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IN THE MATTER OF:)
)
SECTION 1201)
RULEMAKING HEARING)

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Remote Roundtable
Suite 206
Heritage Reporting Corporation
1220 L Street, N.W.
Washington, D.C.

Tuesday,
April 20, 2021

The parties met remotely, pursuant to notice, at
10:35 a.m.

PARTICIPANTS:

Government Representatives:

REGAN SMITH, General Counsel of the U.S. Copyright
Office
KEVIN AMER, U.S. Copyright Office
NICHOLAS BARTELT, U.S. Copyright Office
STACEY CHENEY, National Telecommunications and
Information Administration
BRAD GREENBERG, U.S. Copyright Office

Panelists:

MICHAEL AYERS, DVD CCA and ACS LA
KATHLEEN BURKE, Public Knowledge
CARA GAGLIANO, Electronic Frontier Foundation
STEVE INACKER, Transtate Equipment Company and
Avante Health Solutions
ROBERT KERWIN, International Association of
Medical Equipment Remarketers and Servicers
MARK MCHARGUE, Nebraska Farm Bureau
MORGAN REED, ACT | The App Association
KEVIN M. ROSENBAUM, Auto Innovators
KERRY MAEVE SHEEHAN, iFixit
KYLE WIENS, Repair Association
J. MATTHEW WILLIAMS, Joint Creators and Copyright
Owners

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P R O C E E D I N G S

(10:35 a.m.)

1
2
3 MS. SMITH: I'm Reagan Smith, General
4 Counsel of the Copyright Office, and this is our sixth
5 day of hearings for our Section 1201 rulemaking.
6 Today we are focused on Class 12, which concerns
7 various adjustments or proposed expansions to
8 exemptions for purposes of repair.

9 We're really excited that we have a big
10 group today. Thank you for coming. We think we'll
11 have a productive discussion.

12 So to go through logistics for those who
13 might be new, my colleagues and I will moderate this
14 session by posing specific questions. If you wish to
15 respond, probably the easiest way is to use the Zoom
16 "raise hand" button, and we'll try to get through to
17 people in turn. If you're having issues -- some
18 people have been having issues -- you can literally
19 wave your hand or signal in the chat.

20 For anyone in the audience or a panelist who
21 has an issue communicating in the chat or the Q&A,
22 we'll alert someone at the Copyright Office to reach
23 out to you to provide technical assistance.

24 For those who are listening or watching as
25 an S-M-B, I guess this is the only session for today,

1 but there is also a link in the chat if you wish to
2 sign up for audience participation for tomorrow. That
3 is the time for those who maybe didn't sign up for a
4 specific panel but wish to provide perhaps up to three
5 minutes of their own views as to any of the proposed
6 exemptions, and that will be concluding our hearings
7 tomorrow.

8 And today's event is being recorded. The
9 video will be posted to the Copyright Office website.
10 I think it's also being livestreamed. We have a court
11 reporter transcribing the proceedings, so please try
12 to speak slowly and clearly. I know we're all experts
13 in virtual communication, so mute yourself if you're
14 not speaking.

15 And I think before we get started, I'd like
16 to ask those from the Government to introduce
17 themselves, so maybe Mr. Amer, Mr. Bartelt, and Mr.
18 Greenberg from the Copyright Office.

19 MR. AMER: Good morning. Kevin Amer, Deputy
20 General Counsel.

21 MR. BARTELT: Good morning. Nick Bartelt,
22 Attorney-Advisor.

23 MR. GREENBERG: Good morning. Brad
24 Greenberg, Assistant General Counsel.

25 MS. SMITH: And, Mr. Cheney, could you

1 please introduce yourself?

2 MR. CHENEY: Sure. Thank you and good
3 morning. My name is Stacey Cheney. I'm a Senior
4 Attorney Advisor in the Office of Chief Counsel at
5 NTIA, Department of Commerce.

6 MS. SMITH: So next, we're just going to do
7 short introductions of where you are and what
8 organization you may be representing. So I'm going to
9 try to go alphabetically, starting with those who are
10 here in support of seeing expanded exemptions in some
11 form or the other.

12 So, Ms. Burke?

13 MS. BURKE: I'm Kathleen Burke, and I'm
14 representing Public Knowledge.

15 MS. SMITH: Thank you.

16 Ms. Gagliano?

17 MS. GAGLIANO: Cara Gagliano, and I'm
18 representing the Electronic Frontier Foundation.

19 MS. SMITH: Mr. Inacker?

20 MR. INACKER: Steve Inacker, and I'm
21 representing Transtate Equipment Company and Avante
22 Health Solutions in the medical segment.

23 MS. SMITH: Mr. Kerwin?

24 MR. KERWIN: Robert Kerwin, General Counsel
25 to IAMERS, the International Association of Medical

1 Equipment Remarketers and Servicers.

2 MS. SMITH: Mr. McHargue?

3 MR. MCHARGUE: Good morning. Mark McHargue.
4 I'm a farmer in Central City, Nebraska representing
5 American Farm Bureau.

6 MS. SMITH: Ms. Sheehan?

7 MS. SHEEHAN: Kerry Sheehan. I am the head
8 of U.S. policy at iFixit.

9 MS. SMITH: Mr. Wiens?

10 MR. WIENS: Kyle Wiens, and I am speaking on
11 behalf of The Repair Association.

12 MS. SMITH: And now we'll have those who
13 have filed in opposition to some or all of the
14 proposed adjustments to the exemptions.

15 So, Mr. Ayers?

16 MR. AYERS: Thank you. Good morning. My
17 name is Michael Ayers, and I'm representing the
18 Advanced Access Content System Licensing Administrator
19 LLC, usually referred to as AACS LA, and DVD CCA --
20 DVD Copy Control Association, usually referred to as
21 DVD CCA.

22 MS. SMITH: Thank you.

23 Mr. Reed?

24 MR. REED: Hi. My name is Morgan Reed. I'm
25 the President of The App Association, and the

1 Executive Director of The Connected Health Initiative.

2 MS. SMITH: Mr. Rosenbaum?

3 MR. ROSENBAUM: Hi. I'm Kevin Rosenbaum,
4 and I'm here today representing The Alliance for
5 Automotive Innovation, Auto Innovators.

6 MS. SMITH: Thank you.

7 And, Mr. Williams?

8 MR. WILLIAMS: Good morning. Matthew
9 Williams, Mitchell, Silberberg & Knupp, representing
10 the Joint Creators and Copyright Owners.

11 MS. SMITH: Thank you.

12 So we have a lot of people here on kind of a
13 bigger record for this proposed class, so I want to
14 give a short road map of some of the issues, the order
15 in which we are hoping to get through some of the
16 issues, to make sure we have time to get to it all.

17 So first, we are going to address questions
18 of the proposed scope of the class, whether it should
19 be one exemption or multiple exemptions, which it
20 currently is.

21 Secondly, some of the proposals to make it
22 device-agnostic as well as permit modification of
23 devices.

24 Next, issues specific to DVD or Blu-Ray
25 players, as well as video game consoles.

1 We have a couple of questions specific to
2 causation; then turning to medical devices; and then,
3 finally, issues related to vehicles.

4 So we'll try to get to everything, and
5 certainly some issues are going to be cross-cutting,
6 but I thought that might be helpful.

7 So I guess to begin, it would be helpful to
8 hear either from proponents or opponents with respect
9 to some of the proposals by EFF, or iFixit, or The
10 Repair Association to sort of broaden and condense the
11 two existing regulatory exemptions into a single one
12 that is agnostic as to device.

13 So we have some precedent for this in an
14 exemption for security research, where the Office
15 concluded that computer programs can constitute a
16 proper class because the use was so tailored.

17 Is that helpful for us to look at that in
18 connection with repair, or are there different issues
19 going on that we should be cognizant of with respect
20 to the areas at issue in this exemption? So I saw Ms.
21 Sheehan first.

22 Please go ahead.

23 MS. SHEEHAN: So I think that's a great
24 analogy. I think similar to how we think about
25 security research, where we're talking about repair,

1 the purpose of the use is consistently non-infringing,
2 and the use of the software is virtually identical.
3 If the purpose of repair is to restore the device to
4 functionality and all of that, that's a fair use, and
5 it's non-infringing also under 117.

6 Continuing with the Office's path of limited
7 exemption categories that are kind of device
8 restricted or limited to certain narrow categories of
9 devices really makes it difficult for these exemptions
10 to keep up with the increasing number of software-
11 enabled devices with technological protection
12 measures.

13 So from a purely practical level, if we
14 continue on this route, we're going to be -- us,
15 iFixit, The Repair Association, EFF, and other
16 individual users and organizations and advocates are
17 going to be coming back every three years with a new
18 roster of devices as the world of software-enabled
19 devices continues to explode.

20 And part of the problem that we see with
21 some of these narrow categories is that sometimes it's
22 unclear whether a device sits in one category or
23 another. Is a headphone a wearable? Is it something
24 else? What about a smart watch?

25 So the categories don't kind of keep up with

1 market realities, or how products are marketed, or how
2 many functions they have, and we just have a
3 proliferation of these devices. So three years ago,
4 we weren't really looking at a bunch of smart light
5 bulbs, but now we are, and that's just going to
6 increase going forward.

7 And I'll say that similarly to the exemption
8 for encryption research and security research, when
9 we're talking about looking at this broad category of
10 devices, for each of these devices, the purpose is
11 still non-infringing, and the copyright analysis is
12 the same. The purpose is repair. Repair is non-
13 infringing. And that doesn't differ between whether
14 it's a phone, or a tractor, or a light bulb, or a
15 smart litter box.

16 MS. SMITH: Thank you.

17 So I'll call on you next, Ms. Gagliano, but
18 one thing to pick out -- I thought Ms. Sheehan is
19 stressing the purpose being shared, but I wonder if
20 you could also address whether there is a similar
21 causation effect. So do the TPMs work in the same
22 way?

23 And another element, of course, for
24 considering is the effect on the market for
25 copyrighted works and whether or not there's

1 sufficient commonalities to assume they're all going
2 to have a similar effect.

3 MS. GAGLIANO: Yeah. Thank you. So I agree
4 with everything that Ms. Sheehan just said, and to
5 some of your points would add that, yes, I think that
6 the causation issues are very much the same, and the
7 effect on the market, and part of that is because like
8 security research and that exemption, we're already
9 limited to a subcategory of literary works and have
10 this specific purpose.

11 But not only that, we're limited further.
12 It's not all computer programs. It's just firmware,
13 embedded software that's controlling the operation of
14 physical devices.

15 And that unifying feature is what really
16 unites the entire class in terms of common issues with
17 all of the statutory factors, including market
18 effects, because the thing about firmware that's
19 unique relative to a lot of other kinds of computer
20 programs is that there really isn't a separate market
21 for firmware outside of the physical devices it's
22 attached to. That is just inherent to the nature of
23 firmware. It's what makes it firmware, it is attached
24 to, sold with, a specific device.

25 And any kind of modified firmware, repaired

1 firmware, that's being produced through this exemption
2 isn't something that is going to act as a market
3 substitute for firmware, because you would still have
4 to buy the physical device or otherwise acquire the
5 physical device in the first place with that original
6 firmware already on it.

7 So the copyright owner has already been
8 compensated. They aren't selling any fewer copies of
9 the firmware, because the number of firmware copies is
10 inherently tied to the number of devices sold, and
11 modified firmware is useless without that.

12 MS. SMITH: Let me ask you one question, and
13 then I think I'll move on to make sure everyone has an
14 opportunity to wave in. You're using this word
15 "firmware," and the two exemptions now discuss
16 computer programs that are contained in and control
17 the functioning of a lawfully acquired "blah" -- with
18 "blah" being what's in dispute.

19 Do you think that "contained in" and "control the
20 functioning" is synonymous with firmware? Or are you
21 sort of narrowing the description a bit more?

22 MS. GAGLIANO: I think it is essentially
23 synonymous. You know, to the extent that the
24 definition you mentioned, "contained in" and
25 "controlling the operation of" could be understood to

1 be broader. You know, that's really not what we mean.

2 We're not talking about like apps. Even if
3 you could think in some sense, "Well, an app in some
4 way controls the operation of the product," but that's
5 not what we're talking about. We're talking about
6 what is the industry term of firmware or embedded
7 software.

8 MS. SMITH: Okay. So it sounds like you
9 might not object to an effort to sort of clarify that
10 to the extent that might put Mr. Reed, for example, at
11 The App Association -- give him a little bit more
12 comfort. Is that right?

13 MS. GAGLIANO: Sure.

14 MS. SMITH: Okay.

15 So I think to keep going in order, we'll go
16 to Mr. Wiens and Mr. Williams.

17 But, Mr. Wiens, I want to press and give you
18 the same question I asked Ms. Gagliano, because I
19 still think one area -- to take the analogy to other
20 exemptions, is we similarly concluded in the unlocking
21 process there just weren't other examples of devices
22 that needed to be unlocked. There were not TPMs
23 effectively controlling access.

24 And so that is a question we have here,
25 whether there is the same showing of causation or

1 adverse effects across these categories, because if
2 there's not TPMs, it doesn't make sense to have a
3 regulatory proceeding and sort of make it seem like an
4 exemption is needed if one is not, for example.

5 And we also want to see whether there are
6 other alternatives, even where there may be TPMs. So
7 can you provide a little bit more color about the
8 other types of devices you think are not being able to
9 be accessed, notwithstanding the current exemptions?

10 MR. WIENS: Absolutely. Great question.
11 What I think is interesting about this is we're
12 talking about all of these devices, all kinds of
13 different devices. What's sort of amusing to me
14 technically about this is that the software, the work
15 that we're talking about, is substantially precisely
16 the same in all of these cases, even though they're
17 different devices. It's Linux.

18 Linux is the work that is being protected in
19 almost all of these cases, whether it is a nanny cam,
20 or a smart coaster, or a industrial SCADA system.
21 They are running on Linux. And I like to call the
22 internet of things "the internet of outdated Linux
23 distributions."

24 And what's happening is you hear about all
25 of the kind of security problems that we have with the

1 internet of things. It's because these devices are
2 outdated and not patched. And in response to all of
3 the security vulnerabilities that have been found,
4 manufacturers are locking these devices down.

5 It's interesting that like traditionally,
6 the Copyright Office is focused on TPMs, where you
7 have a DVD. You have copy protection put on the DVD.
8 The copy protection is there to protect the work from
9 being copied. In this case, it's generally there to
10 prevent malware.

11 And so are there TPMs on all of these
12 devices? There should be. If a manufacturer is doing
13 their job, if it's a nanny cam, you don't want that
14 stream ending up on the public internet. You want it
15 locked down. If it's a building automation system,
16 you don't want anyone on the internet to be able to
17 log in and unlock the doors. You need to lock it.

18 So I would say the default case is, yeah,
19 there are locks. The locks are not intended to
20 prevent owners from accessing and modifying and
21 unlocking a door in a building automation system. The
22 locks are there to prevent unauthorized third parties.

23 So if you look at the world of internet-
24 connected devices going forward, if I was designing
25 them all, if I had sort of my druthers, I would put

1 locks on all of them. And I think that you will see,
2 sort of the security best practices, that there should
3 and will continue to be locks on these devices.

4 MS. SMITH: Is there an issue, for example,
5 with the SCADA systems of not being able to repair
6 them or even lawfully modify them because there's an
7 inability to get permission?

8 I mean, we had a specific record on that,
9 for example, with the security research classes, that
10 there was a need to have good-faith security
11 researchers on those types of systems, and I don't
12 know if we have a similar record in this class of the
13 effect of 1201 on non-infringing uses for some of
14 these types of devices.

