id. The authentication sequence was designed to ensure consumers adhered to this agreement. Id.
\textsuperscript{136} 387 F.3d at 547.
\textsuperscript{137} Id. at 546.
\textsuperscript{138} Id. at 549 (quoting 17 U.S.C. § 1201(a)(2)(B)).
\textsuperscript{139} Id. at 550. The court also disposed of the claim with respect to the Toner Loading Program on the SCC chip because "the SCC chip does not provide 'access' to the Toner Loading Program but replaces the program." Id.
\textsuperscript{140} See Storage Tech. I, 421 F.3d at 1073 (quoting Chamberlain Group, Inc. v. Skylink Techs., Inc., 381 F.3d 1178, 1203 (Fed. Cir. 2004)).
\textsuperscript{141} Storage Tech., 2004 WL 1497688, at *2.
\textsuperscript{142} Id.
access the maintenance code. The technician used the maintenance code to cause the library system to transmit data for diagnosing the malfunction.

STK alleged that CHE circumvented GetKey by using the ELEM (and previously a device known as the "LEM") in order to gain access to the maintenance code. The ELEM replicated the signals that would be sent from the LMU to the LCU to order transmission of data. The code would then transmit data that CHE would interpret to diagnose malfunctions or determine that preventative maintenance steps were in order.

The district court found that CHE violated the DMCA by using the ELEM to circumvent GetKey and cause the LCU to transmit data. The Federal Circuit disagreed. Following its precedent in Chamberlain, the Federal Circuit stated: "To the extent that CHE’s activities do not constitute copyright infringement or facilitate copyright infringement, StorageTek is foreclosed from maintaining an action under the DMCA." As discussed in section II above, the court had already found that CHE’s rebooting of the LCU and LMU (thereby creating a copy of the code) did not constitute copyright infringement. Therefore, STK had to show that CHE’s circumvention using the ELEM facilitated copyright infringement.

The Federal Circuit found that CHE’s use of the ELEM to circumvent GetKey did not facilitate copyright infringement because there was "no nexus between any possible infringement and the use of the circumvention devices." First, use of the ELEM was independent of the copying of the program into RAM when the LMU or LCU was rebooted. In other words, there was no nexus because the possible infringement (when the copy was made) occurs whether the ELEM device is used or not. Second, while CHE used the ELEM to circumvent GetKey in order to transmit data, mere data

143. Id.
144. Id.
145. Storage Tech. I, 421 F.3d at 1067.
146. Id.
147. Id.
149. Storage Tech. I, 421 F.3d at 1074 (emphasis added).
150. Id. ("Even if StorageTek were able to prove that the automatic copying of the software into RAM constituted copyright infringement, it would still have to show that the LEM or ELEM facilitated that infringement.")
151. Id.
152. Id.
153. Id.
transmission would not constitute infringement, therefore precluding the finding of a nexus here as well.154

III. THE FEDERAL CIRCUIT’S DENIAL OF REHEARING

After the Federal Circuit vacated the district court’s grant of a preliminary injunction, STK filed a Petition for Rehearing or Rehearing En Banc.155 This petition was denied in Storage Tech. II.156 In Storage Tech. II, the Federal Circuit enunciated four requirements to establish the maintenance defense under section 117(c) and further explained the basis of its original holding.157 The court stated that section 117(c) exempts an ISO from copyright infringement when it copies a computer program if four requirements are satisfied:

1. the copy is made “solely by virtue of the activation of a machine” that contains an authorized copy of the program,

2. if the copy is made “for the purposes only of maintenance or repair of the machine,”

3. if the new copy is not used in any other manner and is destroyed immediately after the maintenance or repair is completed, and

4. with respect to any computer program or part of the program that is not “necessary for [the] machine to be activated,” the program “is not accessed or used other than to make a new copy by virtue of the activation of the machine.”158

CHE was not precluded from invoking the protection of section 117(c) by the statutory language excepting from protection unauthorized access of programs that are “not necessary for [the] machine to be activated” or by the respective legislative history.159 The court reiterated that in this particular case, because the “maintenance code was so entangled with the functional code,” the maintenance code was “necessary” according to the statutory language.160 STK argued in its petition that the legislative history, specifically the Senate Report, indicated that section 117(c) did not

