

Testimony of

# Mr. Matt Zinn

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Before the  
Senate Committee on the Judiciary  
The Analog Hole: Can Congress Protect Copyright and Promote Innovation?  
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Vice President, General Counsel, and Chief Privacy Officer  
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Chairman Specter, Ranking Member Leahy, and other members of the Committee, my name is Matthew Zinn. I am Senior Vice President, General Counsel, and Chief Privacy Officer at TiVo. I want to thank the Committee for inviting me to testify about the analog hole and its impact on innovators, consumers, and content providers. As a leading innovator in creating products that permit consumers to enjoy legitimately-acquired content when and where they want to enjoy it, TiVo understands and is sensitive to the interests of content owners in protecting their intellectual property rights. But TiVo also is sensitive to the needs of consumers, who want to preserve their ability to make flexible uses of legally-acquired content. I want to thank the Committee for giving me the opportunity to present TiVo's concerns about this proposed legislation, which could severely inhibit the ability of innovators to create new products and impair the rights of consumers to use legitimately-acquired content in the manner to which they have become accustomed.

Founded in 1997, and located in Alviso, California, TiVo pioneered a brand new category of products with the development of the first commercially available digital video recorder (DVR). Sold through leading consumer electronics retailers, TiVo has developed a brand that resonates boldly with consumers as providing a superior television experience. With a continued investment in its patented technologies, TiVo has and is continuing to revolutionize the way consumers watch and access home entertainment. Rapidly becoming the focal point of the digital living room, TiVo's DVR is at the center of experiencing new forms of content on television, such as broadband delivered video, music, and photos.

## Summary

TiVo has invested millions in research and development to create hardware and software products for consumers, and has protected this investment by securing its intellectual property rights in these products. Protecting intellectual property rights from infringement and piracy is something TiVo takes very seriously. Indeed, if people can get television content for free from services or sources that compete with TiVo, they won't need to use the TiVo service. TiVo is supportive of the studios' fight against piracy, and has demonstrated this support by creating a robust copy protection system that prohibits users from engaging in indiscriminate redistribution of content. In fact, in the broadcast flag proceeding, the MPAA acknowledged that TiVo's TiVoGuard® copy protection system "appears to contain a strong level of security, including well vetted algorithms and a well designed multi-layer security architecture." However, TiVo does not believe the House of Representatives' proposed analog hole legislation will stop or even reduce piracy, because the conversion of content from an analog format into a digital format without copy restrictions is not the cause of the studios' piracy problem. Rather, TiVo fears that this legislation, which calls for adoption of an unproven technology, is, in reality, merely a way for the studios to try to exercise more control than ever over consumers' use of lawfully-acquired content, all at the device manufacturers' expense.

No Demonstrable Correlation Has Been Shown Between the Analog Hole and Piracy TiVo agrees with the studios that content piracy is a serious problem and deserves the attention and cooperation of the consumer electronics, technology, and content industries. TiVo has significantly reduced the risk that pirated content will emanate from a TiVo® DVR by restricting consumers' ability to make illegal uses of content. The studios profess that this type of

security is not enough, however, because, theoretically, content can escape through the conversion of content from an analog format into a digital format without copy restrictions, i.e., the so-called "analog hole."

The studios have not demonstrated that the analog hole is contributing in any way to the piracy problem. We have seen no evidence that the studios have suffered even one dollar of lost revenue as a result of the sale of contraband copies of content made through analog-to-digital conversions. In fact, the studios have not articulated the nature of the threat they perceive is created by the consumer analog hole. Is it the threat of indiscriminate redistribution? Is it private copying? These are the problems the studios routinely identify when pursuing legislative control over uses of content, but they have not specifically identified these issues here. Without any proof of the nature and economic impact of the perceived problem(s), this Committee and the consumer electronics and technology industries can only speculate, and speculative problems should not be the focus of far-reaching legislation. Indeed, the very study the MPAA points out to justify this legislation (a study that the studios refuse to make publicly available, except in summary form), has been criticized because it counts private copying "much of which is legal under principles of fair use" as piracy:

"According to the MPAA, it is 'Making illegal copies for self or receiving illegal copies from friends of a legitimate VHS/DVD/VCD.' Thus, the MPAA is counting personal non-commercial backups and transformative 'ripping' as piracy (ripping including decrypting DVDs so that the content can be moved to a portable player)." Ken Fisher, The problem with MPAA's shocking piracy numbers, *ARS Technica* (June 5, 2006), at <http://arstechnica.com/news.ars/post/20060505-6761.html> (last accessed June 13, 2006).

