

UNITED STATES COPYRIGHT OFFICE



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

Please submit a separate comment for each proposed class.

Check here if multimedia evidence is being provided in connection with this comment

ITEM A. COMMENTER INFORMATION

DVD Copy Control Association

The DVD Copy Control Association (“DVD CCA”), a not-for-profit corporation with its principal office in Morgan Hill, California, licenses the Content Scramble System (“CSS”) for use in protecting against unauthorized access to or use of prerecorded video content distributed on DVD discs. Its licensees include the owners of such content and the related authoring and disc replicating companies; producers of encryption engines, hardware and software decrypters; and manufacturers of DVD players and DVD-ROM drives.

Advanced Access Content System Licensing Administrator

The Advanced Access Content System Licensing Administrator, LLC (“AACS LA”), is a cross-industry limited liability company with its principal offices in Beaverton, Oregon. The Founders of AACS LA are Warner Bros., Disney, Microsoft, Intel, Toshiba, Panasonic, Sony, and IBM. AACS LA licenses the Advanced Access Content System (“AACS”) technology that it developed for the protection of high definition audiovisual content distributed on optical media. That technology is associated with Blu-ray Discs. AACS LA’s licensees include the owners of such content and the related authoring and disc replicating companies; producers of encryption engines, hardware and software decrypters; and manufacturers of Blu-ray disc players and Blu-ray disc drives.

As ultra-high definition products are entering the marketplace, AACSLA has developed a separate technology for the distribution of audiovisual content in ultra-high definition digital format. This technology is identified as AACSLA2, and not AACSLA 2.0. This distinction in nomenclature is significant, as the latter would suggest that it replaced AACSLA distributed on Blu-ray. It has not. AACSLA2 is a distinct technology that protects audiovisual content distributed on Ultra HD (UHD) Blu-ray discs, a distinct optical disc format which will not play on legacy (HD) Blu-ray players. To the extent a proposal mentions CSS and/or AACSLA, but does not explicitly include AACSLA2, such mention should not be inferred to include AACSLA2. Indeed, AACSLA2 is not subject to the proposed exemptions put forward by any Class 12 proponents.

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ITEM B. PROPOSED CLASS ADDRESSED

Proposed Class 12: Computer Programs—Repair

ITEM C. OVERVIEW

For the reasons stated below DVD CCA and AACSLA object to the expansion of the exemption.

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

The TPMs of concern to DVD CCA and AACS LA are the Content Scramble System (“CSS”) 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.

ITEM E. ASSERTED ADVERSE EFFECTS ON NONINFRINGING USES

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I. *Introduction*

DVD CCA and AACS LA object to an exemption permitting circumvention of TPMs for the purpose of either repair or modification of their licensed devices that play back protected copies of audiovisual works, including motion pictures. As explained below, modification of software-enabled devices implicates the right in derivative works that rightsholders have in the device's controlling software or firmware, and the precedent of this proceeding generally does not permit modification for that very reason. While that precedent will allow repair of devices to restore the original functionality of an exemption, the "repair" exemption does not extend to devices that provide access to other, expressive copyrighted works such as video game consoles. Although proponents seek to reverse the Register's prior decision not to permit repair of video game consoles, they have not provided compelling argument for the Register to reconsider her past decision. Finally, the precedent of repair of video game consoles is particularly relevant to DVD and Blu-ray players, because players provide access to motion pictures just like video game consoles provide access to video games. For that reason, repair or modification of DVD and Blu-ray players cannot be found to be either noninfringing or warranting an exemption under the statutory factors, as any such activity may interfere with the intentional design and functionality limitations that manufacturers of players have put in place in order to comply with the robustness and compliance rules. As explained below, these integral rules serve as a comprehensive framework to the content protection system employed with the distribution of copies of motion pictures distributed on DVD and Blu-ray discs.

A. Robustness and Compliance Rules Are Integral to the Content Protection System

DVD and Blu-ray players are an integral aspect of a secure digital ecosystem promoting the distribution of high-quality content to consumers. To preserve the integrity of the system, manufacturers must build their playback devices in compliance with requirements that these devices resist “attacks” that jeopardize the technological protection measures employed to protect the content or that would otherwise permit access to the product’s signal when content is “in the clear” (unencrypted) passing from one device element to the next. These requirements are set forth in what are generally called “robustness rules”. An exemption permitting circumvention of TPMs for the purpose of modification of these devices could – intentionally or even unintentionally – undo those manufacturer design elements, which manufacturers developed in compliance with the robustness rules, leaving the technological protection measures compromised and/or the unencrypted content exposed.

