



UNITED STATES COPYRIGHT OFFICE

Long Comment Regarding a Proposed Exemption Under 17 U.S.C. § 1201

ITEM A. COMMENTER INFORMATION

Public Knowledge is a nonprofit organization that is dedicated to preserving the openness of the Internet and the public's access to knowledge, promoting creativity through balanced intellectual property rights, and upholding and protecting the rights of consumers to use innovative technology lawfully. Public Knowledge advocates on behalf of the public interest for a balanced copyright system, particularly with respect to the public's right to repair.

iFixit is an international, open-source, online repair manual for everything. iFixit represents a global community of makers, fixers, refurbishers, tinkerers, and repair professionals. In 2020, iFixit helped over 110 million people repair everything from mobile phones to cars and tractors. An exemption to enable diagnosis, maintenance, and repair of video game consoles is necessary to preserve ownership rights, maintain console owners' right to repair, and to enable iFixit to continue helping people repair the consoles they own.

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Privacy Act Advisory Statement: Required by the Privacy Act of 1974 (P.L. 93-579)

The authority for requesting this information is 17 U.S.C. §§ 1201(a)(1) and 705. Furnishing the requested information is voluntary. The principal use of the requested information is publication on the Copyright Office Web site and use by Copyright Office staff for purposes of the rulemaking proceeding conducted under 17 U.S.C. § 1201(a)(1). NOTE: No other advisory statement will be given in connection with this submission. Please keep this statement and refer to it if we communicate with you regarding this submission.

ITEM B. PROPOSED CLASS ADDRESSED

Class 12: Computer Programs—Repair.

ITEM C. OVERVIEW

Public Knowledge (“PK”) and iFixit submit these reply comments in response to oppositions to PK and iFixit’s request for an exemption to repair video game consoles filed by the App Association,¹ DVD CCA and AACS LA,² and Joint Creators (collectively, “Opposition Commenters”). PK and iFixit do not address other class 12 oppositions in these reply comments, instead limiting these comments to those Opponents who explicitly cite the petition at issue.

ITEM D. TECHNOLOGICAL PROTECTION MEASURE(S) AND METHOD(S) OF CIRCUMVENTION

As stated in our initial comment, “[t]he most common point of failure by far in the recent console generations is the drive for external media storage (including optical discs or game cards).” In order to repair a video game console with a broken optical drive, a console user must circumvent the manufacturer’s TPM in one of two ways: (1) an owner or repair service can use a software tool to unlock the motherboard/optical drive connection, pair the new optical drive, and reseal the lock on the connection; or (2) the owner or repair service can engage in a lengthy process of desoldering, transferring, re-soldering, and reinstalling a small encrypted circuit board (or “daughterboard”) onto the new, functioning optical drive. This second method carries a high

¹ Even though the App Association specifically names PK and iFixit’s request for a TPM circumvention exception for video game consoles in its introductory remarks, it does not address the specifics of PK and iFixit’s filing within its substantive arguments. Instead, the App Association conflates other class 12 petitions with PK and iFixit’s limited video game console exemption petition. Despite the App Association’s failure to address the substance of the video game console petition, PK and iFixit will address the App Association’s concerns to the extent that they may apply to video game console repair.

² Although DVD CCA and AACS LA specifically oppose exemptions to bypass TPMs which control the “Content Scramble System (CCS) used to protect copyright motion picture content on DVDs and the Advanced Access Content System (AACS) used to protect copyrighted motion picture content on Blu-ray Discs,” neither of these are at issue in this petition. However, because much of their argument relies on prior Copyright Office decisions regarding video game console repair, PK and iFixit address their concerns to the extent that they may affect the current application for a TPM circumvention for repairing optical drive-based video game consoles.

risk of permanently damaging the equipment, and only works when both the daughterboard and motherboard are undamaged and functioning.

ITEM E. ASSERTED ADVERSE EFFECTS ON NONINFRINGING USES

I. Introduction

The Copyright Office’s ability to offer exemptions to Section 1201’s anti-circumvention provision provides a necessary safeguard for non-infringing uses of copyrighted works that require circumvention of technological protection measures (“TPMs”) that control access to those works, and that could otherwise run afoul of the statute. But, that section does not grant copyright holders the authority to control the market for repair services for video game consoles or other software enabled devices.³ As the 6th Circuit has held, “[t]he legislative history of the DMCA makes clear that the anti-circumvention provision is not intended to function as a comprehensive ban on all circumvention technologies.”⁴ Where manufacturers use TPMs in a manner that frustrates repair, an exemption is the only means of protection available to users and the public at large who wish to lawfully repair their devices.