In addition, Congress already has spent time addressing these issues in other areas of copyright law where all sides agreed that a problem existed. For example, the Family Entertainment and Copyright Act, which, among other things, criminalizes the use of camcorders in movie theaters, was signed into law in 2005. That legislation was designed to address a tangible, demonstrable problem. But the analog hole is not what pirates use to circumvent copy protected content. In fact, the April 2006 edition of *Maximum PC* magazine devotes more than fifteen pages to describing where consumers can find and how they can use software programs to make digital copies of protected digital content far more conveniently and efficiently than through analog-to-digital reconversion. The analog hole legislation therefore will not solve, nor will it even marginally reduce, the piracy problem. It will, however, impose substantial costs on both manufacturers and consumers (in terms of higher prices and reduced device functionality) while offering no demonstrable benefits in the fight against piracy. It is unwise and inappropriate to discuss potential legislative solutions until the studios specifically can identify the financial impact the so-called analog hole has on their bottom lines, the demonstrable risks the hole poses to their intellectual property rights, and why these effects on them outweigh the extraordinary costs to both manufacturers and consumers.

#### The Costs Disproportionately Burden the Device Manufacturers

The House's proposed Digital Content Transition Security Act requires device manufacturers to build their machines to respond to a government-mandated technology, meaning that the manufacturers must invest valuable time and substantial resources to protect the studios' intellectual property rights from an unidentified problem, using a technology handpicked by the studios. The studios, by contrast, do not have to change their conduct or spend significant resources to comply with this legislation. In other words, the studios get all of the benefits of this legislation, while the device manufacturers bear virtually all of the costs and consumers are deprived of the ability to exercise their fair use rights under copyright law.

Engineering and financial resources are not unlimited, and dollars spent on implementation, royalties, administration and lawyers are dollars not spent on innovation. The consumer electronics and technology industries already are spending hundreds of millions of dollars implementing voluntary video content protection systems, and may have to spend more money and valuable engineering cycles on a government-mandated broadcast video flag system.

It makes little sense to require these industries to spend even more of their already limited resources to fix a "problem" that the studios have not shown exists. In addition, because of the necessity for government rulemaking and careful compliance with any government rule, the time to market for new products could be delayed considerably.

Implementation costs are just a fragment of the costs this legislation imposes on the consumer electronics and technology industries. The adoption of the CGMS-A and VEIL signaling systems also could expose device manufacturers to virtually unlimited patent infringement liability. One need look no further than the recent \$612.5 million Blackberry patent settlement or the government-mandated V-Chip requirement (which appears to require

either the use of a patented technology that the FCC did not anticipate or an expensive work-around) to see the huge potential risk a government-mandated technology imposes on device manufacturers.

Yet the proposed analog hole legislation offers no assurances to the manufacturers that they will be protected from these risks (e.g., in the form of a dedication to the public of, or a compulsory license for, all the patents necessary to use the technologies at issue). Many companies understandably will be unwilling and/or unable to absorb these costs. This means, at a minimum, such potential exposure likely will chill innovation in creating new devices or improving old models for legitimate consumer acquisition and enjoyment of content.

The statutory penalties add to the already substantial burdens and risks the analog hole legislation would inflict upon the device manufacturers. H.R. 4569 essentially would give content providers a nuclear weapon to use as a threat against any device manufacturer that wants to incorporate features that would increase consumers' flexible and legal uses of content. The proposed penalties are potential death sentences for corporate entities (e.g., with statutory damages of up to \$2,500 per device, a manufacturer that builds one million devices that did not comply with the yet-to-be-promulgated robustness standards could be liable for \$2.5 billion in damages). The penalties proposed in H.R. 4569 do not mirror the civil and criminal penalties of the Copyright Act, which does not make violating robustness rules a copyright violation.<sup>2</sup> For the first time, a manufacturer could be held liable for failing to build a product according to a government-mandated robustness standard, including the possibility of criminal sanctions. No other provision of the Copyright Act subjects device manufacturers to potential criminal liability merely for manufacturing or distributing an otherwise lawful device that a consumer uses to infringe someone else's intellectual property rights.