15 MR. WIENS: Yeah, we -- so one story that we
16 mentioned on the record was a school. This was, I
17 think, an elementary school. And the facility's
18 maintenance person passed away, and he had the
19 password to the whole system. And it turned out that
20 this particular system, there was no way to reset that
21 password.

22 What you had to do was wipe out the
23 programming for the entire system and reprogram it,
24 which if -- so I've configured some of these building
25 systems, and like for our office, it took like a month

1 of programming to set it up. It controls the lawn
2 sprinklers. It controls timing on the doors, who can
3 go in and out. There's different timing settings. If
4 someone unlocks the door at 3:00 a.m., different
5 security settings go off, and otherwise. It controls
6 the air conditioning. In a larger -- like in a
7 school, it might control a water treatment system.

8 So it is a huge amount of work, so in that
9 case, where you need to be able to basically break
10 into your own system to change the password, if they
11 couldn't do that, you're talking about like probably
12 not the kind of repair that could happen in a weekend.
13 It might take a professional or someone really good at
14 this a week to go in and reprogram everything. So the
15 ability to circumvent that would be very important.

16 Another example that's personal to me, we
17 have a building automation system that only supports
18 99 key cards, and we have more than 99 people. We
19 need to change it.

20 MS. SMITH: Do you know why it only supports
21 99 key cards? Is that part of a license?

22 MR. WIENS: No, there's no way to pay more.
23 The company just doesn't support it. I think it was
24 an artificial limit put in by some software engineer.
25 I want to find that person and smack them upside the

1 head, because it's very frustrating. But it's a
2 limit, and I've asked. There's no amount of money
3 that we can pay to change it.

4 And another thing that I would mention,
5 because we're talking about sort of third parties you
6 sort of have the branded folks, the folks who maybe
7 have been trained by manufacturers to come in and do
8 some of this work. We've had extensive experience
9 with a lot of these folks and have had repair problems
10 with our building automation system that the trained
11 service technician from the factory can't figure out.
12 They've been out a dozen times and can't figure out
13 problems.

14 MS. SMITH: And just to make sure I run down
15 your example that you provided of the school, you
16 can't call someone and say, "You know, the guy who had
17 the password has left, can you reset it?" Because I
18 think that's something we find ourselves having to do
19 with a variety of technology now.

20 MR. WIENS: Right. In this case, the system
21 just wasn't designed that way. And I think that you
22 will find that is fairly common. A lot of these -- I
23 mean, particularly -- we're kind of in the early days
24 of all of these technologies. A lot of them are
25 relatively primitive. And so in this case, the

1 software just didn't have that feature. And so the
2 factory technician is going to come out and say, "Your
3 option is to wipe all the settings or cough up the
4 password."

5 MS. SMITH: Okay, thank you. So I know you
6 talked for a little bit.

7 Mr. Williams, you've had your hand up for a
8 while. So please feel free to comment on the past
9 speakers or any of the issues I've posed.

10 MR. WILLIAMS: Yeah, thank you. I mean, I'm
11 glad to hear Mr. Wiens acknowledge that the use of
12 locks is a best practice, really, with devices across
13 industries and is not something to be critical of in
14 the abstract.

15 And I think your question goes to whether
16 all devices are the same or there are distinctions,
17 and I think the records over the past few cycles have
18 demonstrated that there are distinctions, and you put
19 your finger on a few of them with your questioning.

20 For video game consoles, for example,
21 there's an established consistent record that those
22 TPMs are in place to protect security of the devices,
23 privacy of users, prevent cheating, but also
24 primarily, and importantly, to prevent infringement,
25 and that the value of the device firmware is decreased

1 by circumvention of these access controls, which
2 impacts the fair use analysis and also the 1201
3 factors analysis.

4 In addition, you've determined there are
5 alternatives to circumvention in certain respects with
6 respect to repairing video game consoles, and that's
7 not consistent across all of the devices that you've
8 looked at here. And I think Mr. Wiens's examples just
9 show you the wide variety of questions that can come
10 up when you go from one device to the other device, or
11 to a system.

12 Your question was quite good about, "Is that
13 a license? Could you pay more for 200 users instead
14 of 99 users?" The answer may be very different for
15 different situations. And so just focusing on the
16 video game console space, I don't think there's
17 anything in the record to deviate from prior
18 decisions, and I think you've been wise to go at least
19 device by device in terms of categories.

20 I mean, you haven't been myopically focused
21 on individual devices. You have acknowledged that
22 there are distinctions between categories of devices,
23 and those distinctions can have a lot of import,
24 whether it's under 117, or 107, or alternatives to
25 circumvention, and so I think that's been the right

1 approach.

2 And I don't see it as analogous to security
3 research. In part, I feel the security research
4 exemption has been granted because there's a statutory
5 provision that you were building off of, and you felt
6 that over time that provision was no longer doing its
7 job. You know, whether I agree with that or not, I
8 think that's how that progressed in the way it did.
9 And I think this is a distinct situation.

10 MS. SMITH: Okay. Can I stand you with two
11 follow-up questions that are rather pointed and then
12 get to everyone?

13 So why or why not was it helpful to hear
14 suggestions that the proposed exemption is limited to
15 so-called firmware or something, Linux specifically?
16 Does that help address your concerns at all, or not?
17 And if not, why?

18 MR. WILLIAMS: No, I don't think limiting it
19 to circumventing access controls on firmware would fix
20 our concerns, especially in the video game console
21 space. When you circumvent those access controls, you
22 undermine the security scheme that's in place to do a
23 lot of different jobs but, importantly, protect the
24 copyright integrity of the system, and so that would
25 not fix our concern there.

1 Perhaps if you're in another space --
2 printers or litter boxes -- maybe the firmware doesn't
3 have any other copyright purpose, but I think you've
4 been right to acknowledge in the past that in the
5 video game consoles it does.

6 MS. SMITH: Okay, thank you.

7 Mr. Rosenbaum?

8 MR. ROSENBAUM: Thank you very much. I know
9 we're going to get to vehicles in a different segment,
10 but I just wanted to make the point, sort of following
11 on Matt's point, that there are distinctions,
12 particularly with the automobile industry. My
13 comments address only that industry. We don't have
14 any position on any other devices here.

15 But just, for example, there's no evidence
16 that users of automobiles are having any difficulty
17 getting their automobiles repaired. There's a
18 thriving aftermarket going on. Seventy percent of
19 post-warranty repair work is done by independent
20 repair shops.

21 There's, of course, the MOU under which auto
22 manufacturers are required to provide automobile
23 owners and independent repair shops with the same
24 repair and diagnostic information and tools that are
25 provided to franchise dealers.

1 And then, of course, the other distinction
2 is the auto industry is very highly regulated, and the
3 access controls also protect software that relates to
4 safety and environmental regulations, and those are
5 critical, which the Office recognized in its
6 promulgation of the existing exemption.

7 And so what's at issue here is relaxing some
8 of these important restrictions on the existing
9 exemptions, so I just wanted to point out that there
10 are some real distinctions here with the auto
11 industry.

12 MS. SMITH: Thank you.

13 And I see we have a lot of hands raised.
14 I'm going to keep moving on.

15 So I think, Mr. Ayers, I will go to you
16 next. The one question I'm wondering, and it's maybe
17 part of what you're already prepared to comment upon,
18 is piggybacking off Mr. Rosenbaum bringing vehicles
19 into this, the current exemption for vehicle repair,
20 accepts TPMS protecting works that are accessed on a
21 subscription service such as radio, sort of
22 expressible content, and that's an approach the Office
23 has taken to some exemptions, including also saying
24 that circumvention -- for example, in the jail-
25 breaking context of audio speakers -- cannot be

1 accomplished for the purpose of gaining access to
2 other copyrighted works.

3 And so I think sort of anticipating what you
4 might be saying, and also listening to what Mr.
5 Williams said, is that an approach that is useful for
6 the Office to consider, to sort of carve out the video
7 game consoles or DVD or Blu-Ray players, or things
8 where the TPM circumvention -- if the record shows it
9 will be more likely to have an adverse effect on the
10 unlawful distribution of copyrighted works and,
11 perhaps the nanny cam?

12 MR. AYERS: Thank you. Well, certainly, to
13 the extent there's an inclination to grant the
14 requested expansions to the exception or to the
15 exemption, it's better to have limits than no limits,
16 and the concern of my clients is geared towards those
17 devices with optical disk drives that play back
18 expressive content like DVDs and Blu-Rays, so
19 including game consoles.

20 So certainly, we still continue to maintain
21 our position, but to the extent that there's an
22 inclination to go that way, carving out those devices
23 certainly relieves the pressure, to a certain extent,
24 on my clients.

25 And I would just note that a couple of other

1 issues that have come up in the comments we've talked
2 about that we've had today -- one is what we keep
3 calling as a repair exemption. A number of the
4 examples in the conversation today and in the comments
5 received so far have actually gone well beyond repair
6 and have included modification of devices beyond their
7 original functionality.

8 And one of the concerns that we would have
9 would be the extent to which a repair is then geared
10 towards changing the functionality of a device, which
11 uses AACS or CSS to circumvent those technologies and
12 present pirated content in a manner in which it's not
13 authorized.

14 I would also note that there was also the
15 comment that I thought was a very salient one, that
16 locks are not always bad, as has already been said,
17 and that, certainly, to a large extent, the
18 protections on firmware and devices are often to
19 protect the users of those devices against intrusions
20 by malicious third parties, and that's certainly a
21 good thing.

22 But also, to piggyback a little bit on other
23 comments that have been made, there are other purposes
24 for the firmware, and so for instance, in the context
25 of DVD and Blu-Ray, the firmware is used to protect

1 the decryption -- cryptographic values, and device
2 keys, and certificates that are used to render the
3 device a good citizen in the entertainment content
4 world, making sure that it's a secure platform that's
5 available for a content owner to release high-value
6 content in that format.

7 And to the extent that the ability of the
8 device to protect those cryptographic values is
9 rendered less, is rendered less effective, it reduces
10 the attractiveness of the formats to content owners.

11 MS. SMITH: Okay, thank you, Mr. Ayers.

12 So I'm going to try to get to everyone who
13 hasn't spoken yet, but then go back to you Ms.
14 Sheehan, Ms. Gagliano, I understand this is something
15 that you wish to respond to.

16 So, Ms. Burke, can we piggyback on what Mr.
17 Ayers brought up, which is modification? And what are
18 your thoughts? You can comment on what some of the
19 prior commenters have said, but with respect to video
20 game consoles in particular, do you see a need for
21 modifications? I'm not sure that's part of what
22 Public Knowledge is supporting with respect to video
23 game consoles for this exemption.

24 MS. BURKE: Yeah. So with respect to
25 modification, to the extent that you might need to

1 modify the software in order to like repair or relock
2 the optical drive once you change it out, I think that
3 modification would be potentially necessary, depending
4 on what the anti-circumvention technology ends up
5 doing.

6 I know as an analogy, there are some times
7 when you might need to reprogram like in the software,
8 like how -- what the function of a button is, and so
9 that might require modification. But in terms of
10 modification for a functional purpose, not
11 modification to allow you to play pirated DVDs.

12 And I just want to address that concern
13 there, that somehow allowing these -- changing out the
14 optical drive and being able to repair that optical
15 drive is going to jeopardize the security of the whole
16 system: the lock that pairs an optical drive to the
17 motherboard exists on the daughterboard connection
18 between the two devices. And it's my understanding
19 that unlocking that so that you can pair a new optical
20 drive is not going to then jeopardize the whole
21 ecosystem of a video game console and its security
22 protocols.

23 So I think that that's something that's
24 particularly relevant here, since this idea that all
25 of a sudden changing out an optical drive is going to

1 make it easier to pirate content. It just doesn't
2 seem like that works within the realities of how these
3 systems are constructed.

4 MS. SMITH: Thank you.

5 Mr. Reed?

6 MR. REED: Hi, hopefully your cat is getting
7 out of the way.

8 I think there are a couple things. I want
9 to actually note, I agree with Kyle Wiens. I thought
10 his use of the concept of unpatched Linux is great,
11 and I just think about the GRUB bootloader and the
12 problems we've had there.

13 But it actually points to the problem,
14 Regan, that you hit on exactly, which is any tools
15 that you build to go against the TPMs open up a case
16 for infringement that's pretty significant.

17 You asked a great question, which is if that
18 house software or that building software uses as part
19 of its marketing "pay this much for 99 users, pay this
20 much for 200," in Mr. Wiens's example, there wasn't
21 that option. But the tools have to be created in a
22 way that would make access to it.

23 All of the software that my members are
24 making now, we're doing a lot of products that are
25 essentially by the sip, right? You right-size your

1 product. You right-size the price of your product.

2 If the TPMs can be violated, and tools are
3 widely available that allow that to be broken through,
4 then of course the other modifications that can be
5 made are, "Well, I don't want to pay for 200 licenses.
6 I'll buy one for one license and I'll use TPM-breaking
7 tools to increase that number to 99."

8 Our entire app ecosystem business model
9 essentially exists on these concepts of right-sizing
10 an in-app purchase, a purchase that you make to get
11 exactly what you want and not pay more for it. The
12 TPMs that are in place, as he noted, for safety and
13 security also secure the framework that allow for the
14 appropriate licensing and right-sizing of the
15 products.

16 I think the one other comment that goes
17 along with it, though, on the comment we just heard
18 about the daughterboard and where the technology
19 exists, is valid, but at its core, she's essentially
20 saying, "Hey, guys, you need to rewrite your software.
21 If you're not doing it this way, then you as an
22 industry need to change the way you behave."

23 And I don't think that meets the test that
24 the Copyright Office is setting. Those of us who are
25 writing the products should not be forced to modify

1 our software to meet this change that they want. So
2 the fact that in some cases the connection is on the
3 daughterboard or on the physical device may be
4 something that software refers to when checking other
5 things.

6 So the request here is not just, "We'd like
7 to hack it ourselves." Her point was, "Well, you can
8 make this real easy change to your software, and if
9 you do that, then there won't be a problem." That's a
10 bar that the Copyright Office shouldn't be making,
11 shouldn't be telling us to change our software in
12 order to accommodate someone else's ability to break
13 into it.

14 MS. SMITH: Can I ask you, while I have you,
15 so the way we've structured the current vehicle
16 exemption does not extend to TPMs protecting
17 subscription services, and you could see sort of a
18 similar description of --

19 MR. REED: Yep.

20 MS. SMITH: -- you know, exceeding terms of
21 use, and some of the issues you're talking to. Is
22 that a helpful way we can think about these internet
23 of things software-embedded devices? Or is there a
24 technological reason to suspect that enabling repair
25 to the --

1 MR. REED: Right.

2 MS. SMITH: -- original state is --

3 MR. REED: It's a great question.

4 MS. SMITH: -- going to somehow -- yeah, go
5 ahead.

6 MR. REED: Yeah, so I'll give an example.
7 One of the problems that we're running into right now
8 is -- and this gets into TPMs -- is we can't actually
9 avoid piracy by giving our products away for free.

10 So to your question about can you isolate it
11 into these camps because, well, a TPM that's strictly
12 for this use is bad, we're actually seeing a situation
13 right now where software is developed and distributed
14 for free, ad-supported, where the TPMs are being
15 broken, and then that software is being hijacked and
16 an additional ad network is placed underneath it.

17 So literally, I give my software away for
18 free, and it is being pirated and an additional ad
19 network is being installed underneath it. So your
20 point about well, can we isolate it into a copyright
21 infringing use, that's an example that violates my
22 copyright, but it's not one that has to do with how
23 much I'm charging or where I'm doing it.

24 I'm literally giving my software away for
25 free, and people are still going to break it and use

1 it in a way that disadvantages me. So I think to your
2 point, I think that obviously what you've done so far
3 has worked, but I would be very concerned about any
4 expansion of that across multiple sectors, because I
5 think it's hard to keep that from breaking into
6 harmful uses.

