

Before the
U.S. COPYRIGHT OFFICE, LIBRARY OF CONGRESS

**In the Matter of
Section 1201 Study
Docket No. 2017-10**

Joint Response of Proponents of Proposed Class 7 to Post-Hearing Questions

Proposed Class 7 – Repair, Diagnosis, and Modification

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The above-listed proponents of proposed Class 7 thank the Copyright Office for its May 21, 2018 letter, and respond jointly to the questions posed by the Office. The proponents urge the Librarian to grant the exemption as requested. Proponents have established that users of a wide range of software-enabled devices are adversely affected in their ability to make and to obtain expert assistance to make non-infringing repairs and modifications. Many of these have no relation to audiovisual works or sound recordings. However some, such as general purpose computers and automotive multifunction Telematics and Infotainment Systems, do perform and store such works. Access to the software that records and plays those works, and the works themselves, is necessary to the lawful repair, replacement, and modification that the requested exemption protects.

Further, we note that there is no evidence that the exemption would cause increased infringement for any of the contemplated devices. An exemption is to be granted upon a showing of likely adverse effects. 17 U.S.C. 1201(a)(1)(B). Accordingly, where such a showing has been made, exceptions to the exemption should not be allowed without countervailing evidence. Opponents have never produced any evidence that any exemption has led to an increase in infringement—not even exemptions directly relating to entertainment products. Without evidence that a user exemption, including expert assistance, for any category of devices would lead to increased infringement, the Office and the Librarian should not credit opponents’ hypothesis and should grant the exemption as requested.

Thus, the Joint Proponents oppose any exclusion. However, we appreciate the opportunity to comment on language that the Office is considering, which could constrain the harm such an exclusion would cause to legitimate repair and modification.

Question 1a: A Limitation Barring Repair and Modification of “Devices That Are Primarily Media Playback Devices For Audiovisual Works and Sound Recordings”

We understand this limitation to pertain to media playback devices such as video game consoles and DVD players. Devices with substantial uses other than playback of such media would still be covered by the proposed exemption, including general-purpose computers such as PCs and servers, all automotive systems, appliances such as refrigerators, devices using refillable cartridges, drones, lightbulbs, and other devices referenced in proponents’ filings and testimony.

These include:

- Servers: Wintel based, mid-range Unix based, Enterprise proprietary OS, blade servers, racked servers, network servers.
- Personal computers: desktops, laptops, general-purpose tablets, mobile phones, workstations, monitors, displays, keyboards, input and output peripherals, printers.
- Networking equipment: routers, switches, firewalls, wireless hubs, front end processors (FEP), VPNs, hubs, handsets, multiplexors, video-conferencing equipment, wireless endpoints, WAN/LAN.
- Enterprise: Peripheral switches, controllers, tape libraries, tape drives, hard drives, hard drive arrays, solid-state drives and arrays, production printers, print handling equipment such as roll feeders, staplers, envelopers, and shrink-wrappers.
- Office equipment: Copiers, shredders, faxes, and multifunction devices including networked printers.
- Home Appliances: Small appliances, HVAC, plumbing valves, home energy systems, thermostats, garage door openers, irrigation systems.
- Retail and Wholesale Distribution: Scanners, point-of-sale systems, dimensional weighing devices, pick and pack automation including robots, barcode printers, forklifts, labelers, automation controls for conveyors, weighing, packaging, cash registers, self-service kiosks, ATMs.

- Consumer Electronics: Including drones, toys, home assistants, wearable devices, and “Internet of Things” devices such as “smart” light bulbs and sensors.
- Automotive infotainment systems: Such systems are multifunction computing devices that may include various types of software, compilations, audio, video, and graphic materials such as navigation programs and data; computer programs and data controlling broadcast and satellite radio, CD, and DVD playback; computer programs and/or data for voice recognition and hands-free calling; computer programs and data for playback of media files from external sources; file systems to store and address data files; system usage “log” files for use in diagnosing system failures; graphics; audio cues; controls for rear seat entertainment systems; controls for rear-view cameras; a Gracenote music search database to identify inserted disc media; to operating system software; and user-stored sound recordings, photographs, videos, and voice memoranda. *See, e.g., Memorandum of Points and Authorities in Support of Defendants’ Motion for Summary Judgment and attached exhibits, Alliance of Artists and Recording Companies, Inc. v. General Motors Co., Civ. No. 14-cv-1271 (KBJ), Dkt. No. 111 (April 11, 2017).* (Notably, that memorandum attaches two declarations on behalf of Harman International Industries, describing the works and data stored on the hard drives of infotainment systems they produce for Fiat Chrysler US.)