Petitioners have repeatedly sought exemptions in past triennial proceedings to enable the repair of lawfully owned, software-enabled devices—including video game consoles. In the current proceeding, PK and iFixit petitioned the Copyright Office for a limited exemption to repair video game consoles with optical drives and now offer these reply comments in response to the oppositions filed by the App Association, DVD CCA and AACS LA, and Joint Creators (collectively, “Opposition Commenters”). These opponents fail to adequately demonstrate why the Copyright Office should deny the limited repair exemption PK and iFixit request: first,

³ See e.g., *Chamberlain Group, Inc. v. Skylink Technologies, Inc.*, 381 F.3d 1178, 1203 (Fed. Cir. 2004).

⁴ *United States v. Reichert*, 747 F.3d 445, 458 (6th Cir. 2014).

contrary to Opposition Commenters' assertions, PK and iFixit presented new evidence warranting an exemption to repair optical drive based video game consoles; second, Opposition Commenters do not address the substance of PK and iFixit's fair use analysis; and third, the concerns raised by Opposition Commenters do not adequately rebut PK and iFixit's statutory analysis. Therefore, the Copyright Office should grant PK and iFixit's request for an exemption to repair video game consoles with optical drives.

II. PK and iFixit Proffered Sufficient New Evidence that an Exemption for Repairing Video Game Consoles is Warranted.

Contrary to the assertions of various Opposition Commenters,⁵ PK and iFixit present sufficient new evidence that a TPM circumvention exemption to repair video game consoles is warranted.⁶ At the outset, Section 1201 does not prohibit a petitioner from requesting an exemption regardless of whether the same petition was brought in earlier proceedings. In fact, this 3 year rulemaking cycle was created by Congress to “ensure that the anti-circumvention provision would continue serving its intended purpose in a rapidly evolving technology industry.”⁷ Congress recognized that as time marches forward, the context and circumstances of whether an exemption to Section 1201's circumvention prohibition is warranted can and will change.

In the last three years, video game technology has greatly evolved. With that evolution, the availability of legacy game consoles has significantly declined, as has the availability of repair services for these legacy consoles.⁸ PK and iFixit repeatedly address the decline of repair options for consoles in our petition for this exemption.⁹

⁵ DVD CCA & AACCS LA Opposition at 6; Joint Creators Opposition at 5.

⁶ See PK & iFixit Initial Comments at 4-5.

⁷ *United States v. Reichert*, 747 F.3d 445, 458 (6th Cir. 2014).

⁸ Kyle Wiens, *Copyright Law is Bricking Your Game Console. Time to Fix That*, Wired (Dec. 11, 2020), <https://www.wired.com/story/copyright-law-is-bricking-your-game-console-time-to-fix-that/>.

⁹ PK & iFixit Initial Comments at 2, 4-5.

Despite evidence to the contrary,¹⁰ the App Association claims that those who want to “fix their own devices have plenty of options available to them.” The only evidence that the App Association offers to support this claim is the continued existence of licensed Apple repair services. However, Apple gaming products are neither relevant to PK and iFixit’s petition, nor are they part of the video game console market. PK and iFixit specifically seek an exemption to allow repairs to video game consoles *with optical drives*—a market in which Apple has no presence. Moreover, this exemption would only apply to video game consoles that have optical drives. Despite the App Association’s broad assertion that repair services are widely available, there are multiple devices—such as the Xbox 360, the Xbox One, and the Xbox One X—for which no official repair options currently exist.¹¹

What *is* relevant is the lack of available repair services for optical drive based video game consoles, such as those offered by Microsoft.¹² The decline in available repair services for older video game consoles exacerbates the adverse impact on console owners who want to fix their devices, and makes it even more necessary that the Copyright Office grant an exemption to allow repairs to optical drive based video game consoles. Without this exemption, legacy gaming consoles risk extinction, not for lack of demand, but simply because TPMs prevent users and third party repair services from making basic repairs to faulty hardware.

¹⁰ *See Id.*

¹¹ As PK and iFixit stated in their initial petition, since the last 1201 proceeding, Microsoft no longer repairs consoles released before the 2016 Xbox One S. Additionally, as of 2019 Microsoft adopted a policy of no longer repairing consoles that it does not actively produce. This means that repair services are no longer available for several Microsoft consoles with TPM-locked optical drives, including the Xbox 360, the Xbox One, and the Xbox One X. PK & iFixit Petition at 4.