The integrity of the digital ecosystem also depends on preserving the particular distribution offering that rights holders have intended to offer to consumers. For example, digital copies of motion pictures distributed on DVD or Blu-ray discs should not “leak” into other distribution models and displace other offerings rights holders intend to exploit. Accordingly, manufacturers wanting to participate in a particular distribution platform such as the production and sale of DVD or Blu-ray disc players agree to rules governing how these products will handle the content entrusted to their products, namely by specifying some boundaries regarding the products’ functionality. For instance, such rules might require that any decrypted content going out certain outputs (*e.g.*, unprotected analog outputs) be at something less than the maximum possible audio and/or video resolution. These requirements prescribing how protected content should be handled, which in some ways may limit the functionality of manufacturers’ products to something less than

the maximum they would otherwise be capable of, are embodied in what are referred to as “compliance rules”. The compliance rules are intended to keep copies of copyrighted works distributed on any one particular platform from swallowing up other distribution models as well as to prevent unauthorized copies of the TPM-protected copyrighted works from being made.

As a device modification can undo the design elements required under the robustness rules, a modification can also disregard limitations and enable unauthorized functionalities that are contrary to the compliance rules. Both results upset the careful licensing arrangement between rights holders and manufacturers and ultimately introduce unnecessary risks that threaten the digital ecosystem. Consequently, any exemption that would permit modification of DVD or Blu-ray playback products is extremely harmful, and, if a modification exemption is nonetheless warranted for other reasons, then the Register should refine any exemption permitting device modification to exclude these products and other products intended for the lawful access to copyrighted works.

II. *The Proposed Class Does Not Constitute A Proper Class*

Proponents’ request, which seeks to expand the current “repair” exemption to include modification, is unclear. The current exemption permitting circumvention of software-enabled devices for the purpose of diagnosis, maintenance, and repair does not extend to circumvention when it is “done for the purpose of gaining access to other copyrighted works.” While this limitation may be tolerable in the context of repair, the limitation would be inadequate if the exemption were extended to modification. Proponents provide examples of modifications that are indeed for the purpose of gaining access to (*i.e.*, making use of) copyrighted works, and the current formulation of the limitation makes distinguishing an authorized purpose from an unauthorized purpose impossible because both purposes can arguably be present under proponents’ proposal.

As an example, the proposed modification of e-Readers demonstrates the problem. The controlling software of the e-Reader may handle some comics in certain publishing formats well, but other formats might not be handled as well or at all. Perhaps the former format is a preferred or authorized format, and the latter is not, because the manufacturer chose to not obtain the license for the other, proprietary format. Regardless, under proponents' proposal, a modification may be made to alter the software-enabled device so that it reads authorized comics formats even better, but that same modification also enables the ability of the reader to access formats otherwise intentionally excluded from the e-Reader. In such a case, discerning the purpose behind the circumvention is likely impossible to determine. Further, this leads to a very slippery slope that invites creative arguments to justify acts of circumvention, resulting in unauthorized access to other copyrighted works whether the intent of the exemption was to support that particular use or not. Moreover, if the modification results in the removal of the protection measures of digital content displayed/performed by that device, then that content becomes readily subject to widespread infringement, exactly the result that use of the TPM was intended to prevent. Consequently, due to the uncertainty of the scope of the proposed class DVD CCA and AACLS LA object to the creation of the proposed class as being impermissibly broad.

A. The Requests Would Go Beyond the Statutory Limitation Requiring These Rulemaking Exemptions to Apply Only to Those Beneficiaries Specifically Determined Pursuant to the Rulemaking

Congress created a temporary exemption for persons in situations where the Librarian has “determined, pursuant to the rulemaking . . .,” that such persons “are, or are likely to be, adversely affected” by virtue of the circumvention prohibition “in their ability to make noninfringing uses . . .”¹ The statute thus limits the rulemaking to exemption of certain uses by an identified class

¹ Section 1201(a)(1).

of persons from the general prohibition against circumventing TPMs based on the determination resulting from the rulemaking proceeding. The plain language of the statute requires identification of the persons who are adversely affected, as well as a determination based on the rulemaking that those adverse effects exist in relation to noninfringing uses. There are to be no beneficiaries of the exemption based on vague references or suggestions.