7 MS. SMITH: Okay. Thank you, Mr. Reed.

8 So, Ms. Gagliano, I think you've had your
9 hand up for a while, so whatever -- okay, thank you.
10 If you would like to comment on what you had your hand
11 raised for as well as particular -- how the Office can
12 think about modification as a lawful use across these
13 devices, and maybe address some of the comments raised
14 about distinguishing between lawful modification on
15 the one hand, and the derivative right on the other.

16 MS. GAGLIANO: Yeah. So I think in
17 particular, responding to what we've been hearing a
18 lot of from opponents about how "look, if you let
19 people get past these TPMs, they're going to
20 infringe," infringement is going to happen, even if
21 that means having to bypass another TPM, which the
22 exemption would not permit, even if that means having
23 to go another step and do the exemption for purposes
24 that the TPM does not permit. I don't think it is
25 appropriate for the Office to consider in deciding is

1 this an appropriate exemption to consider whether
2 people will then break the law and actually go beyond
3 the scope of that exemption.

4 I mean, you could have said the exact same
5 thing about the security research exemption, and I
6 think many opponents did. The security research
7 exemption applies even to video game consoles, to DVD
8 and Blu-Ray players. We haven't heard anything from
9 opponents about increased infringement since 2018
10 attributable to granting that exemption.

11 So when people are using these exemptions,
12 it is to do the -- make the non-infringing uses that
13 were being adversely affected. And the fact that
14 someone might go further and try to say, "Well, this
15 exemption protected part of what I did" isn't really
16 relevant. It's still assuming that someone is going
17 to violate 1201 either way.

18 And in terms of the concern that someone
19 would -- that a possible modification of the firmware
20 would be to make the device changed in a way that
21 would enable piracy, one simple tweak to our language
22 that would get maybe more at what we actually had in
23 mind is saying, for -- it would be circumvention not
24 only for purpose of non-infringing modification, in
25 which case we mean the actual creation of the

1 modification would be non-infringing, but it could
2 also be for a non-infringing purpose.

3 So the exemption doesn't have to cover
4 modifications that would be for the purpose of
5 enabling piracy, getting access to other copyrighted
6 works. But either way, the exemption is not giving
7 anyone permission to circumvent TPMs on any work other
8 than software. It's not giving permission to
9 circumvent TPMs for the purpose of infringement.

10 And we have heard the same argument in every
11 rulemaking cycle against many of the exemptions that
12 have already been granted, like all the jail-breaking
13 exemptions, the past exemptions for vehicles. Last
14 year, it was the exemption for repair of certain
15 consumer devices and home appliances. Every time,
16 opponents say, "This is going to make everyone
17 infringe." There's still absolutely no evidence of
18 that, and I think the absence of that evidence --

19 MS. SMITH: Okay.

20 MS. GAGLIANO: -- is a form of evidence
21 itself.

22 MS. SMITH: Thank you.

23 I'm going to try to just keep our comments a
24 little bit shorter if we can going forward, to make
25 sure we have time to get through everything.

1 Ms. Sheehan, did you want to speak to the
2 question of lawful modification? I know the Office
3 has had some hesitancy in the past to conclude that
4 that's the right defining phrase for that, with level
5 of specificity. We would welcome your thoughts.

6 MS. SHEEHAN: Absolutely. Do you mind if I
7 also address a couple of your earlier questions? So
8 I'll start with your first question about the
9 causation issue, your question about whether there are
10 TPMs in every software-enabled device, and to the
11 extent that those obstruct repair.

12 And I would say that if there's not a TPM in
13 a device, it's not part of this conversation about the
14 exemption. So the scope of the exemption is only for
15 circumvention of TPMs that exist in a software-enabled
16 device and that obstruct repair. Right? So the fact
17 that some devices might not have TPMs, the fact that
18 those devices exist, doesn't obviate the need for
19 circumvention where TPMs do obstruct repair. So,
20 first question.

21 Second, I'd like to address what some of the
22 other panelists have talked about in terms of devices
23 that play back A/V or expressive content, and I'll say
24 that as Ms. Gagliano very correctly identified, that
25 the subject of this exemption is the software. It's

1 the embedded software in the device. It is the
2 firmware. It is not the copy controls on the content,
3 and it is not the TPMs that protect that content from
4 infringement.

5 Furthermore, repair of devices that play
6 lawfully acquired copies of expressive content
7 increases the accessibility to both the functionality
8 of the software and the lawful performance of those
9 lawfully acquired works. And the only purpose for the
10 circumvention that is acknowledged and permitted
11 within the exemption is for repair.

12 So an exemption like this, as Ms. Burke, as
13 Ms. Gagliano said, would not authorize circumvention
14 for the purposes of piracy, so on and so forth. And I
15 think the Office itself has acknowledged that in the
16 2018 Recommendation when it addressed expressive
17 content on vehicle infotainment and telematics
18 systems.

19 And so the concerns about piracy in those
20 contexts related primarily to abuses of circumvention
21 that are outside the scope of the proposed exemption,
22 and I'd say that's true here as well.

23 In terms of alternatives, Mr. Williams
24 raised the specter of alternatives to circumvention,
25 and I'll say that the existence of alternatives to

1 circumvention is not fatal to prior exemptions and
2 shouldn't be fatal here. The Office granted the
3 motorized land vehicle exemption despite the existence
4 of other alternatives, and we know that those
5 alternatives often prove inadequate. That's fully
6 documented in our record.

7 But I'll also state that in *Chamberlain*, the
8 Federal Circuit decided that section 1201 did not
9 grant copyright holders another exclusive right. It
10 only protected the exclusive rights that they already
11 had under 106. And so section 1201 does not give
12 copyright holders the right to control the market for
13 repair services, and the right to require that you use
14 their own branded repair services.

15 To deny an exemption on the basis of the
16 existence of those manufacturer-branded alternatives
17 would be to grant a new right, would be a grant of new
18 right to exercise anti-competitive practices and
19 control an entire market.

20 Moving on to the question of --

21 MS. SMITH: Can I ask you, just on that one
22 --

23 MS. SHEEHAN: Yeah.

24 MS. SMITH: Just on that one point before we
25 get to modification, do you think it's relevant

1 whether there's an additional charge or terms or
2 something connected to repair, or whether it's sort of
3 open in terms of the purchase for the initial license?

4 MS. SHEEHAN: I don't understand your
5 question. Do you mind rephrasing?

6 MS. SMITH: Well, I guess you've expressed
7 concern about a branded repair market, and I guess
8 we're looking at this through the 1201 lens and
9 whether there's an adverse effect created by TPMs. Did
10 you think it's relevant whether there's conditions
11 imposed upon the manufacturer-provided repair, or --

12 MS. SHEEHAN: Absolutely.

13 MS. SMITH: -- or it doesn't matter?

14 MS. SHEEHAN: No, absolutely. And I think
15 that goes to the kind of tangible, practical adverse
16 impact on users of software-enabled devices. You
17 know, in our experience, we talk to repair shops,
18 we're kind of deep into the repair industry over at
19 iFixit and the Repair Association.

20 And our experience with manufacturer-branded
21 repair is that the types of repairs that they can
22 carry out are limited, meaning if I take a tractor to
23 the John Deere dealership, they can only do certain
24 repairs. If I take my iPhone to an Apple-authorized
25 repair provider or an Apple IRP provider, they can

1 only do simple, basic repairs before they either
2 encourage me to buy a new device or have to send it
3 back to Apple.

4 Some manufacturer-branded services may be
5 extremely costly, more expensive than an independent,
6 and in the medical device sector, it was found that
7 manufacturer-branded medical device repair could cost
8 30 to 50 percent more than an independent service
9 organization's repair. It can also involve long
10 delays if you have to schedule or ship a product back
11 to a manufacturer, and in some circumstances, you
12 might not be able to get a repair at all.

13 So Kyle mentioned earlier our kind of
14 industrial premises control systems. We are
15 completely outside of a service network for our
16 manufacturer on some of those systems, and so if we
17 were to depend on manufacturer-branded repair
18 services, we would be completely out of luck.

19 MS. SMITH: Okay, thank you.

20 MS. SHEEHAN: Is it okay if I address
21 modification?

22 MS. SMITH: And modification.

23 MS. SHEEHAN: Ok yeah. So I just wanted to
24 say briefly, I think Ms. Gagliano addressed that
25 pretty well, extremely well, and I would just say that

1 in *Sega v. Accolade*, the Court found that modification
2 of a software-enabled device is not infringing,
3 especially when it is a reasonable step to a
4 transformative use such as repair.

5 So when a modification is carried out for
6 the purposes of repair or for other non-infringing
7 uses, then it should also be understood as non-
8 infringing.

9 Can I say one --

10 MS. SMITH: Okay.

11 MS. SHEEHAN: -- more thing? Just one more
12 quick -- I'll be quick, I promise.

13 MS. SMITH: Extremely limited, because I do
14 see a lot of hands raised and we've got to move on.

15 MS. SHEEHAN: Okay.

16 MS. SMITH: Extremely quickly.

17 MS. SHEEHAN: I just wanted to respond
18 really briefly to both Mr. Williams's and Mr. Reed's
19 comments about the necessity of TPMs to prevent
20 cheating, to protect privacy, or to protect safety and
21 emissions, and I would say that absolutely none of
22 those things are part of the Copyright Office's very
23 copyright-based inquiry on whether a 1201 exemption
24 should be granted.

25 And I'd actually be interested to know

1 whether the clients that Mr. Williams and Mr. Reed
2 represent are actually using 1201 to go after people
3 for cheating, or violating emissions controls, or
4 violating a user's privacy, because I'm unaware of any
5 cases like that.

6 MS. SMITH: Okay, thank you.

7 Mr. McHargue?

8 MR. MCHARGUE: Well, thank you. I just want
9 to remind people that I am a farmer. I'm not an
10 attorney. So this is a very interesting conversation
11 to me. You know, on our farm, one of the things that
12 we're really concerned about -- someone mentioned the
13 use of tools.

14 And as our ag equipment gets more
15 complicated -- every day, it seems like -- there's an
16 increasing need to have users, or I'd say third-party
17 experts, develop a tool that can work on my tractor.
18 I know there's difficulties, in our area anyway, that
19 the dealerships or the authorized dealerships say they
20 will provide tools, but they're really not the tools
21 to the extent that we can come in and actually fix our
22 equipment back to actually operating state. And so I
23 just wanted to say that that was one of the things
24 that we're concerned about in the ag sector.

25 The other thing is there was a conversation

1 about modification that may not quite fit into this
2 category, but we're clear at American Farm Bureau that
3 if there's modification that involves environmental or
4 safety issues, I think we have to be very careful when
5 we start going down that route. If we're talking
6 about things that we can improve potentially -- but we
7 have to be very careful when it gets into
8 environmental and safety issues.

9 MS. SMITH: Thank you. I appreciate your
10 thoughts.

11 So I think the next person who had their
12 hand raised is Mr. Ayers, but given our time, I'm also
13 going to shift some of the questioning to my
14 colleague, Mr. Amer, so that we can wrap up
15 modification discussion but segue into some of the
16 device-specific categories of the media players or the
17 video game consoles.

18 So, I don't know, Mr. Amer, if you wanted to
19 pose any additional questions, but I do think it is
20 Mr. Ayers's turn to respond.

21 MR. AMER: Yes. Well, actually, my first
22 question was going to be about DVD players anyway.

23 So maybe, Mr. Ayers, you could speak to
24 this. So I wanted to sort of make sure I understand
25 what seems to be kind of a factual dispute,

1 potentially, about what the TPMs protecting firmware
2 in DVD players controls access to.

3 So I know that the proponents have said that
4 their proposed exemption would apply only to software
5 that controls the operation of the device and would
6 not permit circumvention of separate TPMs that protect
7 access to the DRM-protected media.

8 Now, today, earlier on, you talked about, I
9 think, the cryptographic values that exist in DVD
10 players, and I think you said something about if those
11 are altered, that makes the device sort of a less
12 attractive platform for manufacturers. Could you sort
13 of elaborate and explain a little more, explain sort
14 of what these cryptographic values protect and what
15 they don't protect?

16 MR. AYERS: Sure. Thank you. So the
17 concept with content protection technology in consumer
18 electronics devices in the entertainment content space
19 is that the content owner and the device manufacturer
20 are both engaged in an ecosystem where the content
21 owner is sufficiently trustful, finds the target
22 device sufficiently trustworthy, that the content
23 owner will release its high-value content in the
24 format played by that device.

25 In the context of movies on optical disk,

1 that includes authoring and manufacturing the movie
2 and the disk with certain cryptographic values that
3 are used to encrypt the movie. Corresponding
4 cryptographic values such as device keys are embedded
5 in the device by the manufacturer during the
6 manufacturing process that are then used to decrypt
7 the content on those disks.

8 So you put the disk in the machine. The
9 machine has decryption keys that allow it to decrypt
10 the content on the disk that has been encrypted with
11 the encryption keys. So this provides a benefit for
12 consumers, as has been mentioned in other hearings.
13 DVD was one of the most successful consumer
14 electronics products in history, in the history of
15 consumer products, and it certainly laid the
16 groundwork for commercial success for multiple
17 industries since then.

18 But to the extent that those devices become
19 compromised and are no longer able to be trusted, it
20 presents a problem for the content owners in investing
21 a ton of money in very high-value content such that
22 it's no longer as good an investment, because the
23 content is less secure.

24 And certainly folks might look at, "Well,
25 they're movie studios. They have a lot of money

1 anyway." And I think the idea here is look, these are
2 investments of significant resources both on the
3 device side and on the content side to make sure that
4 this all works together, so that the end result is an
5 extremely attractive proposition for the consumer.
6 And so to the extent that this compromises it, we have
7 less of an attractive setting.

8 And just a quick follow up on an earlier
9 comment.

10 MR. AMER: Well could I just follow up on
11 that --

12 MR. AYERS: Sure.

13 MR. AMER: -- first, though? So are you
14 saying that if someone were to circumvent TPMs
15 protecting the firmware on a DVD player, that would
16 necessarily expose these cryptographic keys you're
17 talking about, and it would therefore allow people to
18 play unauthorized DVDs?

19 MR. AYERS: That's essentially the concern.
20 I mean, the exact way that each device manufacturer
21 implements the storage of the applicable cryptographic
22 values is somewhat flexible to allow for the realities
23 of device manufacturing in different contexts, but
24 that's the essential concern.

25 And in that case, what you've done is when

1 the key is exposed, you're no longer looking at
2 onesie-twosie situation where you may be compromising
3 a movie at a time, which is itself not desirable at
4 all, but because it's a decryption key that could
5 decrypt any DVD or any Blu-Ray disk, it potentially
6 endangers the entire ecosystem, because now you've
7 enabled a circumvention tool for the high-value
8 entertainment content.

9 MR. AMER: Okay.

10 Ms. Burke, could you respond to that?

11 MS. BURKE: Yes. It's our understanding
12 that the limited request that we've asked for, which
13 is the exemption to unlock an optical drive, replace
14 it, and then relock that pairing, would not cause that
15 kind of decryption of what protects the Blu-rays and
16 the DVDs at question here.

17 Rather, I think it's important to note that
18 this TPM that locks and pairs an optical drive to the
19 rest of the video game console is unique to these
20 optical-drive-driven video game consoles. Other
21 devices that have optical drives don't necessarily
22 have these same locks. So if you wanted to replace
23 your optical drive in your computer, you could go get
24 a new optical drive, put it in your computer, and plug
25 it in, and change it out pretty simply, without having

1 to circumvent this kind of TPM.