For all of these devices, expert repair facilities need to access all of the device contents for lawful repair purposes, such as:

- To access the system for physical repair (e.g., replace crashed drives or optical disc players).
- To replace corrupted software.
- To add new software features.
- To update software, navigation, or databases such as Gracenote.
- To replace the system either with the same or an upgraded unit (e.g., if a TPM affects interoperability of the infotainment system with other systems).
- To copy any necessary system software from a broken system to the replacement system.
- To take the hard drive from a broken system and install it in a replacement unit.
- To transfer material the consumer loaded on the broken system (e.g., photos, navigation software, or audio or audiovisual works) to the replacement unit, in the same way that businesses commonly do today when replacing storage media or upgrading smart phones or laptop computers.

Thus, the exclusion addressed in the Copyright Office letter, if applied to infotainment systems or for that matter to any multifunction device capable of playing audiovisual or audio media, would deny user-assistive independent repair facilities the right to provide consumers with noninfringing repair and replacement services. Instead, it would lock up services behind a monopoly of manufacturer-“authorized” dealerships. Such an outcome finds no basis in, and should not be countenanced by, Sections 106 and 1201.

In light of the evidence, the exemption should issue as requested, with no exclusion.

We understand that the Office has suggested it would defer to prior Rulemaking conclusions on the subject of modification of video game consoles. That rulemaking did not address the issue of repair of video game consoles or repair or modification of other media playback devices and would not speak to those aspects of the proposed limitation.

Game consoles such as the Xbox 360 and PlayStation 4 have one failure mode in common: the optical drive. Children put food in the slot, the motor wears out, or the laser becomes misaligned. The repair is so common that iFixit's aftermarket repair guide for fixing the Xbox One drive has been referenced more than 81,000 times, clearly showing that the manufacturer's repair options are insufficient for the marketplace.