The House Commerce Committee, which created the rulemaking during its consideration of the WIPO treaties, which, in part, became Section 1201, did not contemplate a regulatory proceeding that would result in broad waivers to the general circumvention prohibition, such as an exemption for any and all fair use under section 107 or for any and every activity permitted under section 110 (1) (the classroom exception). Instead, the Committee foresaw “selectively waiv[ing] [the prohibition against circumvention] for limited time periods, . . . for a particular category of copyrighted materials.”²

Not only did the Committee envision any exemptions to be selective and particular, but also that the exemption would be fully evaluated in the rulemaking (in keeping with the statutory requirement that the exemption be “pursuant to the rulemaking”). The Commerce Committee Report instructs that any exemption resulting from the rulemaking is to flow from the “development of a sufficient record as to how the implementation of these technologies is affecting the availability of works in the marketplace for lawful uses.”³ Most importantly, the Committee was quite clear that “the rulemaking proceeding should focus on distinct, verifiable and measurable impacts, [and] should not be based upon de minimis impacts”⁴ This instruction alone would

² House Commerce Committee Report at 36,

³ House Commerce Committee Report at 37.

⁴ *Id.* at 37.

render proponents' current request impossible, as this rulemaking could never handle the quantum of evidence that would be necessary to support an unbound exemption for all software-enabled devices. As explained below the Register recognized the same.

Congress' final direction was that a particular class of work should "be a narrow and focused subset of the broad categories of works of authorship than is identified in Section 102 of the Copyright Act (17 U.S.C. § 102)."⁵

1. The Register Applied These Standards to Previous Attempts to Create the Currently-Proposed Class

In the immediate prior rulemaking, which created the current repair exemption, the Acting Register searched the record evidence to come forward with unifying elements to establish the class. She explained:

it is not clear whether "devices," generally, share enough commonalities for the Acting Register to evaluate whether access controls are, in practice, adversely affecting noninfringing uses. The rulemaking record lacks a minimum quantity of evidence for a broad panoply of the devices that proponents' reference, let alone those which are not introduced but would fall under the proposed exemption. Outside of the vehicle context, the information provided is sparse regarding specific types of devices where TPMs inhibit repair or modification activities, with initial comments providing only cursory notice of devices considered by proponents as "relevant" to the exemption. [Notwithstanding] lengthy lists of specific devices that "could be configured to include technological protection measures that would prevent independent maintenance and repair," for many categories, it is still unclear whether TPMs are typically applied to these devices.⁶

In light of the shortcomings in the record, the Register "refine[d] the class based on the types of devices for which there is a cognizable record."⁷

The proponents have not proffered any significant additional evidence beyond what they raised in the last proceeding. While proponents have, for the most part, discussed the same devices

⁵ *Id.* at 38.

⁶ 2018 Recommendation at 191-92.

⁷ *Id.* at 192.

they had previously introduced, and explained in eight exemplary cases the relevant TPM particular to those devices, the proposed class still has no bounds, as even proponents acknowledge that the class is “not limited to any narrow category of devices.” Their eight examples represent “a wide range of software-enabled devices, from those with consumables like litter boxes and printers to robotic companions, e-readers, radios, programming devices, and more.”⁸

In attempting to reconcile their approach with the rulemaking requirements that classes be narrowed, focused, and based on record evidence, proponents complain that, if the Register follows the laws then the result will be a “scattershot approach with narrow conceptions of what devices are covered [missing] the forest for the trees and will fail to adequately alleviate the adverse effects on users of the works in the proposed class.”⁹ Nevertheless, proponents do not advance any theory that would permit the Register to ignore the law or even suggest that the Register should stray from the analytical approach that has been in place now since the 2006 Recommendation.¹⁰

2. No Evidence for A Class to Include DVD and Blu-ray Products Is Proffered

Proponents have not introduced any information sufficient to include any software-enabled DVD or Blu-ray playback devices (or any other device that would play back or otherwise display/perform motion pictures) in this class. The only content-oriented software enabled device identified in the comments is the *Kindle Paperwhite E-Reader*, and information about the device is limited to publishing formats and accessing comics.¹¹ Neither activity involves the performance

⁸ Initial Comments at 2.