¹² *Id.* PK & iFixit Petition at 4.

III. Opposition Commenters Do Not Address the Substance of PK and iFixit’s Fair Use Analysis.

Opposing Commenters fail to address the substance of PK and iFixit’s fair use analysis, but instead rely on nearly decade-old comments by the Copyright Office—made in response to different fair use arguments—to attempt to dismiss the instant fair use arguments outright.¹³ This not only fails to engage the fair use question on the merits, but also ignores the Copyright Office’s more recent positions on the issues of fair use and right to repair.

The current exemption differs from prior exemption petitions in a number of ways. First, unlike 2018 petitioners, PK and iFixit focus *exclusively* on a limited exemption to repair optical drive based video game consoles. In contrast, the 2018 petitioners included multiple exemption requests within the same petition, using the same fair use analysis for all of their requested exemptions.¹⁴

Second, PK and iFixit’s first factor analysis focuses on the Copyright Office’s stated position that repair of a software-enabled good “may be a favored purpose when directed at preserving the functionality of a device.”¹⁵ The 2018 commenters do not raise this point. Notably, Joint Creators themselves admit that “hardware repair that requires the reproduction or modification of copyrighted materials might be non-infringing in some circumstances.”¹⁶ In short, despite Opponents’ attempts to conflate multiple rounds of comments and arguments made over nearly a decade of hearings, the Copyright Office must address the facts and legal

¹³ Joint Creators’ Opposition at 5.

¹⁴ EFF, ORI & ASCDI 2018 Class 7 Initial Comments at 3–10 (asserting fair uses of firmware on various devices).

¹⁵ Copyright Office, *Section 1201 Rulemaking: Seventh Triennial Proceeding to Determine Exemptions to the Prohibition on Circumventions, Recommendation of the Acting Register of Copyrights* 196 (Oct. 2018), https://cdn.loc.gov/copyright/1201/2018/2018_Section_1201_Acting_Registers_Recommendation.pdf (hereinafter 2018 Recommendations), citing Copyright Office, *Software-Enabled Consumer Products: A Report of the Register of Copyrights* 40 (Dec. 2016), <https://www.copyright.gov/policy/software/software-full-report.pdf>.

¹⁶ Joint Creators’ Opposition at 6.

analysis presented currently, during this proceeding, on its own merits. It is not enough to dismiss the present petition because a similar petition was raised in a prior year.

IV. Opposition Commenters Fail to Rebut Petitioners' Statutory Analysis.

Opposition Commenters fail to offer an adequate rebuttal to PK and iFixit's statutory analysis. Section 1201 requires the Copyright Office to consider five factors when determining whether or not to grant an exemption: (1) the availability of copyrighted works; (2) the availability of works for nonprofit archival, preservation, and educational purposes; (3) the impact of a TPM on "criticism, comment, news reporting, teaching, scholarship, or research;" (4) the effect of an exemption on the market for or value of copyrighted works; and (v) other factors the Librarian considers appropriate.¹⁷

With regard to each of these factors, Opposition Commenters fail to adequately rebut PK and iFixit's analysis: (A) granting a repair exemption for video game consoles will not undermine their security in a way that limits the availability of copyrighted works; (B) the requested exemption will increase the availability of consoles for preservation, scholarship, and research; (C) because repairing a video game console does not increase piracy, granting the exemption will not decrease the market for or value of copyrighted works; and (D) repairing video game consoles increases their lifespan, which reduces the environmental harms of e-waste. Therefore, the concerns raised by Opposition Commenters are immaterial and do not refute Petitioners' statutory analysis.

¹⁷ 17 U.S.C. § 1201(C)(i-v).

A. The Requested Repair Exemption Does Not Impact A Video Game Console’s Security in a Manner that Will Undermine the Availability of Copyrighted Works.

Opposition Commenters claim that granting the limited exemption to repair optical drive based video game consoles proposed by PK and iFixit will “undermine the security of consoles,”¹⁸ which they assert (without evidence) will in turn limit the availability of copyrighted video games.¹⁹ Not only are these claims unsubstantiated, but they misconstrue both the scope of the exemption proposed and the security structure of video game consoles themselves.²⁰ Moreover, it is likely that a robust repair exemption would *increase* the availability of copyrighted works, including expressive works contained in video game media, by allowing device owners to continue using their consoles and regain legal access to their purchases.