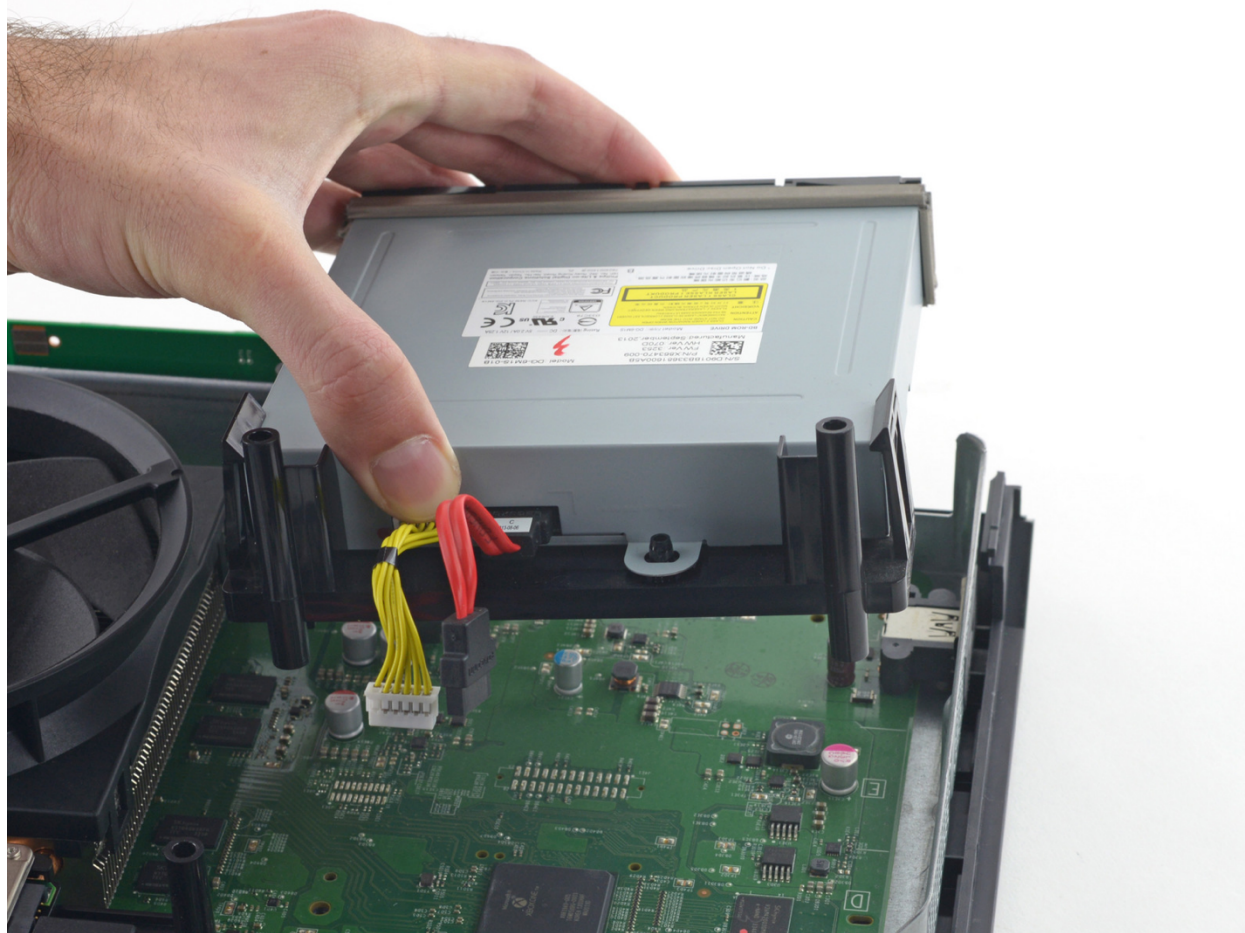


Image: Disconnecting the Blu Ray drive from the Xbox One.

<https://www.ifixit.com/Guide/Xbox+One+Optical+Drive+Replacement/36702>

But the drive is cryptographically paired to the main board, and there is no legal way to pair a new drive to the existing mechanism. This practice of reflashing drives on consoles like the Xbox 360 to match the main board is commonplace in the grey market, but reputable companies cannot help their customers with this repair. Some companies are openly disregarding 1201 and selling drives with instructions on how to bypass the TPM.

The current state of affairs is untenable for both rightsholders and repair companies. Legitimate companies like SmarTeks, Puls and iFixit are locked out of the market and consumers are taught that TPMs are roadblocks to legitimate, ethical behavior.

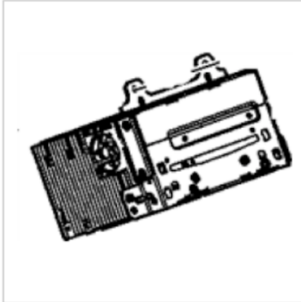
Question 1b: A Limitation Barring Repair and Modification That Entails Circumventing an Access Control That Restricts Access to A Work Other Than Computer Programs

We understand that the intent of this limitation is to prevent repair and modification where the TPM being circumvented is also a TPM restricting access to some other type of work, such as a copyrighted movie.

In the first instance, we note that both software and data compilations are at the core of the proposed class, not only software. For instance, data compilations regarding the diagnosis and repair of automobiles have been the subject of litigation based on Section 1201. *See, e.g., Ford Motor Co. v Autel US, Inc.*, No. 14-13760 (E.D. Mich. Sept. 30, 2015) (granting motion to dismiss Section 1201 claim based on circumvention to access a non-copyrighable data compilation).

As for entertainment products, it is difficult to reconcile the realities of device repair with opponents' view that every TPM lying between the user and an entertainment product is inviolable. Congress has directed that the interest in barring access must give way when it has substantial adverse effects on the ability to make noninfringing uses of a work, such as the repair and modifications at issue here. That would be true even if entertainment products were subject to no TPMs other than the ones interfering with repair. But, in addition, opponents object even when additional TPMs would have to be bypassed to gain access to the other works, without any exemption and in violation of Section 1201. As a factual matter, the Office heard testimony that those other TPMs are in place in many instances, and in others are only absent because rightsholders chose to remove them. It would be absurd to prevent a wide range of legitimate activities that require circumvention of TPMs on software merely because vendors choose to place entertainment products in the clear behind the same TPM and no others.

Focusing on the automotive context, historically, the telematics module was physically separate from the infotainment system, but modern vehicles are integrating these separate components. For example, this diagram from a 2012 Buick shows the separate physical modules. (For example, 'Radio Controls' is a separate physical device from 'Cellular Phone Navigation.')