⁹ *Id.*

¹⁰ 2006 Recommendation at 16-17 (explaining how a class could be created and refined based on the record evidence).

¹¹ Initial Comments Exhibit <https://www.epubor.com/kindle-jailbreak-appsand-hacks.html>. (explaining that jailbreaking the Kindle provides “improved PDF reader which makes it possible to read ePub and other formats on Kindle.”) .

of motion pictures. Proponents mentioned in their petition filed in response to the Notice of Inquiry the case of *Sonos* speakers, which presumably would be able to perform audio, but not a motion picture or other audiovisual work. Thus, there is no evidentiary basis to include any device that would perform motion pictures in the manner that a DVD or Blu-ray player would.

III. *The Proposed Use Is Not Permissible Under Fair Use.*

A. Modification Implicates the Derivative Right of Software, and Reverse Engineering Case Law Is Insufficient

In the 2018 Recommendation, the Acting Register distinguished between “lawful modification of a vehicle function” and unqualified modification (*i.e.*, “any modification”) to conclude that the latter is likely an infringing use:

In some cases, where a user seeks to modify only a functional element of a device for a personal, noncommercial use, that activity may well qualify as a fair use. In other cases, however, a modification under the proposed exemption may result in an infringing derivative work. Indeed, the statutory definition of “derivative work” requires an underlying work to “be recast, transformed, or adapted,” and at the hearings proponents appeared to acknowledge that at least some of the modifications they describe in their comments could implicate that right.¹²

As for the idea that fair use makes infringement of the derivative work right tolerable, the Register summarily dismissed the argument. Modification proponents had argued that *Sega v. Accolade*¹³ and *Sony v. Connectix*¹⁴ supported their position that “enabling interoperability and increasing the utility of hardware are fair uses.”¹⁵ Those cases provide for reverse engineering to achieve interoperability. The Register reasoned, however, that the “two cases [do not] go so far

¹² 2018 Recommendation at 211.

¹³ *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1522–23 (9th Cir. 2000) as amended (Jan. 6, 1993)).

¹⁴ *Computer Entm’t, Inc. v. Connectix Corp.*, 203 F.3d 596, 607-08 (9th Cir. 2000).

¹⁵ 2018 Recommendation at 210.

as to support the broader range of activities envisioned”¹⁶ and would “not conclude that modification of a function of a device as a general category is likely to be noninfringing.”¹⁷ Thus, in light of the dearth of information about modification, and more importantly, the lack of details about how DVD and Blu-ray players (including their software components) or similar devices may be modified, the precedent of this rulemaking clearly provides that such activities are not even eligible to be considered as fair use.

B. Modification of Players Is Not Fair Use

The precedent concerning the repair of video game consoles further illustrates that fair use does not authorize repair nor modification of DVD and Blu-ray players and similar devices that would display or perform motion pictures. That precedent establishes that modification is outside the permitted uses of the current repair exemption and that circumvention for authorized repair activities is still not permitted for video game consoles. Since DVD and Blu-ray players are to motion pictures as game consoles are to video games – both players and game consoles are intended to make use of expressive works — the video game console precedent should be instructive to the analysis of permitting circumvention for the purpose of repairing or modifying DVD and Blu-ray players or other devices that would perform motion pictures.

In the 2018 Recommendation, when the Acting Register considered the current repair exemption, the Register concluded that the current exemption permitting the repair of software enable devices could not extend to video games.

In multiple past rulemakings, the Office has rejected proposed jailbreaking exemptions for video game consoles—including passing suggestions of the need to repair these consoles—because of the potential harm to the market. For example, in 2012, the Register stated that:

¹⁶ 2018 Recommendation at 211.

¹⁷ *Id.*

[O]pponents have provided compelling, uncontradicted evidence that circumvention of access controls to permit interoperability of video game consoles—regardless of purpose—has the effect of diminishing the value of, and impairing the market for, the affected code, because the compromised code can no longer serve as a secure platform for the development and distribution of legitimate content.