2 So these optical drives, being able to
3 change them out doesn't really implicate the same
4 concerns when it comes to that type of a situation,
5 with being able to change out your optical drive. So
6 what makes a video game console so unique? It's our
7 understanding that these TPMs that are protecting the
8 optical drive don't actually protect the content that
9 could be played on an optical drive. Rather, it just
10 protects this particular pairing.

11 And so the TPMs that need to be circumvented
12 here they're really just protecting or preventing
13 people from being able to repair an optical drive,
14 which is a harm to consumers, because optical drives
15 are the most frequent thing to fail in a video game
16 console. Replacing one is fairly cheap, as opposed to
17 having to purchase a whole new device.

18 And so it's our understanding that these
19 TPMs really aren't protecting content so much as they
20 are preventing these types of repairs which consumers
21 have a right to do. When you own a device, you should
22 be able to repair it, and copyright should not be a
23 tool that prevents you from being able to do that.
24 It's not intuitive, and it doesn't make sense with
25 regard to what copyright is intended to protect.

1 MR. AMER: Okay, thank you.

2 I think, Mr. Cheney, do you have a question?

3 MR. CHENEY: Thank you. I think this has
4 been a helpful discussion, and I think it's been
5 helpful for me to hear this a little bit on these game
6 systems and DVD players.

7 For example, one of the questions I had with
8 these cryptographic values that potentially are
9 exposed or may be misused, can you describe what that
10 might be like in the sort of repair that has just been
11 described?

12 I think, Mr. Ayers, you may have the best
13 answer here. Are they allowed to be copied and
14 reproduced? I mean, what is the possible path to
15 piracy here if they are, indeed, exposed in this
16 repair? Is it on the device itself, or is it
17 something that would be a broader piracy possibility?

18 Can you describe that a little bit more?
19 Because I'm not sure I'm getting where that value gets
20 exposed here. Can you help me out here? Thanks.

21 MR. AYERS: Yes, thank you. So it is in the
22 broader context that we're most concerned about this.
23 So when the device key, we'll call it, is extracted,
24 is exposed and extracted from a particular device,
25 that key can then be incorporated into, for instance,

1 a software circumvention tool, and that is essentially
2 how various of the current unauthorized circumvention
3 tools operate today.

4 They use stolen keys that have been taken
5 out of otherwise legitimate products, and then those
6 device keys are incorporated into a circumvention
7 tool, usually a software product. That then we're now
8 not talking about one device being able to play back
9 any movie that it wants to, which it was already able
10 to do because it had a device key in it in the first
11 place, but it's now enabling a whole market full of
12 circumvention tools in the form of software that
13 provides a much bigger avenue for piracy than might
14 have been possible with that single device.

15 MR. CHENEY: Thank you, Mr. Ayers.

16 Does anyone else have some input on that
17 particular question? And particularly, does this
18 repair on those players expose those cryptographic
19 keys? And I understand potentially how it might get
20 out there, but if that can help direct the question.
21 Thanks.

22 Mr. Reed, I think I see your hand, if that's
23 okay.

24 MR. REED: Yeah. I'll just add this. So
25 while everyone was talking, I just put into my Google

1 search engine "hack my Xbox drive." Here's the one
2 that comes up first: "Flash the light on disk drive
3 used by some Xbox consoles for hacking. If you're
4 tired of paying \$60 for a new Xbox game or waiting
5 years for them to get cheaper, you should probably mod
6 your system."

7 That's literally the first thing that comes
8 up, and it goes through and has a video of how you
9 actually flash the drive by installing a different DVD
10 player into your box, and flash the drive to allow you
11 to play disks that violate the copyright.

12 So at the core of your question, "Is this a
13 vector by which people can use it," well, literally
14 that's the first thing that comes up on your Google
15 search when you put in "hack your Xbox drive." So
16 whether or not we can talk about which case law
17 applies, the search engine bar will tell you how
18 quickly and easily it's there and why that is a
19 primary vector.

20 So you know, in this case, Google is your
21 friend. Find the answer, hack your drive, flash it,
22 and run disks that you want to play for less than 60
23 bucks. It's right there. First output.

24 MR. AMER: Okay.

25 So we have lots of hands up. So I'm going

1 to try to get to everybody, and I would ask everybody
2 to just be relatively brief.

3 Mr. Wiens, maybe you could go next.

4 MR. WIENS: Sure. I would encourage Mr.
5 Reed to go ahead and give that site \$60, and then
6 they're going to sell your credit card number on the
7 black net. It's a scam. There isn't such a hack.

8 There are a lot of wonderful sites that will
9 like trick you and make you think that they will help
10 you hack your Xbox. They will happily take your
11 credit card number and then not help you hack your
12 Xbox. The Xbox One, the PlayStation 4, PlayStation 5
13 haven't been cracked, so that's a non-issue.

14 I think that if you think about this in the
15 context of what you can do with a P.C., a Blu-ray
16 drive on a P.C., we have the ability to do the work on
17 those. It's not implicating or creating any
18 challenges.

19 You know, those encryption keys are on the
20 drive. They're fine. That's not what we want to
21 access. All we want to be able to do is restore the
22 device back to functionality. And I would note that
23 functionality -- from my perspective, the device isn't
24 repaired unless the copy protection is restored. Like
25 we don't want to remove the copy protection. We want

1 to get the device working exactly as it did from the
2 factory.

3 So when these devices are provisioned in the
4 factory, in the Xbox or the PlayStation factory, they
5 take an off-the-shelf drive, install it in the
6 machine. They run a software tool that pairs that
7 optical drive to the machine. That's all that we want
8 to do, is just do that pairing. You know, I think
9 that this has gotten more complicated than it really
10 is. We just want to fix the thing.

11 MR. AMER: Okay.

12 Mr. Inacker, I think you've been waiting.

13 MR. INACKER: Thank you. Similar to Mr.
14 McHargue, I am not a lawyer, and I have found this
15 conversation very, very interesting. But talk about
16 Xboxes and DVDs and everything else is very
17 interesting, but we are all consumers of health care.

18 Our businesses that we have within Avante
19 Health Solutions -- we repair vital medical equipment,
20 and we do it as independent service organizations.
21 And as all of us as consumers of health care, it
22 should be of great value for you to understand that we
23 do it much more responsibly, much more safely, and, in
24 many cases, much, much more cost effectively than the
25 original equipment manufacturers do.

1 Yet they have put restrictions in place
2 through these TPMs to prevent us from being able to
3 service it. No different than your automobile, no
4 different than your agriculture equipment. We need to
5 have the right to repair the equipment for our
6 customers and have access to do so on a readily
7 available basis.

8 This is a patient safety issue. When we
9 can't get access to the equipment that we need to
10 service, patients wait. When an MRI is down, or a
11 C.T. is down, or a cath lab is down, or a piece of
12 diagnostic equipment is not working, patients have to
13 wait, and that harms their care.

14 MR. AMER: I just want to --

15 MR. INACKER: Vital issue for our industry.

16 MR. AMER: I appreciate it. I want to stop
17 you there because I wanted to ask about DVDs and video
18 game consoles. We're going to get to medical devices
19 in just a little bit. So hold that thought, if you
20 would.

21 Let's go to Mr. Williams.

22 MR. WILLIAMS: Thank you very much. A lot's
23 been said, but I'll try to stay brief. So the video
24 game consoles, as Mr. Ayers mentioned, have some of
25 the same concerns with respect to keys, because they

1 play disks with motion pictures on them. But they
2 also have the concerns that you've identified in
3 previous proceedings related to either installing and
4 playing illegal copies of games or using illegal
5 disks, and I appreciate Mr. Reed's comments on that.

6 You know, one difficulty from the comments
7 that we have is that there's no real specifics about
8 the procedures that they say they can implement to
9 repair or replace the optical drives. They seem to
10 lay out two scenarios. One is using an application of
11 some sort to flash the device, and one is a more
12 manual procedure.

13 Going back to, I believe, all the way to
14 2012, the Office has concluded that there has not been
15 evidence that you cannot replace or repair an optical
16 drive without circumvention, and so depending on the
17 different approaches that they take, there may be
18 alternatives to circumvention here.

19 The other issue is they say that they will
20 restore all of the functionality of the TPMs, but
21 there's no explanation of exactly how that's going to
22 happen either, and my understanding is that this is of
23 concern to the console manufacturers, not only whether
24 they can actually restore the functionality to its
25 original state, but also that the use of an

1 application to open up the system for the purpose of
2 replacing or repairing the optical disk drive could
3 lead to the use of unauthorized applications or disks.

4 Just very quickly, Ms. Sheehan asked about
5 cases where the industries have pursued issues under
6 1201. I think you know there are quite a number, but
7 in the video game space two of the biggest names are
8 the *MDY* case and *Davidson v. Jung*. They go all the
9 way to the appellate level. And so 1201 has been
10 enforced, including by the Department of Justice, and
11 there's a case in our comments on that.

12 MR. AMER: Let me just jump in.

13 MR. WILLIAMS: The harm to consumers here is
14 not from the manufacturers.

15 MR. AMER: Mr. Williams, could I just jump
16 in? Could I just jump in? Because I wanted to ask
17 about something you said earlier. Because there does
18 seem to be, again, this factual question about
19 restoring the TPMs.

20 So I believe it was Public Knowledge's reply
21 comments that said a video game console will only
22 function if the two portions of the console unlocked
23 by repair, the motherboard and the optical drive, are
24 relocked. Is there any dispute about that? They seem
25 to be saying that in order for a repaired video game

1 console, at least with respect to the optical drive,
2 to work at all going forward, you have to restore the
3 TPMs. Do you have any information on that?

4 MR. WILLIAMS: So to my understanding, it
5 may depend on what your definition of "function" is.
6 If you want to restore it to full functionality, to
7 where it is capable of interacting with authentication
8 servers, et cetera, that may be true.

9 Without repairing those TPMs, whether you
10 could still play offline infringing games, I think's a
11 different question. If you gave me a post-hearing
12 letter on that, I could probably give you more
13 specifics, and it may be different from console to
14 console, the exact answer. But that's my
15 understanding.

16 MR. AMER: Okay.

17 Ms. Gagliano, I think you've been waiting.

18 MS. GAGLIANO: Yeah. I just wanted to
19 respond to a point Mr. Ayers was making about the DVD
20 and Blu-ray context, saying that even if the exemption
21 itself doesn't permit piracy within its scope, that
22 the movie studios, the content providers just knowing
23 that people are allowed to circumvent the TPM, and
24 that that would make the system less secure, would be
25 less willing to license their content for release on

1 DVD and Blu-ray, which is a little confusing to me,
2 because I think we all know DVD CCA and AACS LA even
3 brought up in their opposition comments DeCSS, the
4 still widely available program for decrypting DVDs.

5 And since at least 2007, the decryption keys
6 for Blu-Ray encryption have also been out there widely
7 publicly available, you know. It may be not be legal
8 to distribute and use these, but it also would not be
9 legal to be bypassing the content protection TPMs
10 under the proposed exemption.

11 And I have not seen or heard any evidence
12 that since those keys have become publicly available
13 through various means that there actually has been any
14 decrease in content providers' willingness to license
15 their works for release on DVD and Blu-ray. So I just
16 don't think that point really seems to hold up based
17 on what we know from the real world.

18 MR. AMER: Mr. Ayers, do you have a
19 response?

20 MR. AYERS: Thank you very much. And
21 actually, part of why I had my hand up was to address
22 the earlier comment that was made, that there's no
23 evidence of increased piracy. Just I would note that
24 specifically in the game console space, one of the
25 most popular platforms for the playback of

1 unauthorized content is an application that's a direct
2 descendant of early efforts to hack and modify the
3 Xbox console.

4 And similar to the Google search we were
5 introduced to a little earlier in the conversation, a
6 similar search regarding this product will yield the
7 result that yes, the distribution of the playback
8 platform itself is -- we'll make comments about not
9 pirating content. However, every single reference you
10 find in association with that platform in a Google
11 search talks about getting free movies and T.V. And
12 so we see the technical compliance effort versus the
13 real world in that case.

14 And to address the more recent comment about
15 what action has been taken, actually, action has been
16 taken. And while certainly my clients are not ones to
17 seek the limelight and do perp walks, for instance, in
18 cases like this, there are certainly efforts that are
19 taken. A successful content protection effort
20 involves technical elements as well as legal elements,
21 and my clients have pursued both in a number of cases.

22 And then to look at the content industry as
23 "because it still continues to release Blu-rays as
24 therefore it must not be a problem," I think is a
25 gross oversimplification of how the market works in

1 this case, and the realities of content distribution.

2 MR. AMER: Mr. Wiens?

3 MR. WIENS: I just wanted to make myself
4 available if you have additional technical questions
5 on like where the encryption keys are stored and how
6 that works.

7 MR. AMER: Well, do you have any information
8 that you could offer on this question of the need to
9 relock video game consoles if you're repairing the
10 optical drive?

11 MR. WIENS: Yeah, the game console would not
12 work to play off-the-shelf games unless you restore
13 the TPM, unless you restore its ability to have those
14 keys and to have that communication, right? Because
15 if I buy Call of Duty, it's encrypted. So that's all
16 we want to do, is keep it in place.

17 And I think that the point that the Blu-ray
18 keys have already been leaked is poignant, because
19 we're talking about not allowing people to get in and
20 access something. Well, that secret is already out
21 there. The criminals are doing the criminal activity.
22 What we're saying is we just want to be able to do the
23 legal activity.

24 And I would say like the market harm here is
25 real. I have an entire shelf full of about a hundred

1 PS4 optical drives and main boards, and we have to
2 sell those together. So I have to take main board and
3 an optical drive, sell it as an expensive part. We
4 are completely supply constrained. The number of
5 people out there that can fix their game consoles is
6 completely limited to the number of game consoles that
7 end up at recyclers.

8 Then those two pieces together both work,
9 and we can get out there. So it's like there are
10 maybe hundreds of people a quarter that can fix their
11 own game consoles when, in the market, there are
12 millions of people that potentially have these
13 problems. So this is a very real and kind of dire
14 problem. Every time I talk with a repair
15 professional, I mention the game console thing. They
16 just get sad.

17 MR. AMER: Okay. Thank you.

18 Let's go to Ms. Sheehan and Ms. Burke
19 quickly, and then I think we'll move to another
20 question.

21 MS. SHEEHAN: I just wanted to endorse what
22 Ms. Gagliano and Mr. Wiens had said. On one side of
23 the scale, it's a little bit late for hand-wringing
24 over access to decryption keys, as Ms. Gagliano and
25 Mr. Wiens said. The horse is kind of out the barn

1 door with that. They're widely available. And
2 restricting people from being able to repair their
3 consoles isn't going to protect them any more.

4 I think one thing to note, to recognize
5 there, is that people who are going to infringe
6 copyright deliberately or who are going to hack their
7 consoles in order to infringe copyright are already
8 doing that. They're not waiting for a 1201 repair
9 exemption to be able to do that.

10 The lack of a repair exemption to 1201 only
11 really impacts people who are interested in doing the
12 lawful activity of repair. And in this case, we're
13 talking about really just replacing an optical drive
14 on a machine where the optical drive is broken, and
15 then reenabling the TPM protection there. So we just
16 want to fix our consoles.

17 And as I mentioned before, we talk to repair
18 shops all around the country and all around the world,
19 and we talk to folks who specialize in video game
20 repair, and they tell us that they have storage rooms
21 full of hundreds of consoles that they've been unable
22 to fix for their customers, because without the
23 ability to replace a broken optical drive on its own,
24 the repairs are too costly, too risky, and the parts
25 are too hard to find.

1 MR. AMER: Thank you.

2 Ms. Burke?

3 MS. BURKE: Yeah. I just wanted to echo
4 what Ms. Sheehan and Mr. Wiens and Ms. Gagliano have
5 said here today. What's interesting here is that the
6 conversation that Mr. Reed had earlier about people
7 pirating games even that they had given away for free,
8 and the wide availability of these decryption keys,
9 kind of demonstrates that these locks aren't
10 preventing pirates from pirating. They're not
11 preserving the copyright of these creative works.