First, to reiterate, the proposed exemption—to unlock the functional code that prevents a device owner from repairing or replacing an optical drive—is extremely limited in scope. This copyrighted code is *functional*, and not expressive in nature, which weighs in favor of fair use.²¹

Second, a video game console will only function if the two portions of the console “unlocked” by repair, the motherboard and optical drive, are “re-locked.” If this one point of repair-based circumvention is not restored in its totality after repair, then the user will lose access not only to games requiring an optical drive, but any content stored on the device itself. Rather than reducing the security of the device, effective repair *requires* that the pre-repair and post-repair level of security remain identical.

¹⁸ Joint Creators Comment at 3.

¹⁹ *Id.*; DVD CCA and AACS LA cite only the Copyright Office’s 2012 reasoning that a repair exemption for video game consoles *may* disincentive video game developers from creating games.

²⁰ DVD CCA & AACS LA Opposition at 16.

²¹ Copyright Office, *Software-Enabled Consumer Products: A Report of the Register of Copyrights* 40 (Dec. 2016), <https://www.copyright.gov/policy/software/software-full-report.pdf>.

Finally, allowing repairs will give users enduring, lawful access to content that they have legally purchased and licensed from creators, while also enabling them to legally purchase and play new content on their repaired console. This, in turn, will increase the availability of copyrighted works that can be used by the owners of the old, currently unrepairable, consoles. Hence, allowing users to circumvent TPMs for the purposes of repair does not impair a device's security in a manner that undermines the availability of copyrighted works.

B. Granting an Exemption to Repair an Optical Drive Based Video Game Consoles Will Increase the Availability of Consoles for Long Term Preservation, Scholarship, and Research.

Preventing console owners from repairing their devices will limit and, in some cases, eliminate access to older devices that could inspire, educate, and inform the growth and development of the gaming industry. In order to create and enhance products, people must have the opportunity to learn from existing, functional consoles to understand the mechanics behind the product, the electrical systems within it, and how the particularities of a specific console impact the experience of gaming itself.

Opposing Commenters reiterate their unsubstantiated concerns that a limited repair exemption will increase piracy.²² This is unconvincing for a number of reasons. First, exemptions are necessarily purpose-limited; circumvention for the purposes of piracy have always been—and will always remain—outside the scope of exemptions. The tired assertion that any exemption (no matter how narrow or purpose-limited) will somehow legitimize piracy, or open the floodgates to a wave of bad actors, ignores the legal, practical, and historical reality of this proceeding and its outcomes. Moreover, the unfounded paranoia that any exemption may *theoretically* lead to an uptick in piracy does not, and should not, take priority over the language

²² Opposing Commenters' concerns regarding privacy are further addressed in Section IV(C) of these Reply Comments at 10-11.

of the statute, the motivating purpose of these hearings, or the traditional and non-traditional educational needs of future generations. Such “piracy paranoia” seriously impacts scholastic opportunities by eliminating opportunities for groups ranging from children in non-profit STEM programs dedicated to teaching coding and development; to tech-savvy entrepreneurs; to college students seeking to develop the hands-on experience necessary to land a dream job in the gaming industry.

C. The Market for or Value of Copyrighted Works Will Not Decline If an Exemption is Granted Because Repairing a Video Game Console’s Optical Drive Does Not Increase Piracy.

Opposing Commenters conflate PK and iFixit’s limited exemption request with a free pass to commit piracy.²³ Although Commenters illustrate the harms associated with piracy,²⁴ they do not address how granting the specific exemption at issue will result in increased piracy. Not only does the exemption requested fail to alter the hefty legal consequences for pirating copyrighted material, it also does not alter the security of a video game console in a way that would help pirates commit their crimes. In fact, as previously discussed, the repair exemption requested will only work successfully if a device is returned to the same locked state after a repair is made.²⁵ Thus, although Commenters have valid concerns regarding piracy in general, they do not offer any evidence that granting this exemption will impact the market for copyrighted works by increasing piracy.

Furthermore, allowing circumvention will not affect the market for a console’s embedded software because there is no independent market for the device firmware and no evidence that

²³ See, e.g., Joint Creators Opposition at 6 (“Bypassing console TPMs for purposes of repair enables unauthorized access to and use of works distributed through consoles, including television programs, movies, and sound recordings.”).

²⁴ See, e.g., *id.* at 3.