This rulemaking reflects similar console-specific concerns about potential market harm. Proponents have not provided a persuasive legal or factual analysis why the Acting Register should reach a different conclusion than in 2012 or 2015, and so she does not.¹⁸

In this very class, proponents once again filed petitions that would permit the repair of video game consoles. While acknowledging the petitions, the NPRM asked petitioners to explain what has changed since the last decision, noting that

in prior rulemakings [the Copyright Office] has declined to recommend exemptions for jailbreaking and repair of video game consoles in light of evidence that circumvention of TPMs in such devices may adversely affect the value of the affected software, as well as a lack of evidence of adverse effects on noninfringing uses. The Office invites comment on whether, in the past three years, there has been any change in the legal or factual circumstances bearing upon these issues.¹⁹

In their initial comments following the NPRM, proponents did not accept the invitation to explain what changes occurred in the last three years – either factually or legally – that would alter the conclusion that circumvention adversely affects the value of the affected software. As for new evidence regarding the adverse effect the prohibition has on noninfringing uses, the proponents state that Microsoft has stopped providing repair on pre-2016 game consoles, thus game console owners must now, they claim, engage in more acts of circumvention if they want to repair their video game consoles.²⁰ There are multiple online repair shops that offer mail-in repair for both

¹⁸ 2018 Recommendation at 206.

¹⁹ Exemptions to Permit Circumvention of Access Controls on Copyrighted Works 85 Fed. Reg. 65293, 65307 (Oct. 15, 2020) (quotation omitted) (citing 2018 Recommendation at 206, 219–20; 2015 Recommendation at 199–201; 2012 Recommendation at 44, 47) (Notice of Proposed Rulemaking “NPRM”).

the Xbox 360 (initially released in 2006) and the Xbox One (initially released in 2013). The fact that Microsoft no longer directly performs repairs on consoles initially released 15 and 8 years ago is *de minimis*, particularly when there are repair shops that still provide repair services. In light of these shortcomings, proponents have not advanced a case for the Register to reconsider the precedent.

Finally, if the precedent of this proceeding neither permits circumvention in order to implement device modification generally nor specifically in the case of repair of video game consoles, then that same reasoning has equal, if not greater, force for the repair and modification of DVD and Blu-ray players. As explained below, statutory factors do not weigh in favor of the creation of the proposed exemption.

C. The Concerns for the Value (or Market for the Work) Are Identical or Similar to the Concerns Identified in the Case of Video Game Consoles

In considering jailbreaking a video game console under fair use, the Register found that the fourth factor, the market or value for the code that protected the game console would be diminished, and with that factor “weigh[ing] somewhat strongly against a finding of fair use”²¹ there could not be any persuasive basis to establish that jailbreaking a game console was noninfringing. The Register reasoned that, once jailbroken, “the compromised code can no longer serve as a secure platform for the development and distribution of legitimate content.”²² The Register also concluded that the evidence supported the finding that circumvention was inextricably linked to piracy.²³

²¹ 2012 Recommendation at 44.

²² *Id.* at 44.

²³ 2012 Recommendation at 43.

Copies of motion pictures on optical discs that employ CSS and AACS content protection technologies are also dependent on code that manufacturers put in place to protect DVD and Blu-ray players from attacks that would expose the cryptographic keys necessary for the player to successfully play back copies of motion pictures distributed on CSS or AACS-protected discs. This code is not part of the CSS or AACS technologies themselves, and varies among CSS or AACS-licensed manufacturers as they each implement the AACS and CSS technical specifications, robustness rules, and compliance rules in their own way. Nevertheless, even though implemented in multiple ways, the code is fundamental to protecting the integrity of the player ecosystem, which the Register recognized in the context of video game consoles as a “secure platform for the development and distribution of legitimate content.” Just as a “secure platform” is necessary for the development and distribution of legitimate content in the video game context, so it is in the motion picture context.

1. Piracy Is Still a Consequence of a Compromised Digital Ecosystem

Piracy takes advantage of weaknesses in the digital ecosystem. The first widely publicized hack of CSS, DeCSS, demonstrates this to be true, as DeCSS resulted from a single manufacturer’s failure to protect against the discovery and theft of a single cryptographic player key. Once a key is discovered, the chain of events unquestionably leads to piracy. In promoting its own proprietary copy protection services, Smart Protection explains that

the first step in digital piracy is securing an illegal copy of a movie or TV show, [and one of four] “methods pirates use to obtain an illegal copy” is

...