12 What they are actually doing is they are
13 preventing law-abiding citizens who want to do law-
14 abiding things such as repair their devices. And so I
15 think like that's particularly relevant when looking
16 at this exemption request, that what we're asking for
17 is an exemption for a limited purpose, to perform a
18 repair. We are not asking for an exemption to pirate
19 content.

20 And the underlying work that is being
21 protected by this TPM, it isn't the movies on the Blu-
22 rays or the DVDs, or even on the video game disks.
23 It's the software, the firmware that is controlling
24 this lock itself. So I think that's also particularly
25 relevant here when we're talking about like what

1 copyright work is actually being protected here with
2 this lock on the optical drive to the motherboard.

3 So there's just this over -- the concerns
4 about piracy here feel more like fearmongering as
5 opposed to actual realities of what is at stake.

6 MR. AMER: Okay. So thank you.

7 That raises an issue that I wanted to follow
8 up on quickly, and then I think we'll move to the next
9 topic, and it's this idea of sort of the relevance of
10 what the purpose of the circumvention is, and I'm
11 interested in particularly the opponents' response to
12 this.

13 So I mean one argument that I think we've
14 heard today from the proponents is that the existing
15 temporary exemptions, for example, for security
16 research and jail-breaking, and also the permanent
17 exemptions for things like security testing and
18 encryption research, all refer to the purpose of the
19 circumvention, right?

20 They turn on whether the circumvention is
21 undertaken for an accepted purpose. So you know,
22 certainly with the vehicle repair portion of this
23 exemption, we've included language that tries to state
24 clearly that the circumvention may not be undertaken
25 for the purpose of gaining access to other types of

1 works.

2 I wonder if that approach -- the opponents
3 seem to be saying that approach is not sufficient here
4 and that DVD players and video game consoles are sort
5 of an entirely separate category.

6 But I wonder if you could speak to this
7 question of well they certainly aren't immune from the
8 statutory exemptions that already exist, which are
9 based on the purpose of the activity. So I wonder if
10 you could speak to that apparent discrepancy, Mr.
11 Williams?

12 MR. WILLIAMS: Yeah, thank you. And I'll
13 just say quickly, some of the comments made it sound
14 like video game consoles can't be repaired at all,
15 ever, and that's just not true. If you take a look at
16 our comments, you'll see that there is still warranty
17 repair and post-warranty repair available for
18 consoles.

19 On this question of the limiting language
20 that you mentioned, I mean, of course, that language
21 is helpful to an extent, and we prefer exemptions that
22 have it, but it doesn't really solve the problem. And
23 I think if you look back at the records on video game
24 consoles specifically, there's been a lot of evidence
25 that jail-breaking a console almost inevitably leads

1 to piracy, that infringement is the number-one reason
2 to open up a console.

3 And so just saying in an exemption that it
4 doesn't apply unless -- as long as they -- no one
5 intends at the time to access content illegally,
6 that's very difficult to police, number one. And
7 number two, there's all kinds of questions about
8 timing. So when you put that language in there if
9 someone makes a repair, say, and then a year later
10 they start using it for infringement, how does that
11 work?

12 So the language, while helpful, while I
13 appreciate your efforts to try to rein in some of
14 these exemptions, it really doesn't address our
15 overall big picture concerns that the 1201 statute
16 really sets a marketplace expectation for typical
17 consumers. And when you alter that underlying
18 marketplace expectation, bad things tend to happen,
19 even if you've got language of that sort in the
20 exemption itself.

21 MR. AMER: Okay, thank you.

22 I want to, Mr. Ayers, give you a chance to
23 respond, too, and then I do, just in the interest of
24 time, want to move to the next topic.

25 I think we've had some comments on this

1 point before, so I think we'd like to wrap it up after
2 -- oh, Mr. Ayers, did you no longer --

3 MR. AYERS: No, I'm sorry. I was just
4 removing my hand just in -- it's still up.

5 MR. AMER: Okay.

6 MR. AYERS: It's still up. Sorry.

7 MR. AMER: So let's go to you, and then
8 we'll go to the next topic.

9 MR. AYERS: Thank you, and I'll be very
10 brief. Just to note that, again, limitations are
11 better than no limitations in this context, and
12 certainly, if there's an inclination to grant the
13 request, properly bounding them is important.

14 But I would note that, again, we've got
15 multiple situations where the word "repair" has been
16 used in relation to activities which are arguably
17 modifications or expanding the functionality of
18 devices.

19 Also a little bit concerned about restoring
20 a device to its original condition. Does that include
21 if the device had a revoked device key because it's
22 been inappropriately used? Does that mean restoring
23 that device with an unauthorized device key that's
24 been retrieved from another source?

25 And again, to note that the difference

1 between other contexts and the optical disk drive
2 context here is that we've already seen, for years
3 now, the proliferation of piracy that occurs. And
4 again, noting specifically in the game console space
5 that the most used and popular platform today for
6 playing unauthorized content is a direct result of
7 original efforts to hack and modify the Xbox.

8 MR. AMER: Thank you.

9 And I see that we do have a couple of other
10 hands up, and so you can potentially incorporate your
11 answers here into the next questions, but I'd like to
12 turn it over to my colleague Mr. Bartelt to ask about
13 some other types of devices.

14 MR. BARTELT: Thanks.

15 Hi, everyone. Following up on some of what
16 Ms. Smith alluded earlier about questions concerning
17 causation, in the 2018 rulemaking there were some
18 device types that, in the recommendation that the
19 Office issued or the acting register issued, we had
20 found out there was an insufficient causal link.

21 So I wanted to probe a little bit about
22 maybe what's changed since the 2018 rulemaking and see
23 if there's an additional record supporting the
24 causation that relates to these devices.

25 The first one I'd mention is a category that

1 we refer to as consumables. There, we found that the
2 prohibition against circumvention -- it was not clear
3 from the record whether the prohibition against TPMS
4 was causing adverse effects on non-infringing
5 activities relating to replacement cartridges for ink,
6 coffee, litter boxes. I think we had a few other
7 examples. I believe this came up primarily in the EFF
8 submission.

9 So I'd like to first, I guess, direct my
10 question to Ms. Gagliano, whether there's the
11 additional record in this rulemaking that you can
12 point to that shows a causal link between the TPMS
13 inhibiting repair activities as it relates to these
14 devices that use consumables.

15 And then maybe after that, I can turn to
16 you, Ms. Burke, to see if you have additional
17 comments.

18 Ms. Gagliano?

19 MS. GAGLIANO: Sure. Yeah. If you look at
20 our initial longform comment, I'd say that both the
21 CatGenie cat litter box example that you mentioned and
22 the printer example both go to consumables.

23 And you know, as opposed to last time my
24 understanding then was that the Office was not saying
25 so much, "Well, that's not enough examples," as it

1 was, "You didn't give us enough detail about what the
2 TPMs are, whether they actually are access controls,"
3 you know, "how the circumventions would work and," you
4 know, "what's the full fair use analysis, statutory
5 analysis?"

6 So this time we have given you all of that
7 in perhaps excruciating detail, so I think if you look
8 there, you'll see for both of those examples and for
9 printers it's not just one printer, but we discuss
10 multiple kinds, including H.P., I believe, also
11 Lexmark, and a couple others that are using TPMs.

12 And we discuss in more detail what those
13 TPMs are, how they are actually access controls, and
14 how 1201 adversely affects modifications that people
15 want to be able to make.

16 MR. BARTELT: Thank you.

17 Ms. Burke? I'm not sure if your comments
18 are specific to these causation issues, but --

19 MS. BURKE: As far as to the changed
20 circumstances question, with -- well, first, as a
21 matter of just -- I know opposition replies to our
22 comments with regard to the video game console had
23 suggested that we should be barred from bringing such
24 a petition because it had been denied in the past.

25 And as a matter of course, I want to point

1 out that there are no pseudo-standing kind of
2 threshold issues at play with regard to this 1201
3 hearing. It's not in the statute. It's not in the
4 legislative intent. And so I just think, as a matter
5 of course that that's -- it just not in keeping with
6 what this hearing is about.

7 Congress intended for these reviews to
8 happen every three years because it understood that
9 technology changes quickly, and the context and
10 circumstances of our understanding of when an
11 exemption might be necessary could change with those
12 times.

13 Now, to the extent that it's something that
14 the Librarian would want to consider under the fifth
15 factor of the 1201 statutory analysis with regard to
16 video game consoles, there have been significant
17 changes since the 2018 review. Most notably, one of
18 the reasons that the video game console exemption was
19 denied in 2018 was because of the availability of
20 official repair channels.

21 And I know that Mr. Williams had kind of
22 gotten into this a little bit, but the facts there
23 simply aren't true. In 2019, Microsoft announced that
24 it was no longer going to repair devices that didn't
25 have in active production, and the Xbox 360, the Xbox

1 One, the Xbox One X can no longer be repaired through
2 Microsoft. So there are no official warranty repair
3 options or even outside of warranty repair options
4 with regard to many of these consoles, so consumers
5 have no choice but to either buy a completely new
6 console or to just throw it out, basically.

7 Then as far as like other things that have
8 changed, I think with regard to not just to video game
9 consoles, but with regard to all devices, when it
10 comes to the necessity of repair, over the last 13
11 months our understanding of global supply chains and
12 the availability of devices has definitely shown that
13 it's much more vulnerable than we could have possibly
14 believed before, not just from COVID but our
15 relationships with China when it comes to trade and
16 the recent incident in the Suez Canal demonstrates
17 that our ability to get devices, new devices, when we
18 need them and to get even official repair parts, et
19 cetera, can be significantly challenging.

20 And when there's a crisis at hand, it's
21 really important to be able to repair what we have,
22 given some of --

23 MR. BARTELT: Okay.

24 MS. BURKE: -- the increased concerns.

25 MR. BARTELT: Sure. Thank you, Ms. Burke.

1 I do have a question for Mr. Wiens that also
2 sort of relates to this question of changed
3 circumstances and from 2018 where the -- in the
4 recommendation, the Office had found that for
5 computing peripherals, I think the instance that was
6 before us then was related to a hard drive that people
7 were trying to access, that it wasn't actually
8 inhibiting the ability to circumvent.

9 And I just was curious if there were any
10 examples that you could provide relating to computing
11 peripherals that would show that TPMs are, in fact,
12 inhibiting access or are effectively controlling
13 access to these types of devices. The hard drive
14 would be, of course, one example. But if you have
15 others, please provide those.

16 MR. WIENS: Absolutely. You know, you think
17 back over the last three years, it's hard to think
18 about what the world was like almost before 2020.
19 Like so much has changed, and so much has changed in
20 this sphere. I like to say if something can't have
21 software added to it, it will. And the kind of new
22 adage is if something can have a lithium battery in
23 it, then they're going to add a battery.

24 And so the whole world of gizmos have
25 consumables, have batteries. I'll get to the

1 peripheral question in a second, but an example of a
2 consumable that we haven't discussed before is robot
3 vacuums. So the iRobot vacuums have batteries in
4 them. The batteries have a TPM that ties the
5 manufacturer sort of branded batteries, and if you
6 install an after-market battery, the vacuum won't
7 recognize it.

8 And that's not just the case there. I mean,
9 we see that -- Apple does this with the batteries in
10 the iPhone. Increasingly, these battery consumables
11 are being tied to the device purely to monopolize
12 sales of after-market parts, just like we see in
13 inkjets.

14 You know, it's also interesting to think
15 about, like we all -- we do this every three years.
16 Man, it would sure be nice if this was more often than
17 every three years, because the technology world
18 changes so quickly. I think we realized about a month
19 after the last kind of hearing that as we were talking
20 about all the things that we could repair, nobody
21 asked for an exemption for computers, for laptops.

22 And like all the computers and everything
23 that we're talking to now, we don't have a repair
24 exemption for them. And we were all kind of shaking
25 our heads, like how did we not think about that? And

1 the answer is that historically, computers haven't had
2 TPMs. You know, your bog-standard P.C. you can get
3 in. You can access. You can replace anything.

4 But what we're starting to see now is Apple
5 has taken the T2 security chip from iOS devices --
6 this is maybe the thing we have to jailbreak in iOS
7 devices -- and they've put it on their computers. And
8 we're seeing more secure boot techniques across the
9 board in all kind of general purpose computers.

10 So where historically there wasn't a
11 circumvention needed to do service, now overwhelmingly
12 it is, and that's been a huge sea change in the last
13 three years. There have been lots of other changes to
14 areas where -- go ahead.

15 MR. BARTELT: Okay. No, I was just going to
16 say, I was going to give Mr. Williams an opportunity
17 to respond, and then what we'll do after that is where
18 we're going to change -- as Ms. Smith mentioned
19 earlier, we're going to discuss medical devices. I
20 believe we have some comments on that. But we'll
21 focus a little bit more on that and then conclude with
22 discussing vehicles.

23 So, Mr. Williams?

24 MR. WILLIAMS: Yes, thank you. I wanted to
25 respond quickly to what Ms. Burke was saying. If you

1 go to support.xbox.com, you'll see that the Xbox One
2 S, the Xbox One X, they're still being repaired by
3 Microsoft. And we said in our comments their policy
4 is to continue repairing consoles up to four years
5 after they are no longer selling those consoles. So
6 some of what was said is inaccurate with respect to
7 what Microsoft is currently offering with respect to
8 console repair.

9 All of the console manufacturers also have
10 pretty robust e-recycling efforts where people can,
11 for free, get their consoles recycled to avoid e-waste
12 and some of the other issues that were implicated
13 there.

14 On peripherals, I don't recall in the record
15 seeing anyone targeting video game consoles
16 peripherals, but you can see in some of the websites
17 that we provided that those peripherals are also
18 repaired by console manufacturers in warranty and out
19 of warranty. And so I'd need more specifics, I guess,
20 to know the answer on any given device.

21 But my understanding is those can be
22 repaired by the manufacturers, and I don't know that
23 circumvention is always required with respect to
24 peripherals. I do know some peripherals can inter-
25 operate with other devices, as we discussed in the

1 disability-related exemption classes, without any need
2 to circumvent. So I would need more specifics to
3 answer that question.

4 MR. BARTELT: Thank you, Mr. Williams.

5 As I said, I'm going to turn now to some
6 questions focused on medical device repair, so I know
7 you've spoken a little bit to this earlier, but maybe
8 I could get a little bit more insight about how TPMs
9 are actually inhibiting access to repair devices.

10 I think what we saw in the written comments
11 was that the opponents were saying that the original
12 equipment manufacturers in this instance were
13 providing access and servicing information as required
14 by the FDA regulations, and that that was sufficient
15 to perform basic maintenance and repair services.

16 So I guess to both Mr. McHargue and Mr.
17 Kerwin, maybe you could both elaborate a little bit
18 for us about what FDA-mandated access and servicing
19 materials that OEMs are failing to provide and why
20 what you're receiving is maybe inadequate or TPMs are
21 preventing access to basic maintenance and repair
22 activities.

23 I guess, Mr. Kerwin, I see your mike's off,
24 so please go ahead, and then we'll turn to Mr.
25 McHargue.

1 MR. KERWIN: Well, thank you for the
2 opportunity to speak. We appreciate that. It would
3 not simply be FDA that we would be speaking to. There
4 are applicable regulations from the Center for
5 Medicare and Medicaid Devices, particularly 42 C.F.R.
6 482, which requires that hospitals maintain adequate
7 information on equipment to have an acceptable level
8 of safety and quality.