²⁵ Section IV(A) of these reply comments, at 8.

there will ever be. In fact, allowing circumvention will increase the market for the copyrighted games that users of these older consoles can enjoy.

D. An Exemption to Repair Optical Drive Based Video Game Consoles Will Decrease E-Waste by Expanding the Lifespan of a Console.

If the Copyright Office chooses to consider the environmental impact of offering an exemption to repair video game consoles, then it should find that this factor favors granting the exemption. Pure logic dictates that if you can repair something it remains useful for longer and therefore decreases its contribution to waste. Even Joint Creators recognizes that the lifecycle of a console “is more likely to continue if repairs are performed.”²⁶ This same logic applies to repairs made by users and third party repair services. What Joint Creators fails to address is what happens to the life cycle of a console when manufacturers no longer offer repair services—an issue of particular concern, since the Copyright Office is unable to force console manufacturers to offer such repair services, and manufacturers have been unreliable in supporting older consoles.

Moreover, contrary to Joint Creators’ unfounded claims,²⁷ video game consoles do not have long life cycles,²⁸ nor are they easily recyclable.²⁹ Current electronic recycling efforts fall

²⁶ Joint Creators’ Opposition at 7.

²⁷ Joint Creators’ assertion that video game consoles have long lifespans and are easily recyclable is, notably, presented entirely without citations. Joint Creators’ Opposition at 7.

²⁸ In recent years, Microsoft has released new Xbox systems with as little as 1 year in between models. *See All Xbox Console Models & Generations Ever Released* (2001-2021), Altar of Gaming (Jan. 1, 2021), <https://altarofgaming.com/xbox-console-list/>.

²⁹ *See* Cecilia D’Anastasio, *Next-Gen Gaming is an Environmental Nightmare*, Motherboard (Oct. 15, 2020) (“As specialty electronics, consoles are notoriously difficult to recycle. With parts soldered onto circuit boards, consumers can’t really upgrade them when their specs are out of vogue, like, say, when a new generation launches. So a lot of the time they end up in landfills, where their chemicals and plastics are introduced into the environment—the fate of single-use electronics.”) <https://www.wired.com/story/xbox-playstation-cloud-gaming-environment-nightmare/>; *See also* Greenpeace, *Leading Game Console Manufacturers Fail Greenpeace’s Green Electronics Test*, Greenpeace news (July 6, 2010) (“The game consoles market is one of the fastest growing in consumer electronics with over 60 million sold and 14 percent growth last year. They not only contain hazardous chemicals but also contribute to the fastest growing type of waste – e-waste.”), <https://www.greenpeace.org/usa/news/leading-game-console-manufactu/>.

far short of addressing the monumental impact of e-waste on our environment. In 2019, the United States generated 6.918 kt of e-waste, but only 15% was properly recycled.³⁰ As the 2020 Global E-waste Monitor Report (“2020 GEM Report”) explained, even though 75-80% of the US population is covered by some form of e-waste management legislation, “many areas of the country, including states covered by laws, do not have convenient collection opportunities.”³¹ Even though some companies offer consumers the ability to recycle their devices, these programs are not currently sufficient to address the e-waste problem as it exists today. The 2020 GEM Report shines a light on the severity of the e-waste problem and demonstrates that prolonging the life of electronic devices, such as video game consoles, still remains a critical component to addressing this important environmental issue.

V. Conclusion

Opposing Commenters fail to adequately demonstrate why the Copyright Office should deny the PK and iFixit’s request for an exemption to repair optical drive based video game consoles. First, petitioners present new evidence demonstrating the increased need for an exemption, particularly the declining availability of repair services for legacy consoles. Second, Opposing Commenters do not address the substantive arguments presented by PK and iFixit under a fair use analysis. Finally, concerns raised by Opposition Commenters fail to appropriately refute the statutory analysis of PK and iFixit’s petition. Therefore, the Copyright Office should grant the petitioners’ requested limited exemption for repairing video game consoles with optical drives.

³⁰ Vanessa Forti, Cornelis Peter Baldé, Ruediger Kuehr, & Garam Bel, *The Global E-waste Monitor 2020: Quantities Flows, and the Circular Economy Potential*, United Nations University & United Nations Institute for Training and Research, 72 (2020), https://www.itu.int/en/ITU-D/Environment/Documents/Toolbox/GEM_2020_def.pdf.

³¹ *Id.*

DOCUMENTARY EVIDENCE

None Attached