**Make sure this part fits your vehicle**[Check Fit](#) ▶My Vehicle: **2014 GMC Terrain****GM Part No.: 22879332****Radio Asm-Receiver & Nav Eccn=7A994**

Part Description

RADIO, Radio Receiver

Manufacturer

GM. This genuine GM part is guaranteed by GM's factory warranty.

Part Fitment

Make	Model	Year	Engine	Important vehicle option details
Buick	Regal	2012-2013	4 Cyl 2.0L Flex, 4 Cyl 2.4L	CXL 4 DOOR SEDAN, CXS 4 DOOR SEDAN
Buick	Verano	2012-2013	4 Cyl 2.0L Flex, 4 Cyl 2.4L	CX 4 DOOR NOTCHBACK, CXL 4 DOOR N...
Chevrolet	Cruze	2012	4 Cyl 1.4L, 4 Cyl 1.8L	Ltz 4 DOOR NOTCHBACK
Chevrolet	Equinox	2012	4 Cyl 2.4L, 6 Cyl 3.0L	Lt SUV, Ltz SUV
Chevrolet	Orlando	2012-2013	4 Cyl 2.4L	Lt 4 DOOR HIGH ROOF WAGON, Ltz 4 D...
GMC	Terrain	2012	4 Cyl 2.4L, 6 Cyl 3.0L	SLE2 SUV, SLT SUV

Image: GM Replacement radio receiver (does not include display)

The display interface that handles the user interface and climate controls is separate from the radio receiver.

With older devices, the most common failures are mechanical, with the CD drive or the spinning hard drive. In the case of a hard drive failure, it is sometimes necessary to transfer software from a functional drive onto the replacement drive prior to installation.

The software that operates the infotainment system was stored separately from the content. Many vehicles have a hard drive to store nav data, the Gracenote database, and content (movies and music). In this configuration, the infotainment system itself does not store the protected works.

But now, as the testimony from Harman shows, modern vehicles are integrating these separate components. Repairs to the telematics or infotainment system require accessing and modifying the software.



Image: Broken CD drive from the 2012 Buick.

For the purposes of repair, it is necessary to access and modify the software on the Telematics and Infotainment system.