DVD or Blu-ray Originals. To make this type of copy, pirates circumvent the digital rights security measures (DRMs) implemented on both DVDs and Blu-ray

discs, which allows them to copy their content using digital recording software and/or hardware.²⁴

2. Hacked TPMs for DVD and Blu-Ray Discs Remain a Source for Piracy

Using software enabled by stolen decryption keys to “read” DVD and Blu-ray discs and then obtain the digital content in the clear (often referred to as “ripping”) is still a significant source for piracy. Quite recently, the Department of Justice announced the indictment of members of the “Sparks Group”, who misrepresented themselves over a ten-year period to obtain advance distribution copies of motion pictures distributed on DVD and Blu-ray discs meant for retail.²⁵ According to the release, the accused pirates then ripped the discs and disseminated the film and TV content via the Internet prior to the retail release date.” The release described the activity as follows:

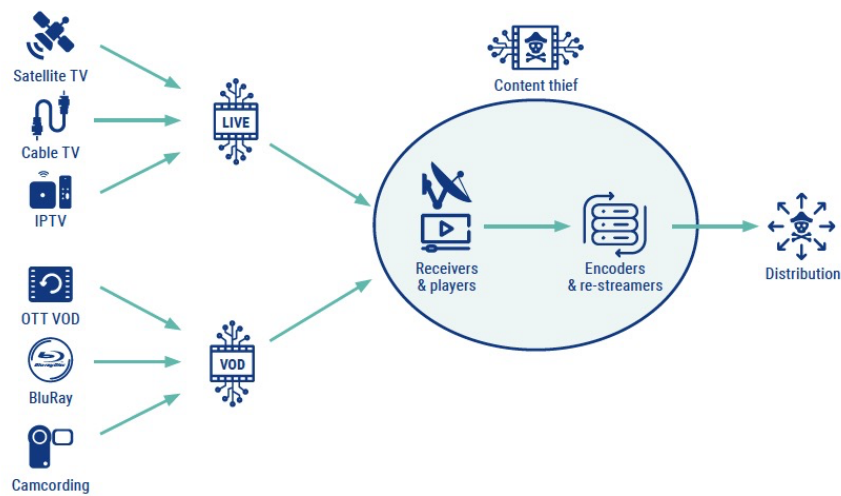
Sparks Group members then used computers with specialized software to compromise the copyright protections on the discs, a process referred to as “cracking” or “ripping,” and to reproduce and encode the content in a format that could be easily copied and disseminated over the Internet. They thereafter uploaded copies of the copyrighted content onto servers controlled by the Sparks Group, where other members further reproduced and disseminated the content on streaming websites, peer-to-peer networks, torrent networks, and other servers accessible to the public. The Sparks Group identified its reproductions by encoding the filenames of reproduced copyrighted content with distinctive tags, and also uploaded photographs of the discs in their original packaging to demonstrate that the reproduced content originated from authentic DVDs and Blu-Ray discs.

²⁴ *How does online piracy of movies and TV series Actually work?*, Smart Protection Blog available at <https://smartprotection.com/en/media/how-does-film-series-online-piracy-work/> (last visited Jan. 29, 2021). Piracy resulting from hacked DVDs or Blu-ray discs is widely recognized in all forms. *See, e.g., Blu-ray Working Great, For Pirates*, TechDirt (Nov. 18, 2008) (describing how pirates “rip Blu-ray movies, then burn them onto DVDs” “create[s] fat profit margins on the \$7 bootleg [DVDs]”) available at <https://www.techdirt.com/articles/20081117/1721382856.shtml>. (last visited Jan. 29, 2021).

²⁵ Acting U.S. Attorney Announces Federal Charges and International Operation to Dismantle Online Piracy Group, Press Release, Department of Justice (Aug. 26, 2020) available at <https://www.justice.gov/usao-sdny/pr/acting-us-attorney-announces-federal-charges-and-international-operation-dismantle-0> (last visited Jan. 29, 2021).

Just as the indictments against the Sparks Group show that they relied on ripped consumer market discs, online streaming piracy is generally well understood to be fueled by content ripped from discs using software implementing circumvention tools. For example, the Digital Citizens Alliance August 2020 Report, *Money for Nothing: The Billion-Dollar Pirate Subscription IPTV Business*, points to ripped Blu-ray Discs as a source for this piracy.²⁶

Figure 7 – Content theft



3. Piracy and Its Harms

This piracy leads to extraordinary harm. In the above case of indictments against the Sparks Group, the DOJ stated that the “Sparks Group has caused tens of millions of dollars in losses to film production studios.” The Digital Citizens Alliances Report, largely intended to show