154. Id.
155. Storage Tech. II, 431 F.3d at 1375.
156. Id. at 1377.
157. Id. at 1375-77.
158. Id. at 1375.
159. Id. at 1376.
160. Id.
protect unauthorized access of "diagnostic and utility programs that load into RAM with or as part of the operating system." STK contended that its maintenance code fit the above description of a "diagnostic" program so that unauthorized access of the maintenance code was not protected by section 117. The Federal Circuit rejected this argument, pointing out that STK ignored the surrounding text, which states that section 117(c) was not intended to affect the OEM's rights regarding programs that "may be loaded into RAM when the computer is turned on, but which did not need to be so loaded in order for the machine to be turned on." Because activation of the library system required the maintenance code to be loaded into RAM, the portion of the legislative history excluding from protection diagnostic programs from protection did not apply to STK's maintenance code.

Additionally, the court's conclusion that the license permitted CHE to copy the maintenance code was based on the court's finding that permission to copy was *implicit* in the license. The court reiterated the holding in its original opinion, stating: "[T]he license provisions must be interpreted to allow the licensees to activate their equipment, and because StorageTek made it impossible to activate that equipment without copying the maintenance code, the license necessarily authorizes the copying of that code."

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161. *Id.* The report provides:

[A]s is made clear in paragraph (c)(2), the amendment is not intended to diminish the rights of copyright owners of those computer programs, or parts thereof, that also may be loaded into RAM when the computer is turned on, but which did not need to be so loaded in order for the machine to be turned on. A hardware manufacturer or software developer might, for example, provide diagnostic and utility programs that load into RAM along with or as part of the operating system, even though they market those programs as separate products—either as freestanding programs, or pursuant to separate licensing agreements. Indeed, a password or other technical access device is sometimes required for the owner of the machine to be able to gain access to such programs. . . . This subsection is not intended to legitimize unauthorized access to and use of such programs just because they happen to be resident in the machine itself and are reproduced with or as part of the operating system when the machine is turned on.


162. *Storage Tech. II*, 431 F.3d at 1376.

163. *Id.* (quoting S. REP. No. 105-190, at 57 (emphasis added)).

164. *Storage Tech. II*, 431 F.3d at 1376.

165. *Id.* at 1377.

166. *Id.*
CONCLUSION

The Federal Circuit decisions in Storage Tech. I and II are a victory for consumers. They apply the protection of 17 U.S.C. § 117(c) not only to ISOs that perform discrete repairs, but also to ISOs that provide a continuous service over the length of a contract. Also, when computers are configured by OEMs to load copies of any program into RAM upon startup, section 117 will preclude copyright infringement or contributory copyright infringement claims against ISOs that later start up the computers in order to perform maintenance. None of this affects the protection of the OEM's works against copying for purposes other than computer maintenance. These decisions thus permit and encourage competition for maintenance—a gain for consumers—while not diminishing the substantive copyright protection of OEM software.

By striking the appropriate balance between the interests of the public and the interest of protecting copyrighted works, these decisions undercut the ability of manufacturers to use the DMCA as a tool to create or maintain monopolies in computer maintenance. Following the precedent set forth in Chamberlain that required an underlying copyright infringement or facilitation of copyright infringement, the Federal Circuit's decision in Storage Tech. I assures that the DMCA cannot be used to create a separate property right. In addition, these decisions prevent the manufacturer from placing restrictive terms in its licenses and then suing a maintenance provider under the DMCA for a violation of the license that would not be a violation of copyright law.

In conclusion, these Federal Circuit decisions are groundbreaking opinions that explain for the first time the maintenance exception under the Computer Maintenance Competition Assurance Act. With respect to the Digital Millenium Copyright Act, the Storage Tech. I decision is a continuation of the precedent set forth by the Federal Circuit in Chamberlain that, while the DMCA creates new potential grounds for liability, it does not create a new property right.