



UNITED STATES COPYRIGHT OFFICE

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

### **Reply Comment of Andrew “bunnie” Huang Regarding Proposed Class 4**

#### **ITEM A. COMMENTER INFORMATION**

##### **Commenter:**

Andrew “bunnie” Huang

##### **Representative:**

Electronic Frontier Foundation  
Kit Walsh, Senior Staff Attorney  
Counsel to Dr. Huang  
815 Eddy St, San Francisco, CA 94109  
415 436 9333  
kit@eff.org

#### **ITEM B. PROPOSED CLASS ADDRESSED**

Proposed Class 4: Audiovisual Works—HDCP/HDMI

#### **ITEM C. OVERVIEW**

HDMI is a standard for video transport from one device to another. The signals are often encrypted using a version of HDCP. HDCP interferes with creative, noninfringing uses of the video being conveyed over HDMI, preventing remix, time-shifting, space-shifting, format-shifting, overlay of original imagery over a video signal, comparison of multiple video streams on a single display, and picture-in-picture display. An exemption is necessary to reduce the impact of Section 1201 on these protected forms of speech.

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

See initial comments.

#### **ITEM E. ASSERTED ADVERSE EFFECTS ON NONINFRINGING USES**

Opponents envision a world in which you should throw out your television and buy a new one licensed by DCP if you want to watch your favorite show and keep the football game on in the corner -- even though you could make your own, noninfringing version of picture-in-picture functionality by circumventing HDCP.

When, instead, you wish to display captions, you pull out another licensed TV you have bought with that feature. Unfortunately, it doesn't offer picture-in-picture.

And, despite the closet full of differently-featured, licensed televisions, you still can't engage in anything like the full range of noninfringing uses.

Even though HDCP is a weak TPM that is already easily bypassed by those intending to infringe, it's easy to understand why a rightsholder prefers this world: it forces law-abiding customers to pay up, one way or another, to make noninfringing uses – or not make them at all.

The mandate of this rulemaking is to keep that from happening.

### **I. Seeking a License for HDCP is No Alternative to Noninfringing Use**

As the NTIA said during the 2012 Rulemaking:

*[r]equiring visually impaired Americans to invest hundreds of dollars in an additional device (or even multiple additional devices), particularly when an already-owned device is technically capable of rendering literary works accessible, is not a reasonable alternative to circumvention and demonstrates an adverse effect of the various access controls used.<sup>1</sup>*

The same is true of HDCP: it is not reasonable to require users such as Huang to acquire new display devices to make noninfringing uses that they could achieve with existing technology via circumvention. For the same reason, it is not reasonable to require the purchase of an HDCP license for the same.

Besides, the HDCP license is not designed for individual use: the lowest tier of receiver keys to acquire for HDCP 2.x is 10,000 and pricing also reflects the commercial-scale nature of the arrangement.<sup>2</sup> The license imposes engineering requirements and a variety of restrictions on noninfringing uses, such as any use that requires digital output, such as the processing-intensive applications in which Huang wishes to engage for realtime image processing, as well as space-shifting.<sup>3</sup> In addition, the process requires potential licensees to parse scores of pages of dense legal language.<sup>4</sup>

The significance of licensed devices is that they demonstrate that features such as features such as captioning and picture-in-picture, which rightsholders sometimes authorize for commercial partners, are not damaging to the rightsholders' interests.

---

<sup>1</sup> 2012 NTIA Letter at 5.

<sup>2</sup> Addendum to HDCP Specification, available at [https://digital-cp.com/sites/default/files/HDCP%20%200%20Addendum\\_Final\\_Revised%20March%206%202017\\_FOR%20REVIEW%20ONLY.pdf](https://digital-cp.com/sites/default/files/HDCP%20%200%20Addendum_Final_Revised%20March%206%202017_FOR%20REVIEW%20ONLY.pdf).

<sup>3</sup> *Id.*

<sup>4</sup> See Licensing | Digital Content Protection, available at <https://www.digital-cp.com/licensing>.

## **II. Time, Space, and Format Shifting Are Established Fair Uses with a Long Pedigree**

In 1971, when Congress passed the Sound Recording Act, it was well-understood that home recording, when not undertaken for commercial exploitation, was and would remain lawful.<sup>5</sup> Consistent with this statement of Congressional intent, courts have routinely held activities falling in these categories to be fair uses.<sup>6</sup>

Several examples approved of in dicta by the *Sony* Court are relevant to Proposed Class 4. The Court identified various time-, space-, and format-shifting uses that were likely fair: “a teacher who copies for the sake of broadening his personal understanding of his specialty... a legislator who copies for the sake of broadening her understanding of what her constituents are watching... a constituent who copies a news program to help make a decision on how to vote... in a hospital setting, using a VTR to enable a patient to see programs he would otherwise miss... [thereby] contributing to the psychological well-being of the patient.”<sup>7</sup> These educational, political, and medical uses of time-, space-, and format-shifting now depend upon circumvention, including circumvention of HDCP.

## **III. Political or Other Speech Making Use of Copyrighted Content Remains Noninfringing and Worthy of an Exemption Even if Alternative Forms of Political Speech Exist**

Despite DCP’s suggestion that banning political speech is harmless when a speaker could get a similar message out in other means, such a regulatory approach is not permissible under U.S. law. Rather, speech restrictions such as Section 1201 that make distinctions on the basis of content can survive First Amendment scrutiny only upon a showing that they are “the least restrictive means of achieving a compelling state interest.”<sup>8</sup> When a restriction that encompasses a substantial amount of lawful speech in relation to its “plainly legitimate sweep,” it is unconstitutional on its face.<sup>9</sup>

The Librarian and the Copyright Office should strive to mitigate Section 1201’s restrictions on speech by attempting to tailor the part of the statute subject to the rulemaking as narrowly as possible to the statute’s purpose of preventing infringement.