9 But to speak to your point on AIAT FDA,
10 first, that only pertains to radiation-emitting
11 devices such as x-ray, and that has to do with
12 information pertaining to assembly installation. And
13 what we're seeing -- and let me just back up and say
14 that at IAMERS what we're seeing is that independent
15 servicers in the secondary market may well become like
16 the watch repair people to the extent that they're
17 adversely impacted by this exemption.

18 We treat rural and regional hospitals
19 located everywhere from Eastern Appalachia in West
20 Virginia to Kansas, and we are conducting a survey of
21 some of these hospitals and, unfortunately, were not
22 able to complete it, but what we do know is that all
23 of them are having zero capital budgets and are unable
24 to undertake only the basic work.

25 And in this connection, the independent

1 servicer, whose rates are substantially lower than the
2 original equipment manufacturer, is a preferred model.
3 In addition, the turn time when equipment breaks down
4 is easier. So the AIAT is providing assembly
5 information -- is also something, sadly, with a right
6 but no remedy.

7 That is to say that the FDA has widely
8 acknowledged that if there's non-compliance, there is
9 no remedy for that. And we now see the DMCA and other
10 federal and state causes of action being used to
11 thwart the ability of independent and in-house
12 diagnostic imaging services by claiming that the use
13 of these manuals is a violation of the law, and I know
14 there are several cases coming to trial this year.

15 And if there's an issue, retaliation is
16 alive and well. That is to say, many of the members
17 are fearful that if they speak as to these issues,
18 they'll see a slowdown of parts. They potentially
19 will have a refusal to deal, notwithstanding that some
20 of these same manufacturers no longer own the
21 machines, the equipment, that they are selling to
22 hospitals, group medical practices, and to some
23 independent servicers.

24 We have witnessed since the last hearing a
25 massive consolidation in diagnostic imaging, with

1 three manufacturers occupying 70 percent of the
2 diagnostic imaging market, with manufacturers
3 controlling all but nine percent of the servicing of
4 equipment.

5 Few hospitals, group purchasing
6 arrangements, and rural hospitals possess the market
7 power to insist upon providing information to fix
8 their own equipment. Without this information, it is
9 difficult to conduct a root cause analysis of a
10 problem with equipment.

11 And as you may know, many of our members are
12 ISO 13485 qualified, and in the ecosystem of medical
13 device care you have many HDOs, health delivery
14 organizations, and they're well-established clinical
15 engineers in an oversight capacity. This is not an
16 area where fearmongering really should have a place.

17 And one can only look to the FDA MAUDE
18 reports, which are the manufacturer and user facility
19 reports which must be filed by the manufacturer or the
20 hospital where an adverse event to look at is found,
21 and you would see that under one percent adverse
22 events have been occurring with respect to this.

23 So the conduct that we're speaking of is
24 causing a problem for those who have lawful possession
25 of the equipment and those who would service it,

1 because the price differential can be \$150 to \$250 an
2 hour for an independent servicer versus six to \$800 an
3 hour for a manufacturer with a minimum four-hour time
4 cap.

5 So this exemption is causing adverse events,
6 and we do feel that a new exemption needs to be
7 undertaken. I should say this TPM. And we are asking
8 to take this into account. I wish I could bring many
9 members with me, but a number of them are just
10 painfully worried that if they contribute to this
11 conversation that they could potentially suffer a loss
12 in delayed equipment or refusal to deal and other
13 activities.

14 MR. BARTELT: Thanks, Mr. Kerwin.

15 MR. KERWIN: Let's make sure --

16 MR. BARTELT: Oh, and I'm sorry, I do want
17 to give others enough opportunity. I know we don't
18 have a tremendous amount of time today. I do
19 appreciate your remarks here. And we may be able to
20 circle back again yet.

21 But I just wanted to give Mr. McHargue, as I
22 said, a chance, and then I believe Mr. Cheney has a
23 question, and we can get to some of the other people
24 with their hands raised. Thank you.

25 Mr. McHargue?

1 MR. MCHARGUE: Thank you, Nicholas.

2 So relative to our ability to seek service
3 and manuals, there has been, I would say, improvement
4 --

5 MR. BARTELT: Oh, and I'm sorry, Mr.
6 McHargue, could I jump in one -- I'm not sure if this
7 is best directed to you, too, but maybe as part of
8 your response, could you clarify -- you had just
9 mentioned manuals, and I think -- are you seeking
10 access not just to the computer programs but -- I
11 wasn't sure if there were -- if the original equipment
12 manufacturers were claiming copyright in works besides
13 the programs themselves, but also in like the manuals
14 or other literary works or ancillary materials?

15 If you have any insight there, we'd
16 appreciate it, and then whatever else you want to
17 comment on concerning the TPMs that are preventing
18 access.

19 MR. MCHARGUE: Yeah, I'd say in general, we
20 have access to manuals for the most part, but now the
21 manuals are digital. We're told that we can access
22 all of them for a particular fee. What we're really
23 bumping into is the fact that we are told by the
24 original manufacturers that we can buy a service
25 advisor or something that can help us get in,

1 potentially read the codes, read the errors.

2 We can go and buy the parts to actually
3 install, but the issue is once we install, we cannot
4 get the last bit of software to have that vehicle,
5 whether it be a tractor or a combine, recognize that
6 new piece of equipment and actually make it
7 functional.

8 So in the details of how this all works,
9 again, I'm not a software engineer, but what I know
10 for sure is that we can get all the way to the end,
11 and if I have a combine sitting out to field, and the
12 rain is coming, and my independent repair tech comes
13 out, installs the part, gets it up, and says, "Well,
14 that's as far as I can go. You're going to have to
15 have a tech from the equipment manufacturer come out,
16 finish that repair." And so from that aspect, that's
17 not working for us.

18 And to be clear, agriculture is not seeking
19 an additional exemption from the Copyright Office. We
20 appreciate what was done in 2018. But those are some
21 of the issues we're still dealing with, though,
22 relative to -- since 2018.

23 MR. BARTELT: Okay. Thank you.

24 Mr. Cheney, you had a question? And then
25 we'll move on.

1 MR. CHENEY: Yeah, thank you.

2 MR. BARTELT: Yeah.

3 MR. CHENEY: Oh, I appreciate it. Thank you
4 for giving me a moment here. I just want to clarify
5 one thing. I don't think it was very clear from part
6 of your question. And then I want to ask an
7 additional question.

8 The manuals that you're talking about, in
9 order to access those, do you have to break a TPM to
10 get access to those manuals? And how is that done?
11 Can you describe that a little bit?

12 The other thing that I want folks to get
13 into a little bit here and talk about is this system
14 of what the opponents are calling unauthorized
15 independent providers, and what that system looks
16 like, and why would hospitals and clinics and others
17 that have these devices be having those folks on
18 staff? And what are the qualifications in order to do
19 that?

20 Just a little bit more detail there, I
21 think, and some of that may have come up in these Cal
22 State Senate hearings, and some of that -- so
23 whatever's relevant from those hearings that were
24 happening last week that maybe, brought in, might be
25 helpful, so including like ISOs qualified and some of

1 that kind of stuff I think I heard you mention. So I
2 hope that's helpful for this conversation. Thank you.

3 MR. BARTELT: Okay. Thanks, Mr. Cheney.

4 I realize I should have called on Mr.
5 Inacker earlier, and then maybe we'll go to Mr.
6 Inacker, Mr. Reed, Mr. Wiens, and Ms. Sheehan.

7 Go ahead, Mr. Inacker. Oh, I believe you're
8 still on mute. Very good.

9 MR. INACKER: Thank you for that. Just a
10 couple of quick points of clarification. So the TPMs
11 would not be removed by the exemption that we are
12 requesting. We just don't want to have the penalties
13 associated or the consequences associated with
14 circumventing. "Basic service" is defined by the OEM.
15 It's not defined by an independent service
16 organization. They define what you're allowed to have
17 access to.

18 "Basic service" is insufficient to do what
19 we need to do to get our customers -- hospitals, care
20 givers, imaging centers -- the type of service that
21 they need to have their equipment be fully functional.
22 "Basic service" is insufficient in order to do that.

23 That's why we have to be able to go around
24 the TPMs in order to make the equipment as functional
25 as possible, especially when it comes to removing and

1 replacing high-end pieces of equipment like glassware
2 in imaging devices. It is essential for what we do as
3 an organization.

4 And it's unconscionable to me as a consumer
5 of health care, where we can provide a service that
6 offers a 30 to 50 percent reduction in cost to what an
7 OEM is capable of doing, that we're not all standing
8 up and saying we need to have access in order to be
9 able to do this.

10 MR. BARTELT: Thank you, Mr. Inacker.

11 Mr. Reed, I'm not sure if you want to
12 continue in --

13 MR. REED: Yeah.

14 MR. BARTELT: -- speaking to this, go for
15 it.

16 MR. REED: Yeah. So I think we heard a
17 little bit of that old line, "lies, damn lies, and
18 statistics." It was interesting to say that when Mr.
19 Kerwin said, "Oh, well, it's only one percent." Well,
20 that one percent, according to the FDA's MDR review
21 from 2017, was 40 deaths, 294 serious injury, 38,500
22 patients and/or operators exposed to potential harm.
23 So when one says, "One percent, oh, gee, it's not that
24 many," it's actually a lot.

25 The second part of that's important. Again,

1 within the scope of what you're looking at, the FDA
2 already has requirements called the Quality System
3 Regulation, or QSR, that governs OEMs. So if you look
4 at the section 710 of FDA's Reauthorization Act, we
5 already have all of those things in effect.

6 The specific language is, "Quality systems
7 help ensure that products consistently meet applicable
8 requirements and specifications." So when Mr. Inacker
9 says, "Well, we should be able to reduce cost," part
10 of what he's trying to overcome is he doesn't want to
11 pay for or do the necessary things to meet the FDA's
12 requirements as a QSR.

13 So right now, we fully support and think
14 it's a great idea if OEMs or others can provide
15 service and support and meet the FDA's requirements
16 for QSR. Then that's probably a way to go for it.
17 Right now, the third-party servicers kind of don't
18 have the same transparency or accountability, and
19 don't necessarily submit adverse event reports in the
20 same way that the others do.

21 So I think that it's a little glib to say,
22 "Gee, we save you 30 percent," but if it results in 40
23 deaths, 294 serious injuries, and 38,500 patients and
24 operators exposed, then I'm not sure it's something
25 that we wave off with a hand.

1 So I would encourage the Copyright Office to
2 be very cautious for over interpreting the cost
3 reduction as something that should drive this forward,
4 especially since the market exists.

5 MR. INACKER: May I please respond to Mr.
6 Reed?

7 Mr. Reed, all of our organizations are ISO
8 13485 certified, the same certification as the OEMs.
9 Your numbers -- if you look at how many of the OEM
10 organizations have caused issues with imaging
11 equipment because of their delays and lack of
12 responsiveness, those numbers will be a heck of a lot
13 higher than they are for the independent service
14 organizations.

15 MR. REED: And, Steve, I'd be happy to go to
16 the FDA and talk with you about some of those
17 failures. The Copyright Office is not the place --

18 MR. INACKER: The FDA -- the FDA -- the FDA
19 --

20 MR. REED: -- to have that discussion.

21 MR. INACKER: The FDA --

22 MR. REED: This is not --

23 MR. INACKER: -- clearly --

24 MR. BARTELT: I'm sorry, gentlemen,
25 gentlemen, for the sake of the discussion --

1 MR. INACKER: The FDA clearly said in 2018
2 that --

3 MR. BARTELT: -- speaking over each other.

4 MR. INACKER: -- independent service
5 organizations provide a valuable service to the health
6 care providers, and no difference between what an OEM
7 is doing and a qualified --

8 MR. BARTELT: Yeah, so again --

9 MS. SMITH: Just a moment.

10 MR. INACKER: servicer --

11 MS. SMITH: Just a moment. Just a moment.
12 Just a moment. Just a moment. Thank you. Everyone
13 is going to get an opportunity to speak, but we cannot
14 have cross talk over this, and we cannot have going
15 back and forth without the moderator. That will not
16 work for the court reporter, and we want to make sure
17 everyone gets a chance to speak.

18 So we're going to go a little bit over time
19 because we know there's a lot of issues. We do want
20 to cover them. But I have to ask you to respect my
21 colleague who's moderating.

22 So I think, just to take some of the tension
23 off of that issue, and also I think some of these
24 issues might be going a little bit beyond, I want to
25 make sure we're centered on the 1201 rulemaking. I

1 think let's give Ms. Sheehan a chance to weigh in.
2 Thank you.

3 MS. SHEEHAN: Thank you. I just wanted to
4 respond really quickly to what Mr. Reed mentioned
5 about the FDA, and I'll say that it's possible Mr.
6 Reed is not familiar with the FDA's 2018 study
7 reporting on the quality, safety, and effectiveness of
8 servicing of medical devices.

9 In that study, the FDA issued a report
10 which, in part, sought to determine how valid these
11 concerns were about the quality of servicing provided
12 by the original equipment manufacturers versus third-
13 party independent entities. And the report found that
14 the objective evidence indicates that many OEMs,
15 original equipment manufacturers, and third-party
16 entities provide high quality, safe, and effective
17 servicing of medical devices, and in fact, that the
18 continued availability of third-party entities,
19 including independent service organizations, to
20 service and repair medical devices is critical to the
21 functioning of the U.S. health care system. So just
22 to address some of those FDA concerns that Mr. Reed
23 raised.

24 But moving on and refocusing on really the
25 core inquiry here, if Mr. Reed would contain his

1 emotional responses, that would be delightful.

2 But also just this is a Copyright Office
3 hearing. This isn't an FDA regulatory proceeding.
4 And so the Copyright Office is concerned with whether
5 or not there should be an exemption issued to section
6 1201 for the purpose of medical device repair.

7 And I'll say again, as I said throughout
8 this hearing, that repair is a non-infringing
9 activity. The absence of an exemption to permit
10 repair on medical devices as well as other software-
11 enabled devices causes real tangible harms. In
12 medical devices, that's very prescient.

13 We have people who are left without a
14 functioning wheelchair for months at a time, waiting
15 for original equipment manufacturers to send out a
16 qualified repair technician.

17 We have hospitals unable to repair rooms
18 full of ventilators because they can't get access --
19 they have to wait months for manufacturer-branded
20 repair services to come out and provide them with a
21 special dongle which is needed in order to get access
22 to the device to do the repair, or to provide the
23 service keys -- again, another TPM -- that's used to
24 lock out hospitals and technicians as well as
25 independent service technicians and privilege

1 manufacturer technicians.

2 And as I said before, the Federal Circuit
3 found in *Chamberlain* -- and this has not been -- this
4 has not been disputed -- that 1201 doesn't give new
5 exclusive rights to copyright holders. So that means
6 that 1201 does not give a right to medical device
7 manufacturers or medical device app manufacturers to
8 control the market for repair or to exclude
9 independent repair providers.

10 MR. BARTELT: Okay. Thank you, Ms. Sheehan.
11 I do have a question about maybe how these TPMs would
12 work and how the -- you know, just hypothesizing, that
13 if the circumvent -- this is maybe directed to Mr.
14 Wiens.

15 I don't know if you have any technical
16 background that you could help with -- or maybe Mr.
17 Kerwin -- that once the TPMs would be circumvented on
18 these types of devices, would the copyrighted works --
19 would the software programs or the data remain on the
20 machine afterwards? Would they need to be put onto
21 another device?

22 I'm just curious about sort of the actual
23 mechanics of circumventing on these medical devices.
24 I think we've heard about a lot of other devices over
25 the years. But I'm not sure, maybe you could provide

1 specific examples of how circumvention works in these
2 instances and if it could be restored in such a way
3 that it would be sort of to the original
4 specifications.