Internal Photos

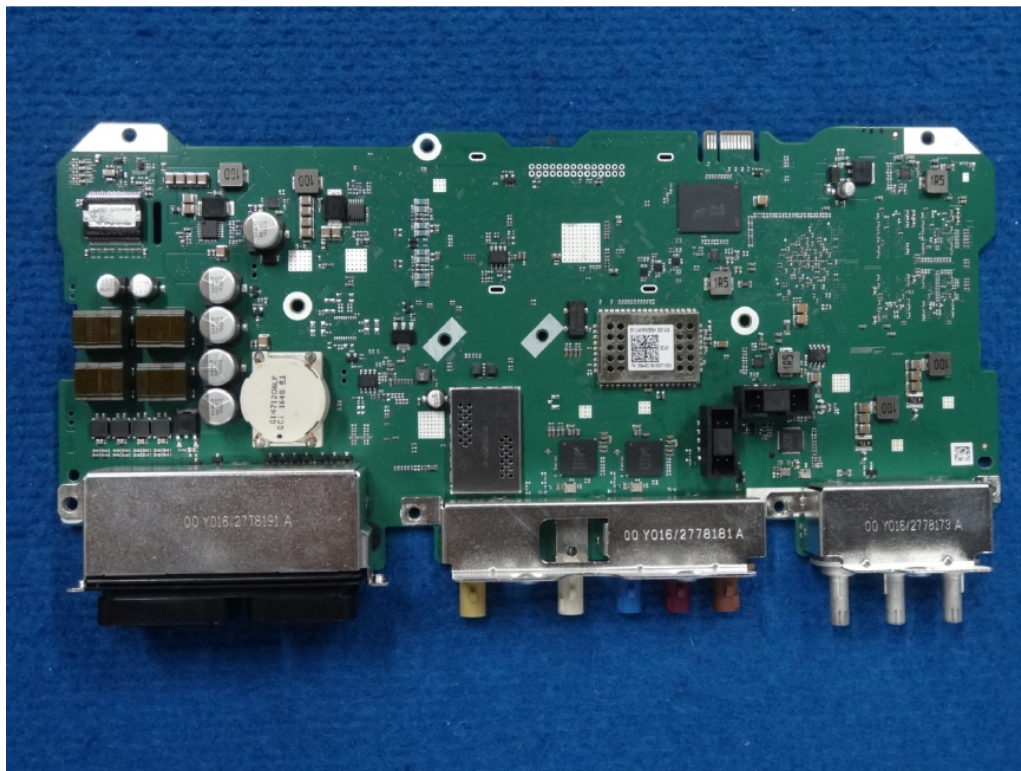
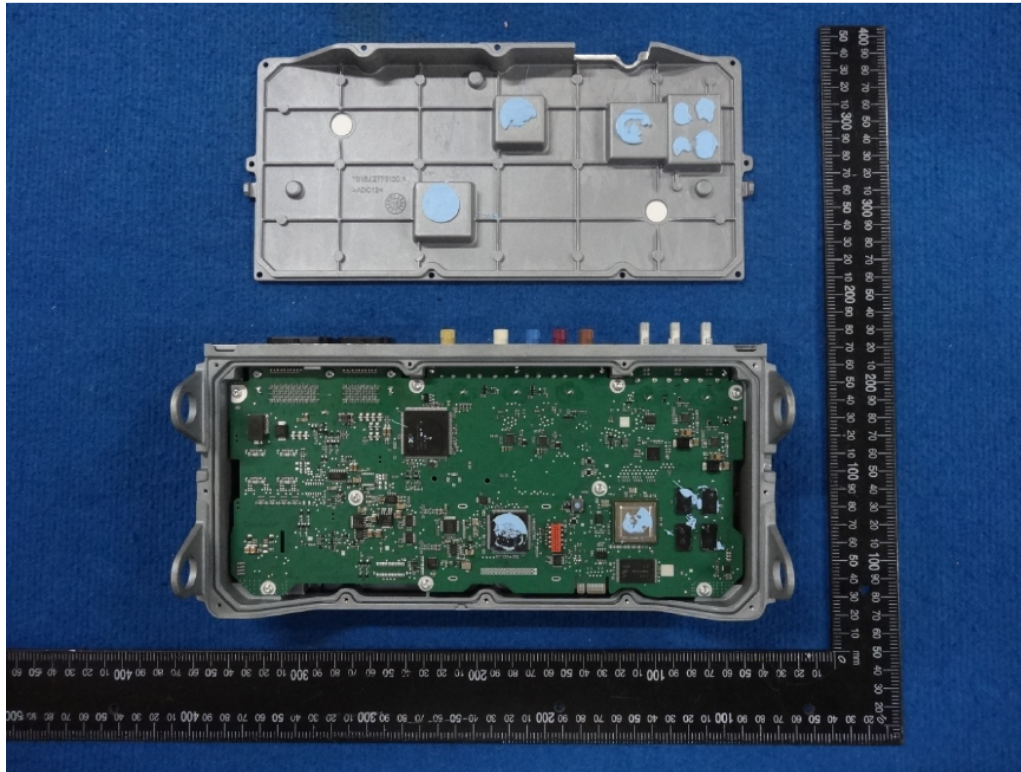


Image: Integrated Harman telematics and infotainment system that replaces the separate modules on older systems.

Because of this increased integration among automotive systems, any exclusions from the categories of works exempted by the class would thwart users' right and ability to service all parts of the vehicle. Indeed, given such integration, the proponents have reason for concern that an exclusion against circumvention of a TPM for particular software would provide incentive to place other vehicle systems behind the same TPM -- thereby threatening the users' rights under the exemption.

Conclusion and Exemption Language

The bracketed portion of the exemption language below reflects an exclusion that proponents do not support, but which addresses the Copyright Office's proposal in Question 1a.

Computer programs and compilations that are contained in and control a function of a machine or device or a part thereof, [except for a machine or device with the exclusive function to render or display audiovisual works or sound recordings,] when circumvention by the user is undertaken to facilitate the diagnosis, repair, maintenance, or modification of such function or the interoperability of such function with another machine, device, or part.

We ask that the Copyright Office recommend the issuance of the exemption without the bracketed language limiting the devices or TPMs to which it applies.

The Joint Proponents again thank the Copyright Office for its consideration, and remain available to address any further questions.