---

<sup>5</sup> H. Rep. No.287, 92d Cong., 1st Sess. 7 (emphasis added) cited by *Universal City Studios, Inc. v. Sony Corp. of America*, 480 F. Supp. 429, 444 (C.D. Cal. 1979).

<sup>6</sup> *E.g.*, *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984); *Fox Broad. Co. v. Dish Network, LLC*, 723 F.3d 1067 (9th Cir. 2013), *amended and reh’g en banc denied*, 747 F.3d 1060 (9th Cir. 2014); *Recording Indus. Ass’n of Am. v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072 (9th Cir. 1999).

<sup>7</sup> *Sony*, 464 U.S. at 456 n.40.

<sup>8</sup> *McCullen v. Coakley*, 134 S. Ct. 2518, 2530 (2014).

<sup>9</sup> *United States v. Stevens*, 559 U.S. 460, 473 (2010) (striking down animal cruelty statute as overbroad).

#### **IV. The Question Cannot be Avoided in Favor of Another Device or TPM**

It is irrelevant whether other devices involved in transmitting and receiving HDCP could be modified to bypass TPMs and gain access to HDCP-encumbered content as an alternative to circumventing HDCP. That approach would create a shell game, shifting the debate to some other technology. It would also require persons making noninfringing uses to circumvent potentially different TPMs for different materials rather than being able to circumvent HDCP for each. Circumventing HDCP is the most logical point to access works for the specified uses.

#### **V. Video Game Consoles Are Not Universally Free of HDCP**

DCP notes that some consoles enable the user to disable HDCP in order to make noninfringing uses. The same freedom should be available to users of other consoles, such as the Playstation 3, that do not include such features. The very fact that it has become a feature in modern consoles demonstrates that gaining DRM-free access to audiovisual works output from game consoles is both in demand and broadly acceptable to rightsholders. Opponents do not allege that any increase in infringement has resulted from the inclusion of this feature. One would not expect any increase in infringement: HDCP is easily circumvented<sup>10</sup> and only those who are concerned with abiding by the law are impeded by it.

#### **VI. Huang is Entitled to Make the Full Range of Noninfringing Uses of HDCP-Encumbered Works**

Huang provided a lengthy description of the types of noninfringing uses he contemplates for HDCP-encumbered works. This demonstrates that an exemption for noninfringing uses of these works is necessary to vindicate Huang's right to engage in such uses and tailor the statute's prohibition more closely to its purpose, not an exemption that identifies a tiny sliver of noninfringing uses while leaving the rest prohibited.

Below are additional illustrations of some of the types of uses explained by Huang in his opening comments to be noninfringing uses in which he seeks to engage.

##### **1. Intelligent Filtering of Unwanted Content**

Huang would like to create filters that can cover the face of a particular person with another image or substitute another sound over their speech. Circumventing HDCP would allow Huang to apply such filters to livestreams to better enjoy programming and communicate his feelings about these persons to those watching with him.

Huang would like to circumvent in order to eliminate portions of programming that disturb a person with Alzheimer's who is soothed by other portions of the program.

---

<sup>10</sup> Crosby et al., "A Cryptanalysis of the High-Bandwidth Digital Content Protection System," *ACM Workshop on Digital Rights Management, DRM 2001: Security and Privacy in Digital Rights Management*, pp 192-200 (May 7, 2002), available at [https://rd.springer.com/chapter/10.1007/3-540-47870-1\\_12](https://rd.springer.com/chapter/10.1007/3-540-47870-1_12).

## 2. Application of Visual Cues

Huang would like to create a mobile overlay that tracks his favorite player during a sporting event. The same technology would be useful to highlight particular moments or features in movies and television shows, such as detecting the cameo appearance of certain actors and bringing them to the viewer's attention.

## 3. Translation and Subtitling

Huang would like to take advantage of advances in audio processing and translation to engage in realtime subtitling in his preferred languages.

In particular, to aid in learning a foreign language, Huang would like to engage in realtime subtitling of familiar programs in a new language.

In learning Chinese, Huang has discovered that Chinese characters are often difficult to read and that pinyin, a set of shortcut characters used for learning the language, are almost never available in subtitles. He would like to circumvent in order to automatically convert Chinese characters on-screen into pinyin to aid in comprehension and language learning.

## 4. Alpha-Blending Overlays Informed by a Home Assistant

Huang would like to display information from smarthome technology as a semi-transparent overlay on his display by blending the visual rendering of that information with the HDCP-encumbered signal for whatever he is watching. For instance, to ask the assistant to display a timer and have it displayed on the TV or create a visual reminder at the appropriate time.

## 5. Space-, Time-, and Format-Shifting

Huang would like to space-, time-, and format-shift favorite media to a format that will be reliably supported years from now. He is at elevated risk for early onset Alzheimer's disease and understands that watching familiar media is soothing to those suffering from the condition. He wishes to engage in this format-shifting and archiving now in case he loses the mental ability to do so in the future.

Huang routinely discovers that media he has lawfully purchased is difficult to replay on his display devices because they are not licensed by HDCP. He would like to circumvent so that he can perceive the media for which he has paid without purchasing an entirely new and inferior display device.