5 First I'll let Mr. Wiens -- I see you've had
6 your hand raised for a little while -- then maybe Mr.
7 Kerwin.

8 And we can maybe come back to you, then,
9 after that, Mr. Reed.

10 MR. WIENS: Sure. Thanks for the question.
11 These are relatively -- oftentimes, like with the
12 wheelchair, there is a service password that you need
13 to enter, and so if you don't have the service
14 password to get into additional menus, then you're out
15 of luck.

16 So really, the goal is just to bypass the
17 password so then you can get in. There are very
18 common settings, like traction settings, that you
19 might want to change on a wheelchair. And kind of the
20 same thing with the ventilators and other equipment.
21 You know, you plug the service dongle in.

22 So, no, the software should remain on the
23 device. The data should remain on the device. The
24 goal isn't to exfiltrate the firmware from the device.
25 It's simply to bypass whatever check is there to see

1 if a branded manufacturer representative is sitting in
2 the chair.

3 In many cases, the larger hospitals have
4 been given these service passwords, and it's the
5 smaller hospitals that aren't given the passwords.
6 And I'll defer to Mr. Kerwin to share the situation on
7 the ground.

8 MR. BARTELT: Thank you, Mr. Wiens.

9 MR. KERWIN: I, I --

10 MR. BARTELT: Mr. Kerwin, go ahead.

11 MR. KERWIN: I quite agree. The CMS has
12 issued various bulletins consistent with the laws
13 cited that require you to keep your equipment in
14 accordance with the original equipment manufacturer
15 specifications or, for certain types of non-diagnosed
16 equipment, to maintain alternative maintenance
17 activities with a risk analysis.

18 So that information will stay with the
19 hospital and is expected to be there because, as we
20 know, the Joint Commission has oversight of these
21 hospitals and is the delegated authority for many of
22 the states.

23 And in addition to your earlier point about
24 vendor management, unauthorized independent providers,
25 the hospitals will undertake their own vendor

1 management programs. Some have formalized
2 departments. Some are much smaller. And they do like
3 to see members ISO 13485 qualified, which is the ISO
4 standard.

5 So the risk is minimal, and I also affirm
6 the other speaker's reference to the 2018 report,
7 which I believe addresses some of the concerns raised.

8 MR. BARTELT: Okay. Thank you, Mr. Kerwin.

9 Mr. Reed, I had a specific -- well, two
10 specific questions to you, maybe that you could -- and
11 then any other things that you needed to respond to.

12 One was to what extent are the existing
13 other types of laws that -- maybe the Computer Fraud
14 and Abuse Act, HIPAA, FDA regulations, other existing
15 things -- alleviate any sort of safety concerns here?

16 And the second was -- I don't know how much
17 particular insight you have as you're not directly
18 representing -- one of the opposition comments that we
19 had received was a lot of -- some of the examples that
20 were cited were -- seemed to relate to physical issues
21 rather than issues resulting from circumvention of a
22 TPM.

23 I was curious if you have any examples or
24 maybe I can't --

25 MR. REED: Yeah.

1 MR. BARTELT: Where circumvention of TPMs
2 has led to the types of instances that you've referred
3 to. But go ahead.

4 MR. REED: Right. I think the long and the
5 short of it is, interestingly enough, I think all of
6 this talk about the FDA and Ms. Sheehan's comment
7 directed at me kind of points to the reality. The FDA
8 actually has structures in place to do this the right
9 way. The Copyright Office and the 1201 proceeding is
10 not the right place to do so.

11 By the way, HIPAA doesn't apply in any of
12 these instances. Just so you all understand, HIPAA
13 actually deals with portability of electronic
14 information. The section that you might be referring
15 to is the privacy rule, which came separately. HIPAA
16 actually only covers what are called covered entities,
17 and covered entities are organizations that file
18 electronic insurance claims or their business
19 associates.

20 So HIPAA doesn't actually have any
21 constraints around this. OCR, the Office of Civil
22 Rights, doesn't have any oversight over this space at
23 all, unless a covered entity is engaging in a practice
24 that exposes someone's PHI. So it's really, really
25 separate.

1 But you hit the nail on the head. The
2 agency that does have oversight over this is the FDA,
3 and I'm very familiar with the 2018 report. I
4 actually think that the work that's being done in this
5 conference on this call right now is kind of
6 misdirected.

7 Our efforts should really be at how do we
8 ensure that the FDA and its Quality Systems Regulation
9 moves forward in a way that appropriately allows for
10 repairs in a way that actually keeps patients safe.
11 I'm not sure why we're talking about medical devices
12 at a 1201 hearing which was more around protecting
13 people's movies and music. So I think that --

14 MR. AMER: Well --

15 MR. REED: -- part of the problem we're
16 running into is --

17 MS. SMITH: Well, Mr. --

18 MR. REED: But -- sorry, Regan. Did I --

19 MS. SMITH: I bet Mr. Amer and I have the
20 same question, which is does that also cut the other
21 way, which is if we're looking at whether the
22 copyright law should be playing a role in this field
23 --

24 MR. REED: Yeah.

25 MS. SMITH: -- where what we're looking at

1 is whether it's likely to be a non-infringing use, and
2 we don't -- we haven't really necessarily seen, I
3 think, a reliant interest from the FDA on the
4 copyright law for the discussion.

5 MR. REED: Yeah. I think that's a great
6 question. It was exactly where I was going. So you
7 heard a little hint about it, about on the manuals
8 part of it. The reality is the manuals are protected
9 intellectual property, and so if breaching TPMs is a
10 way to have access to the manual, the manual is
11 copyrighted material.

12 So there are some instances where copyright
13 does come into play, and I do know that has been an
14 area of significant dispute, which is access to the
15 manuals, which is copyrighted material. So where the
16 tools are -- where the infringing tools are -- or I'm
17 sorry, the tools are intended to allow access to the
18 manual, it is intended to allow access to material
19 that the owner of the copyright doesn't want to
20 provide access to, and that the use would be
21 infringing in terms of the purpose of what their
22 product is.

23 But I think those are kind of two separate
24 questions, so the first question that I was asked was,
25 "Is this the right venue?" My argument is no, FDA has

1 these things in place. Let's look there. Your second
2 question was, "Are there infringing or potential
3 infringing uses?" And I would say you hit it earlier
4 when we heard the discussion about manuals and access
5 to the IP.

6 So I think that's a place that is, in fact,
7 in dispute, and there are conflicts about access to
8 the IP.

9 MR. BARTELT: Thank you, Mr. Reed.

10 MR. AMER: Well, what is the --

11 MR. BARTELT: Go ahead, Mr. Amer.

12 MR. AMER: Is the concern about access to
13 the manuals a copyright-related concern? I mean, it
14 doesn't seem to me that you're concerned about people
15 getting access to the manuals so they can read them in
16 the way that movie manufacturers or makers are worried
17 about people seeing a movie without paying for it. I
18 mean --

19 MR. REED: I -- the --

20 MR. AMER: -- are you worried about people
21 copying of the manuals that --

22 MR. REED: Well, yeah, and --

23 MR. AMER: -- seems like a --

24 MR. REED: Yes. Yeah. I don't want to
25 stick up for the manual manufacturers, but what I do

1 know is, yeah, manuals actually contain an enormous
2 amount of very specific proprietary information. They
3 may include information about pin-outs. They may
4 include information about access to specific
5 information.

6 Now, there are questions that we all have to
7 answer about whether or not that limits repair, but
8 the reality is yes, absolutely, manuals contain
9 information that is protected, proprietary, and, in
10 fact, again, not speaking for that industry, it's my
11 understanding that that's part of what they provide to
12 licensed OEM repair shops, is they license access to
13 all of that copyrighted material to enable the repairs
14 to take place, and that's part of their license
15 agreement with those third-party repair shops.

16 So I think it's considered a valuable
17 resource to them. It's adjacent to my industry. I
18 don't represent -- you know, they're not part of my
19 membership. But yeah, I do know that they definitely
20 license access to those repair manuals, and that's a
21 key part of their control and income stream and value
22 for the IP that they're creating.

23 MR. AMER: Okay.

24 So I think we're going to go to Mr. Inacker
25 and Ms. Sheehan, and then I think we're going to have

1 to move on to vehicles.

2 MR. INACKER: All right, thank you. And I
3 just wanted to answer Mr. Bartelt's question directly.
4 So for a medical device, after TPM circumvention, the
5 data remains on the device. The software remains
6 intact. The device is left in its original state
7 after the repair is complete. This is all about fair
8 and equitable access.

9 MR. AMER: Thank you.

10 Ms. Sheehan?

11 MS. SHEEHAN: So first off, I want to say
12 I'm kind of unaware of the circumstance where a TPM
13 would protect access to the service manual, but in the
14 case where it would, I just wanted to address Mr.
15 Reed's claims that that would be infringement. I
16 would say that if the purpose is repair, and the use
17 of the manual -- again, the purpose is repair -- this
18 is a non-infringing purpose.

19 Also if you have a license to use the
20 machine and the manual, you have a license to use it,
21 to read it, to use the instructions.

22 And then I also want to address just one of
23 the fair use factors here, weighing in on whether that
24 would be infringing, whether the use of a manual in
25 this case would be infringing, and just say that the

1 nature of the copyrighted work at issue with a manual
2 is highly functional, right?

3 So copyright will protect the expressive
4 content in that manual, but it's not going to protect
5 the instructions, the set of steps, the information
6 contained within that manual, and so we're not talking
7 here about a movie or a novel. Most service manuals
8 are, indeed, a set of instructions.

9 Refocusing on kind of what we're really
10 concerned with here, which is technological protection
11 measures that keep certified biomedical engineers that
12 work in hospitals or that work with independent
13 service organizations, independent repair people, or
14 people who own take-home medical devices --
15 encountering TPMs that prevent them from repairing
16 their device.

17 And most often, we see those occurring
18 through the existence of passwords, or security keys
19 that someone has to use to get into the service
20 terminal for those devices, or to authorize a
21 replacement part, or to calibrate with a new part, or
22 kind of dongle-based security mechanisms. And so --

23 MR. AMER: Okay, thank you.

24 MS. SHEEHAN: -- beyond the manual it's --

25 MR. AMER: I'm sorry, could I just --

1 MS. SHEEHAN: -- largely irrelevant here.
2 We're really focused on the TPMs that are obstructing
3 repair of the medical device itself. Thank you.

4 MR. AMER: Could I just stop you there? And
5 I'm sorry to interrupt.

6 And, Mr. Kerwin, I see your hand up, so I
7 don't want to leave you out, but if you could be
8 brief, and then we're going to turn to our last topic.

9 And thanks for everybody's patience.

10 MR. KERWIN: Well, thank you. And could I
11 just, on behalf of IAMERS, thank you. What I was going
12 to say is that relative to the cyber issue that was
13 inquired about, the FDA has issued its own guidances,
14 and those of us who are participatory in the joint
15 public-private partnership of HSCC with 600 members
16 are working on quality and white papers.

17 But the HHS, the Health and Human Services,
18 is where people record in the civil rights division
19 when a cyber issue has happened, and I urge you to
20 look to see that there is very few that are related to
21 servicing, if any at all. So it's important to
22 realize that the FDA is not in the business of
23 intellectual property. They have publicly indicated
24 such. And it's entirely appropriate to have it here
25 today. Thank you.

1 MR. BARTELT: Thank you, Mr. Kerwin.

2 As Mr. Amer said, we're going to turn to our
3 last topic, which is vehicles. We heard briefly from
4 Mr. McHargue and Mr. Rosenbaum earlier. I think we
5 are going to -- I have just basically one question for
6 you each, maybe a little bit more.

7 First, Mr. McHargue, you had mentioned
8 earlier issues with access to tools, but my question
9 is going to be a little bit different. It's under the
10 current existing exemption for vehicles, there's a few
11 different limitations, one that it not violate other
12 laws. There was a comment about gaining access to
13 vehicle user data.

14 I'm just wondering, under the existing
15 exemption, how repairers or potential users of the
16 exemption are being inhibited from making necessary
17 repairs. If you have examples that you could provide
18 us, or where the existing language you would suggest
19 be modified in order to accommodate those users.

20 MR. MCHARGUE: Well, I appreciate that
21 question and I probably can't get into, again, the
22 technical side. Probably where I think the need for
23 additional repair people in our area -- there's been a
24 proliferation of expert third-party repairs groups in
25 the ag equipment sector, and so I think possibly

1 because of the 2018 ruling, I think that has given
2 credence to allowing that possibility.

3 What, again, has been difficult is even the
4 third-party experts can't get access to -- if I'm the
5 owner, have access to, say, a service advisor from
6 John Deere, they're having difficulty getting access
7 to that same software that I could use to repair, but
8 yet I can infer that to my expert, and they're having
9 difficulty getting the same amount of tech that, say,
10 an OEM can provide.

11 And even if they could do that, there's
12 still these issues relative to the final repair that
13 was mentioned, whether it be the dongle or the
14 payload, that's needed. So again, I don't know if
15 that's technically within the copyright part. I think
16 there are other laws. When it comes to EPA, safety,
17 some of those things are probably outside this
18 conversation.

19 But just from on the ground, that's kind of
20 what's going on in the equipment repair side of the
21 equation. I don't know if I answered your question.

22 MR. BARTELT: Okay, sure. No, thank you.

23 I do see that we have a few other hands
24 raised that may be able to -- that may be responsive
25 to this question, so I'm going to turn to Mr. Wiens,

1 Ms. Sheehan. I see Mr. Cheney has a question.

2 And then, Mr. Rosenbaum, I have a question
3 for you, too that we'll get back to after those
4 comments.

5 So, Mr. Wiens first?

6 MR. WIENS: Sure, and just to share the
7 specific challenge that the farmers are having, if you
8 are familiar with the case *Dorman v. G.M.*, the part
9 that you get from the factory -- let's say you get a
10 new transmission or a new ECU. It comes without
11 firmware, and so you need to move your copy of the
12 firmware from your existing ECU onto the new part.

13 And in the ag industry, these are called
14 payload files. The payloads are the firmware. And a
15 circumvention would be exactly what Dorman did in the
16 *G.M.* case, where you basically move your copy onto the
17 new one.

18 What the branded kind of the John Deere reps
19 are doing is they're downloading from John Deere's
20 servers a copy of that firmware and loading it onto
21 the device, so just to clarify the farm situation.

22 Did you --

23 MR. BARTELT: Oh, no, I just wanted to see
24 -- I was going to turn to Ms. Sheehan, but if you had
25 one more point you wanted to make, we can do that, and

1 then --

2 MR. WIENS: Sure.

3 MR. BARTELT: move on.

4 MR. WIENS: Well, yeah, and real fast to
5 talk about the auto industry and what's different,
6 because things have changed so much in the last three
7 years in the car world. Three years ago, when we were
8 talking about circumventing -- or the telematic system
9 and the infotainment system, the state was new cars
10 were coming with Blu-ray drives, right?

11 I was looking this morning. I couldn't find
12 a single new 2021 model year car that comes with a
13 Blu-ray drive. I think that kind of -- like that has
14 passed. And instead, the media is played from your
15 phone, so I take my phone, and I use Apple CarPlay or
16 I use Android Auto, and so the media -- any sort of
17 concern that we have about piracy is centered around
18 these mobile devices and not actually the car itself.
19 So media has moved off of cars.

20 And then in the other direction, all of the
21 data that you need for repair has moved into the
22 telematic system, has moved into telematics. And
23 that's where you've seen the most recent Massachusetts
24 auto Right to Repair bill, which was introduced
25 because of all of the problems that the mechanics are

1 having because the data, instead of being passed to
2 the service technician via the wired port, it's coming
3 wirelessly.

4 And as we talked about three years ago, that
5 wireless telematic system and the infotainment system
6 on the car is one and the same. It's the same ECU.