Finally, when consumers' legitimate use of content is circumscribed by the effects of an overreaching content protection mandate, as would be the case here, the device manufacturer alone loses consumer goodwill, even where the manufacturer has complied with the government's rules. If a TiVo® DVR fails to record or permit the consumer to time- or place-

<sup>2</sup> Even in the event the Copyright Act's civil and criminal provisions were substituted, the statutory damages, at up to \$150,000 per work, also could be a death penalty against a manufacturer. It should be noted that under H.R. 4569, content providers would not be subject to any penalty for failure to comply with the encoding rules or failure to properly insert CGMS-A. Failure to comply would mean that consumer could not record or time/space-shift content that even though the consumer is permitted to do so under the proposed rules. shift a favorite television show, regardless of the reason, the consumer will blame TiVo. The consumer will not blame the studio that produced the show, the broadcaster responsible for transmitting it, or the technology company that created the analog hole ?protection? system. It is TiVo that will receive the irate service call, and will bear the costs of that call when a consumer misses his or her favorite show, and it is TiVo's reputation that will suffer as a result.

#### VEIL Has Not Been Vetted in a Multi-Industry Forum

The House-introduced Digital Content Transition Security Act would require manufacturers of analog video input devices to adopt the unproven VEIL watermarking technology, which VEIL readily admits was designed for toys. As discussed above, the adoption of this new technology would impose substantial costs on device manufacturers. Yet the companies that would be required to absorb these costs have not even been given the opportunity to examine the nature of the purported threat, let alone an opportunity to test and evaluate the technology and compare it to the many other potential solutions. For any technology involved in a content protection system to have a chance of success, it must first be tested, reviewed, and selected in a cross-industry setting. This is how these affected industries have proceeded in the past with respect to the adoption of industry-wide copy protection systems, most notably the Content Scramble System (CSS) used to protect DVD content.<sup>3</sup> As a result of review and approval of CSS by all affected parties, the industries established a content protection system that permitted the studios to earn more than \$25 billion in sales and rentals last year from zero in 1997.

<sup>3</sup> It is important to note that CGMS-A and VEIL are not content protection systems. They are merely signaling systems designed to carry copy control information (CCI). Thus, the scope of H.R. 4569 and the delegation of regulatory authority, would be broad, touching many devices, components, and software ? not just the detection of CGMS-A and VEIL signals.

The resources already are in place to undertake such review of the purported problem and the VEIL proposed solution, as well as competing technologies. Each of the affected industries participates in the Content Protection

Technical Working Group (CPTWG), an organization formed specifically to examine these types of issues. CPTWG was responsible for thoroughly vetting CSS and the broadcast flag, and has both a proven track record and existing resources to engage in open and productive examination of the technologies in question. In fact, CPTWG already initiated such a process. In 2003, CPTWG chartered the Analog Reconversion Discussion Group (ARDG) to catalog technologies potentially relevant to addressing content protection issues arising from the analog-to-digital reconversion of protected video content.

ARDG cataloged at least nine different technologies; but the content industry never followed up with ARDG to discuss the next steps in examining and possibly adopting one of these technologies. Instead, the studios unilaterally selected one of these technologies – VEIL. The studios now ask Congress simply to mandate the adoption of that technology by all device manufacturers, while leaving the manufacturers with the exclusive responsibility for all costs and risks associated with such adoption.

In promoting this legislation, the studios also have overlooked the fact that manufacturers will be required to adopt different technologies in order to address the analog hole in other content protection systems. For example, in the voluntary license agreement for the Advance Access Content System (AACS) content protection system, which is used in connection with high capacity optical media (HD DVD and Blu-ray), the AACS licensing administrator has adopted Macrovision as its analog-to-digital signaling technology of choice. This undermines the studios' purported goal of assuring that manufacturers do not need to configure their devices to respond to a multitude of rights signaling technologies. By allowing the affected industries to thoroughly vet the technologies at issue, the parties would be assured the issue is considered by the right people in the right environment, and that the resulting technology is one that makes the most sense for all the affected parties. In contrast, a legislative mandate requiring device manufacturers to implement a technology unilaterally advocated by the studios is not an effective or efficient method of addressing whatever issues, if any, may be raised by the analog hole problem.