²⁶ Digital Citizens Alliance and NAGRA, *Money for Nothing: The Billion-Dollar Pirate Subscription IPTV Business*.

the billion-dollar industry what online streaming piracy has become, cites to other reports that have quantified the loss to the “U.S. economy [to be] at least \$29.2 billion in lost revenue each year.”²⁷

These recent accounts are consistent with what has been known about the effects of piracy for some time. A study prepared for the U.S. Patent Trademark Office, providing a systematic review of the literature, pointed out that “if the shutdown of one popular piracy site — Megaupload.com — caused a 6.5-8.5 percent increase in digital movie revenues in spite of all of the video piracy that remained after Megaupload, total losses to rightsholders from piracy in the home market could be quite substantial.”²⁸

Since the piracy of film and television content flows in part from the circumvention of CSS and AACS-protected discs, rights holders can ill afford permitting any circumvention that may interfere with or disrupt the integrity of the carefully-considered content protection ecosystem. Technologies like CSS and AACS are more than transactional licenses to decrypt the content on discs. Rather, they are composed of multilayer commitments requiring careful manufacturer design elements and deliberate device functionality, as the robustness and compliance rules may prescribe. As in the chain of events leading to DeCSS, even unintentional acts can jeopardize the integrity of a content protection ecosystem. Even well-intentioned exemptions can unintentionally impose undue stress on the system - by encouraging activities that leave a key to be discovered or compromised that then effectively strips the copyrighted content of its TPM technical and license obligation protections. This then ultimately reduces the effectiveness of the system to a fraction of

²⁷ Digital Citizen Alliance Report at 1 n.4 (citing DIGITAL VIDEO PIRACY: Impacts of Digital Piracy on the U.S. Economy (GIPC, June 2019)).

²⁸ Brett Danaher, Michael D. Smith, and Rahul Telang, Piracy Landscape Study: Analysis of Existing and Emerging Research Relevant to Intellectual Property Rights (IPR) Enforcement of Commercial-Scale Piracy at 27 (March 20, 2020) (Prepared for the U.S. Patent and Trademark Office).

what both the rights holders expect and the licensed player manufacturers intend. Consequently, the exemptions are not warranted, and a review of the statutory factors make that conclusion even more evident.

IV. *Statutory Factors Weigh Against the Creation of the Class*

The analysis of the statutory factors is inapposite to the reasoning the Register provided for the preservation of computer programs or even video games.

A. Availability for Use of Copyrighted Works

An exemption permitting the circumvention of players would not make more works available or increase the use of copyrighted works. In the 2012 Recommendation, the Register considered the proposed exemption to jailbreak video game consoles in the context of the first statutory factor and concluded that a jailbreaking exemption for video game consoles would not result in the availability and use of more copyrighted works.

[C]onsole access controls encourage the development and dissemination of highly creative copyrighted works by facilitating secure platforms for the development and distribution of video games and other applications. In addition to artwork, graphics and sound effects, a sophisticated video game may include storyline, character development, voiceovers, music and other expressive elements. Such a work is far more challenging and expensive to create than the typical smartphone application, for example, like a motion picture, it involves a team of creators and may require funding in the millions of dollars. It is difficult to imagine that one would choose to make such an investment without some hope that it could be recouped by offering the resulting product through channels that provide some measure of protection against unauthorized copying and distribution.²⁹

The Register's analysis looks past the copyright in the code, and more fully considers the copyrights that the code is intended to protect – the video games. She notes that video games are

²⁹ 2012 Recommendation at 51.

more akin to movies, which require a “team of creators” and “funding in the millions of dollars[.]”³⁰

More importantly, the Register’s reasoning reveals that motion pictures are, in fact, the quintessential works warranting the full weight of the prohibition against circumvention. The application of this rationale to motion pictures distributed on CSS- and AACS-protected discs has been fundamental to the rulemaking since its inception, as no other types of copyrighted works have been as regularly and intensely subject to evaluation than those copies of motion pictures distributed on CSS and AACS-protected discs. Consequently, the reasoning that weighed the first factor against the creation of an exemption to circumvent video game consoles should weigh as much, if not more, against creating an exemption to circumvent those players that playback CSS or AACS-protected discs.