7 MR. BARTELT: Okay. Thank you, Mr. Wiens.

8 Ms. Sheehan?

9 MS. SHEEHAN: I'd like to reiterate what
10 Kyle said. So in 2018, the Register passed on the
11 opportunity to recommend an exemption for vehicle
12 telematic systems. But as we're seeing these
13 telematic systems are increasingly ubiquitous.

14 If I have a Tesla right now, and I need to
15 repair it, the current exemption from 2018 doesn't
16 cover my repair because my mechanic would need access
17 to the telematic system in order to complete that
18 repair.

19 And again, as Kyle said the politics are
20 changing around this, and we've seen a ballot
21 initiative pass in Massachusetts with over 75 percent
22 of people who are recognizing the need to access these
23 wireless telematic systems and the need for their
24 independent repair providers to be able to access
25 those wireless telematic systems. So that's one area

1 where we'd like to see this exemption expanded.

2 In addition, we'd like to see the removal of
3 the kind of duplicate liability for violating another
4 law. So to the extent that the current language of
5 the exemption imposes an obligation to follow other
6 laws, we think that compounds liability in a way that
7 really doesn't add any extra deterrent effect and is
8 just kind of hammering on, and adding complexity and
9 risk of litigation, to people using the exemption.

10 We'd be open to phrasing that in a different
11 way that, again clarified that the exemption is not
12 authorizing or making lawful any activity that
13 violates another law, but this compounding of
14 liability we think is an extra burden on the people
15 who benefit from the exemption that should be trimmed.

16 MR. BARTELT: Okay. Thank you, Ms. Sheehan,
17 and I'm actually going to ask Mr. Rosenbaum about that
18 in a second, but I wanted to turn to Mr. Cheney first,
19 because he had his hand raised.

20 Please go ahead, Mr. Cheney.

21 MR. CHENEY: Thank you.

22 And my line of questions actually followed
23 the same line of reasoning here, because you brought
24 that up originally, and so I just wanted to pivot just
25 a little bit on what Ms. Sheehan said.

1 And so this has come up a little bit in
2 other exemption discussions. In Class 13, Rapid7
3 proposed some language, and this language has been
4 talked about in other exceptions, possibly to replace
5 "this does not violate any other applicable law."

6 So let me read what they proposed, and this
7 has been endorsed in that space, good faith security
8 research, by the Department of Justice and others, so
9 let me read what they propose here and just sort of
10 substitute the words in.

11 In this case, it says, "Good faith security
12 research that qualifies for the exemption under
13 Paragraph A," whatever we write there, "may
14 nevertheless incur liability under other applicable
15 laws, including, without limitation," and in this
16 case, they list Computer Fraud and Abuse Act, et
17 cetera.

18 So would that be acceptable modification
19 language, Ms. Sheehan and others, both opponents and
20 proponents, in sort of finding a middle ground on that
21 change? Just if you think.

22 MS. SHEEHAN: I think that would absolutely
23 be acceptable.

24 MR. BARTELT: Okay. And, Mr. Rosenbaum, go
25 ahead.

1 MS. SMITH: Can I --

2 MR. BARTELT: Oh, go ahead, Regan.

3 MS. SMITH: Just a second, Mr. Bartelt.

4 Yeah. I might have missed it, but either I need to
5 clarify for myself what was said, or we need to
6 clarify the record.

7 I think in 2018, the Register recommended
8 removing the limitation that excluded access to
9 telematics and made it when it is necessary for
10 repair, so I think I'm still a little confused as to
11 what the proposed scope of the change is, because it
12 seems like some of what you're saying about modern
13 cars is already being addressed. If I'm missing
14 something, let --

15 MS. SHEEHAN: Sorry, Ms. Smith. You said
16 the 2018 exemption covers access to wireless telematic
17 systems for the purpose of repair?

18 MS. SMITH: That's right. We considered
19 that, and we granted that adjustment and removed the
20 limitation that had been put in place in 2015. So
21 it's broader. That was a change made in 2018. That
22 is --

23 MS. SHEEHAN: Then I must --

24 MS. SMITH: -- we are recommending renewal
25 for. That's fine. I just -- glad that we just --

1 we're making progress and getting things clear. Okay.

2 Mr. Bartelt?

3 MR. BARTELT: Sure.

4 I wanted to -- I guess that my question was
5 similar to Mr. Cheney's, so I was going to ask Mr.
6 Rosenbaum about this sort of -- the removal of the
7 language concerning -- or modification of the language
8 concerning that the exemption not violate any other
9 applicable law and any concerns that he might have
10 about that. And he may have wanted to respond to some
11 of the other comments that were made.

12 Please go ahead, Mr. Rosenbaum.

13 MR. ROSENBAUM: Yeah, thank you. Thank you
14 very much. I'll start with what I call the illegality
15 limitation, which is the limitation in the existing
16 vehicle exemption that circumvention does not
17 constitute a violation of applicable law. We would
18 not support any relaxation of that. That is a
19 critical limitation.

20 The 2015 record was replete with information
21 on automotive vehicle software which controls complex
22 aspects of motor vehicle performance and ensures that
23 vehicles meet stringent regulatory standards for
24 safety, fuel efficiency, and emissions control.

25 You know, the Copyright Office rightly

1 recognized this in crafting the vehicle exemption in
2 the 2015 rulemaking, that the automotive industry is
3 highly regulated, and so they took into account --
4 rejecting arguments that these risks were unrelated to
5 copyright concerns, finding that these were of
6 overriding importance, basing it on letters received
7 from the EPA, the Department of Transportation, and
8 California's Air Resources Board finding the
9 illegality limitation was necessary.

10 There's nothing in this record that would
11 mitigate anything that was provided in 2015.
12 Expanding the exemption would risk public safety and
13 cause environmental harms, potentially. So again, we
14 would not support any relaxation of the illegality
15 limitation.

16 Sort of getting to the -- you know, I don't
17 want to get too much into telematics, since, as Regan
18 pointed out, that was at issue in 2018.

19 You can see from our 2018 filing that
20 telematics, all -- again, back to the MOU, but not
21 just the MOU, state and federal regulations going back
22 to 2002 requires automobile manufacturers to provide
23 repair and diagnostic tools and information to
24 independent repair shops to the same extent as
25 dealers.

1 And whether that information is in
2 telematics or not, that information needs to be
3 provided to the independent repair shops. So it's
4 just simply not an issue. And our view here is that
5 the existing language of the exemption does not cover
6 third-party repair, commercial repair, shops.

7 And to the extent that there's any
8 suggestion that there should be some affirmative
9 language that would cover them, we would oppose that,
10 and we don't believe there's anything in this record
11 that would support that.

12 You know, as we've said, and you can look at
13 our filing, again, the MOU obviates any need for that
14 sort of thing. Anyone who needs their car repaired is
15 able to get it repaired. There's nothing on the
16 record suggesting otherwise. And of course, the
17 statutory framework doesn't permit it. So I don't
18 want to get -- I could go into depth on each of those
19 things, even further.

20 I guess one thing that was a reply -- and
21 this might be my only opportunity to reply to this --
22 there was a reply from the Auto Care Association on
23 the MOU that was extremely misleading, suggesting that
24 it does not apply to all users and to all independent
25 repair shops. In fact, it does. You know, under the

1 MOU, manufacturers make the tools and information
2 available to everyone.

3 And also, there's a provision in the MOU
4 requiring standardized tools so it's not -- the
5 suggestion was that independent repair shops are
6 forced to buy tools from the manufacturer. That is
7 not the case.

8 And finally the issue of whether they're
9 prohibitively expensive, which we've heard -- the MOU
10 includes provisions that these tools and information
11 are provided on fair and reasonable terms, and this
12 language goes back to regulatory language back to
13 2002.

14 There's never been any dispute brought under
15 either regulation or the MOU suggesting that these are
16 not being provided on fair and reasonable terms. You
17 know, and this just simply isn't the forum to litigate
18 that. You know, there should be the MOU. There are
19 other places if there's a dispute.

20 So with that I appreciate the opportunity to
21 say my piece. Thank you.

22 MS. SMITH: Thank you, Mr. Rosenbaum. And
23 thank you for your patience, because I understand on
24 the road map, this came to the end, so we're glad
25 you're here, and we know this is a tremendous amount

1 of issues. We've got the benefit of your briefing.

2 We also went a little bit over. I think
3 this is sort of last call for comments, and people
4 could try to keep it a little bit short, because we've
5 got a lot here.

6 But, Ms. Gagliano?

7 MS. GAGLIANO: Sure. So first, I wanted to
8 share one quick point in response to what Mr.
9 Rosenbaum was saying about the safety and emissions
10 regulations.

11 EFF actually sent FOIA requests to the EPA
12 and Department of Transportation, and their responses
13 confirmed that they have never actually used 1201 or
14 relied on it in any way to help enforce these
15 standards.

16 They aren't actually making use of it, which
17 I think reinforces Ms. Sheehan's point that it's
18 really superfluous, second layer, and draw attention
19 to the distinction only the Copyright Office can grant
20 exemptions. FDA and then --

21 MS. SMITH: Can I ask you --

22 MS. GAGLIANO: Okay.

23 MS. SMITH: -- is that response in the
24 record? It might be, but have you provided that to
25 us?

1 MS. GAGLIANO: I don't think that we have.

2 MS. SMITH: Okay. Thanks.

3 MS. GAGLIANO: Probably not. And then in
4 terms of just --

5 MS. SMITH: Okay, thank you.

6 MS. GAGLIANO: -- the closing comment
7 quickly is that on modification, which was really the
8 focus of our request, especially want to reiterate
9 that the question is not whether there are infringing
10 modifications that are prevented by TPMs in 1201, but
11 that the question is whether there are non-infringing
12 modifications that are being adversely affected and
13 prevented by 1201. And we have shown that there are.

14 And these include modifications that promote
15 the creation of new copyrighted works, including new
16 photographic works by modifying digital cameras, new
17 software works by building on what's come before. And
18 I think the recent decision in *Google v. Oracle* really
19 reinforces the importance and transformative nature of
20 that purpose, the purpose of expanding the utility of
21 software. So I think that is the point that I wanted
22 to leave you all with.

23 MS. SMITH: Thank you.

24 Mr. McHargue?

25 MR. MCHARGUE: Well, I appreciate this

1 conversation. Unfortunately, the ag exemption isn't
2 quite the same as the auto sector, because we do not
3 have a national MOU, and so we still are constrained
4 by a lot of necessary tools having to go back to the
5 original OEM to get that service.

6 And we desperately need access to those
7 third-party experts on a broad scale, because, again,
8 we don't have an MOU nationally that is kind of
9 putting in place these standards, nor do we have a
10 dispute arena that we can go back and we can say, "We
11 need to be playing together in a certain form or
12 fashion."

13 But again, thank you for allowing me to be
14 here. I appreciate the work of the Office.

15 MS. SMITH: Thank you. We appreciate you
16 coming and bringing your perspective, too.

17 Ms. Sheehan, I saw you sort of nodding
18 during the last comment. If you wanted at all to
19 comment on -- obviously, this rulemaking is limited to
20 the anti-circumvention provision and not the anti-
21 trafficking provision. But that was a question that
22 just sparked me about the ag market.

23 MS. SHEEHAN: Absolutely. We completely
24 agree with the Office's interpretation of the statute,
25 that Congress, in using the term "user," deliberately

1 chose not to use the term "owner." And therefore, the
2 exemption is not limited to the owner of the device.
3 It's to anyone who is using the device, including
4 potentially a third-party provider of repair services.

5 And so we fully endorse that, and we would
6 request that permission for third-party assistance
7 extend to all exempted categories.

8 I just wanted to say a couple of things, one
9 in response to Mr. Rosenbaum and one kind of wrapping
10 up our testimony as a whole, and just say that Mr.
11 Rosenbaum put a lot of weight on the existence of
12 alternatives and the existence of branded repair
13 services.

14 But this office has never found the
15 existence of alternatives sufficient to defeat an
16 exemption where adverse impact exists. And to do so
17 in this case would, as I've said before in this
18 hearing, give copyright holders a new right that they
19 don't have under the Copyright Act, that they don't
20 have under section 106, which is the right to control
21 the market for repair services.

22 And you know, we know from *Chamberlain* that
23 that right does not exist. And so I would argue that
24 even though there might be alternatives, in some cases
25 those alternatives are going to be inadequate. In

1 some cases, they might not exist at all. But even
2 when they are there, that itself is not determinative.

3 And then I just want to close by just
4 summing up whether we're talking about medical
5 devices, or tractors, or cars, or software-enabled
6 litter boxes, we're essentially talking about the same
7 functional software, the same copyright analysis, the
8 same purpose of the use.

9 And so in our perspective, the proper scope
10 for an exemption here is an exemption for the repair
11 of all software-enabled devices. We just want to fix
12 stuff.

13 MS. SMITH: Thank you.

14 Mr. Wiens?

15 MR. WIENS: Thank you. One thing I thought
16 that I would mention is -- you think about how to
17 craft this -- is John Deere's Service ADVISOR is a
18 subscription repair service. And in the existing
19 rule, you separated out subscription services. I
20 think that it was thinking of Spotify or SiriusXM, or
21 something.

22 But imagine a world where like OnStar, you
23 may be paying the manufacturer for a repair service,
24 and that may implicate whatever decision that you
25 make. Thank you very much.

1 MS. SMITH: Okay. Thank you.

2 And, Mr. Williams, I think you're usually
3 the last to be introduced as a "W," so it's kind of
4 fitting for you to get the last word so go ahead.

5 MR. WILLIAMS: Yeah, thank you. Just
6 quickly, on the question that's mostly been related to
7 medical devices and vehicles but is coming up as a
8 general proposition of how far the Office should go
9 with respect to third-party services, I just wanted to
10 reemphasize that it's extremely important to my
11 clients that the Office remain cognizant of that line
12 between trafficking and 1201(a)(1). And so I just
13 wanted to reiterate that.

14 And then a couple of points that Ms. Sheehan
15 made a couple of times that I did want to respond to.
16 One is that she said "alternatives to circumvention
17 has never been a basis to deny a proposal." That's
18 not correct. It's consistently been a basis to deny
19 proposals. And where there are alternatives to
20 circumvention, exemptions should not be granted.

21 Another point was just that -- and I know
22 the Office staff is aware of this, but I wanted to get
23 it on the record, because it came up a few times. I
24 believe she said that *Chamberlain* has never been
25 challenged. *Chamberlain* is wrong. The Office has

1 said it's wrong. *MDY* says it's wrong. *Chamberlain* is
2 not good law at this point, in my view, and we
3 shouldn't be granting exemptions -- or you should not
4 be, excuse me, based on the reasoning in *Chamberlain*.

5 There is a new exclusive right. It's the
6 right of access. It's in 1201(a)(1). And it's a good
7 thing. Thank you.

8 MS. SMITH: All right.

9 Thank you, everybody. Thank you for your
10 patience and willingness to go over as we help develop
11 the record through this discussion. If we think we
12 need anything further, we'll be issuing letters for
13 post-hearing comments. And there will also be
14 opportunity to participate through ex parte meetings
15 subject to transparency disclosures once we initiate
16 that.

17 So thanks again, and then tomorrow will be
18 our last day of hearings, in which we will address
19 proposed classes for jail-breaking and unlocking.
20 Thank you. Bye bye.

21 (Whereupon, at 1:08 p.m., the meeting in the
22 above-entitled matter was adjourned, to reconvene at
23 10:30 a.m. April 21, 2021, the following day.)

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REPORTER'S CERTIFICATE

CASE TITLE: Copyright Office Section 1201 Hearing

HEARING DATE: April 20, 2021

LOCATION: Washington, D.C.

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the Library of Congress.

Date: April 20, 2021



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