The PTO Is Not the Appropriate Agency To Oversee Analog Hole Compliance The proposed legislation would delegate significant regulatory authority over analog hole compliance issues to the United States Patent and Trademark Office (PTO), an agency singularly unsuited to manage such a task. Already significantly overworked and under-funded, the PTO can hardly manage its statutory obligation of processing patent applications, despite its best intentions. It is an inefficient use of resources to impose upon this agency the responsibility for drafting, promulgating, and enforcing robustness requirements for analog video input devices, rules for approval of authorized digital output technologies and authorized recording technologies, approval of improvements to VEIL, and rules for control of downstream devices.

Moreover, assuming Congress ultimately authorizes the FCC to proceed with implementation of broadcast flag rules, device manufacturers may be asked to comply with two sets of potentially conflicting rules for the same equipment. By involving the PTO in oversight of copy protection issues, this legislation could make it virtually impossible for device manufacturers like TiVo to comply with all its statutory obligations.

#### H.R. 4569 Is Overreaching

As discussed above, the studios have provided no evidence to support their contention that the analog hole creates a problem that can be solved by legislation. But even if TiVo did agree legislation was necessary, the sweeping scope of H.R. 4569 far exceeds what the studios need in order to protect their intellectual property rights in their content.

The proposed legislation would regulate "analog video input devices," a definition that essentially includes any hardware product that can read an analog signal and convert that signal into a digital format. The universe of products fitting within that description is quite large, including virtually all computer products. Analog-to-digital converters are simple and inexpensive chips and software programs, and every personal computer therefore will have the capacity to become an analog video input device. If the law is broadly drafted to cover all analog-to-digital components and software, it would increase costs for the manufacturing and software industries and to many consumers not even involved in analog video. In addition, to be effective the compliance and robustness rules would have to cover "downstream devices," further expanding the universe of products affected by this legislation.

Of course, this assumes that any of the devices actually could comply with the robustness rules, which is very much in doubt. The proposed technologies, CGMS-A and VEIL, are not robust or persistent signaling systems. Given the proposed robustness rules, device manufacturers likely will be in violation of those rules as soon as their devices leave the factory. Moreover, because the legislation authorizes criminal penalties for such violations, manufacturers would have little incentive to enter the market or produce innovative products, and some may be forced out of the market altogether.

Finally, and significantly both for TiVo and for its consumers, the legislation clashes with existing principles of copyright law by placing limitations on certain uses of content that currently are considered lawful, such as time- and space-shifting. The very appeal of TiVo's DVRs is that they allow consumers to make legal and flexible personal uses of video content.

H.R. 4569 will impose severe limitations on these uses. Under copyright law, TiVo users are not limited in their ability to make copies of recorded content for personal, non-commercial use, to view that content as many times as they want, or to move the content around their homes or to portable devices over a secure network. H.R. 4569 would eviscerate these rights. TiVo users would be allowed to make only a single copy of most content (such as pay television transmissions, non-premium subscription television, and free conditional access delivery content), and no copies of other content (such as pay-per-view, video-on-demand, and subscription on demand content). No longer will consumers be permitted to copy a television program from a TiVo DVR in the living room to one in the bedroom, even though fair use principles of copyright law currently permit them to do so. Likewise, consumers will not be permitted to copy that program to their laptops or other portable devices for later viewing. These are lawful, fair uses of content, and the studios have provided no justification for altering the balance of copyright law. This legislation simply is about the studios exercising control over the consumers' flexible uses of lawfully-acquired content, offered under the guise of fighting piracy.

## Conclusion

As an intellectual property owner and a service provider, TiVo understands the need to prevent the theft of valuable content. But this Committee and Congress should focus on protecting content where it needs to be protected. The proponents of H.R. 4569 have demonstrated no tangible losses attributable to the analog hole. Yet they seek to impose substantial costs (in research and development costs, implementation expenses, and loss of consumer goodwill) and risks (exposure to patent infringement liability, statutory damages, and criminal liability) on device manufacturers, while simultaneously limiting the rights of consumers to make flexible uses of lawfully-acquired content. The proponents also have shown that the proposed mandatory technology would solve as yet undemonstrated problems. The Digital Content Transition Security Act is a solution looking for a problem. Until a problem can be clearly identified by a multi-industry forum that concludes government intervention is needed, any legislation should be strongly disfavored. We urge this Committee and Congress to take a hands-off approach, and leave the affected industries to address technology issues themselves.