B. The Second and Third Statutory Factors Are Inconsequential

As the discussion of whether circumvention of players (and other devices that display/perform motion pictures) may be analogized to the discussion of a repair exemption for video game consoles, the analogy may cease to be useful for evaluation of the second and third statutory factors. Proponents, who want to circumvent video game consoles, suggest that repair is necessary for preservation purposes. Specifically, they argue that the life cycle of a video game console is short and, if study of the console is warranted, then preservation would be facilitated by permitting circumvention for the purpose of repair.

³⁰ *Id.*

While DVD CCA and AACCS LA are expressing no opinion here on the merits of proponents' argument for justifying a video game console repair exemption, under the statutory factors, the argument simply cannot be extended to DVD and Blu-ray players. First, there is no suggestion that players are frequently in need of repair. Indeed, the price of DVD and Blu-ray players is generally low enough that, in the rare circumstances when a player does break, consumers will often simply replace it with a new one. Second, players simply are not as dynamic as video game console are – inherently they just do not change from one year to the next and therefore preservation of players would unlikely generate the interest that video game consoles do or could.

For the same lifecycle reason, the economics between video game consoles and DVD/Blu-ray players are fundamentally different, resulting in less desire to repair the players. Because players do not generally tend to change from one year to the next, price for both DVD and Blu-ray players have fallen over the years. A consumer can purchase a new DVD player for \$40.00 and a Blu-ray player that will play back both DVD and Blu-rays for \$60.00.³¹ Reasonable repair fees, on the other hand, are likely to exceed the price for even a new Blu-ray player.³² Consequently,

³¹ See BestBuy.com.

³² See, e.g., Aaron Fuller, Quora (Is it worth it to repair a Blu-ray player?) (Aug. 1, 2018) available at <https://www.quora.com/Is-it-worth-it-to-repair-a-blu-ray-player> (last visited Jan. 30, 2021). Fuller, described as Owner/system Designer at Masterpiece AV states:

Realistically not unless you are into repairing electronics as the cost to repair one could be as low as like 10\$ (sic) for parts or as much as 40\$ (sic). But the time you would spend doing it unless it is something super simple just wouldn't make it worth doing. You can get a brand new blu-ray player for under 100\$ (sic) now and after accounting for ordering necessary parts and spending hours repairing it yourself you'd be better off having spent less than 100\$ (sic) and have a brand new one. In my honest opinion.

replacing an out-of-warranty player with a brand-new player will likely make more economic sense for most people.³³

C. The Effect of Circumvention of Technological Measures on The Market for or Value of Copyrighted Works

This fourth statutory factor does not favor a repair exemption for DVD and Blu-ray players. Frequently, this factor is intertwined with the fourth factor of the fair use analysis (the effect of the market for the copyrighted work) as it, too, seeks to ascertain the effect of circumvention of access controls on the market for or value of copyrighted works. The Register in the 2012 Recommendation explained why this factor did not favor the creation of a repair exemption for video game consoles.

As discussed above . . . , due to the particular characteristics of the video game marketplace, the circumvention of access controls protecting a console computer program so that it can be copied and modified for the purpose of enabling unauthorized applications has the effect of decreasing the market for, and value of, that program, as it can no longer serve to facilitate a secure gaming platform. Further, by enabling the ability to obtain and play pirated games and other unauthorized content, the dismantling of console access controls undermines the value of legitimate copyrighted works in the marketplace, many of which require a substantial investment of creative and financial resources to create.³⁴

The Register again was concerned about the integrity of the overall content protection ecosystem, as she noted that the code “can no longer serve a secure gaming platform.”³⁵ Similarly, as explained earlier, any repair exemption that permits the circumvention of independent code protecting the DVD or Blu-ray player threatens to disrupt the content protection ecosystem because this code implements the robustness and/or compliance rules for the TPM system. And, as

³³ To the extent some people may desire to engage in player repair anyway, but could not because of the prohibition against circumvention, then the statutory analysis would suggest that the harm is *de minimis*. See, e.g., 2018 Recommendation at 143 (finding that Huang proposal is of “de minimis impact”).

³⁴ 2012 Recommendation at 52.

³⁵ *Id.*

explained earlier, even unintentional acts can lead to circumstances that enable piracy. Consequently, this factor, too, weighs against the creation of an exemption to permit circumvention of TPMs for the purpose of repair or modification of a DVD or Blu ray player (or other devices that display/perform motion pictures).

V. *Conclusion*

For the reasons stated above, the exemption should not be expanded to permit to either the repair or modification of either DVD or Blu-ray players.