

# **Content Protection Technology-- Basic Concepts**

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# Three Main Subjects

- **The Rise of Technological Paracopyright: Technology Limiting Copying and Use of Works.**
- **Two Technological Protection Paradigms: Government Mandates and Private Licenses**
- **The Broadcast Flag—Public Policy and the Licensing Model Run Amuck**

# **The Rise of Technological Paracopyright.**

- **Article 11 of 1996 WIPO Copyright Treaty.**

**“Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights. . . .”**

# Implementation

- **US DMCA § 1201**
- **EU Directive Art. 6 plus National Law**
- **Prohibit circumvention some cases**
- **Prohibit sale of devices primarily designed to circumvent**
- **US—General no mandate provision**
- **US—Enforced by criminal and civil liability**
- **EU—Must preserve certain exceptions**
- **EU—Affect levies (recital 39)**

# Copyright v. TPM

- **Copyright Is Limited Right To Control Certain Acts**
- **Carefully Balanced Exceptions**
- **TPM Can Impose Absolute Restrictions**
- **TPM Can Regulate More Types of Use**
- **You Can't Put a Judge on a Chip**
- **Copyright Owners Love TPM Control**

# **Two Technological Protection Paradigms**

- **The Mandate Model**
- **The Licensing Model**

# **Mandate Model (Unencrypted Content)**

- **Government Sets Rules for Identified Devices**
- **Example—AHRA (SCMS) Limits on Digital Audio Recording Devices**
- **Another Example—Watermark [Signal Embedded Digitally Within Content]**
- **Devices Obligated To Read and Respond.**

# **Licensing Model: Use of Access Control To Regulate Copying**

- **Device must be licensed to obtain access to [encrypted] content.**
- **License imposes rules regarding handling of content.**
- **Rules create self-referencing chain of obligations.**
- **But what do you do about analog???**

# **Licensing Model Example: DVDs**

- **Disk Encrypted. Must have license to decrypt [DVDCCA]**
- **Decryption license imposes obligations on how to handle content.**
- **One obligation—may not copy.**
- **Another obligation—all digital outputs must use an encryption technology [DTCP/HDCP].**

# **Licensing Model Example: DVDs *ctd.***

- **Receiving Device must have interface decryption license**
- **Interface decryption license imposes obligations**
- **One obligation—device may not make copies.**
- **Another obligation—All digital outputs must use an encryption technology.**

# **Another Licensing Example**

## **Advanced DRM—Digital Rights Management**

- **Detailed Refined Use Limitations**
- **E.g., Watch Once**
- **E.g., Keep for 3 Days**

# **Contrast Advanced DRM with Copy Control Information**

- **Basic CCI—Broadly Defined States for Mass Communication [Most open policy discussion]**
- **Copy Never, Copy Freely but Encrypt**
- **Copy One Generation, Copy No More**

# **Licenses v. Mandates**

## **Important Differences**

- **Extent of Government Involvement**
- **Ubiquity of Obligation**
- **Extent of Burden**
- **Who Decides Public Policy Issues—Gov't or Private Licensors?**
- **Effect on Competition**
- **Efficacy once Content Decrypted**

# **The Broadcast Flag—Licensing Model Run Amuck**

- **Advocated by Studios and 6 Encryption Licensors**
- **Theory—Keep Broadcast DTV From Internet Redistribution [“Napsterization”]**
- **Why?—Subsidiary Markets Overseas and Syndication**
- **How?—FCC Mandate Encryption on Demodulation**

# **Broadcast Flag: How *ctd.*?**

- **Demodulation Devices Must Pass to Encrypted Digital Output**
- **Must Make Encrypted Recordings**
- **Encryption Technologies Licensed—  
Decryption Subject to Private Chain  
Rules**

# **BF= New Goal for Encryption**

- **From: Controlling Copying by Compliant Devices**
- **To: Controlling Redistribution—Keeping from Non-Compliant Devices**
- **Submit it Won't Work**

# **Why Amuck?—Doomed To Fail**

- **Can't Keep Content Bottled in Encrypted World**
- **Broadcast in Clear**
- **Software Demodulators from Internet**
- **Analog Outputs to TV Sets in Clear**
- **Must Regulate in Canada and Mexico**
- **Inevitable Hack**
- **One Copy Propagates Virally, Geometrically**

# **Why Amuck? –Bad Public Policy**

- **Encryption Technologies Controlled by Small Group of Private Parties**
- **Limits Consumer Playback Options**
- **Studios and Licensors Set Rules Governing Content Including Non-Broadcast Content**
- **Rules Subject to Change by Self-Interested Studios/Licensors.**
- **Adds Cost to Devices [Decrypt Input/Encrypt Output]**
- **Hurts Competition in Technology and Devices**

# Closing Thoughts

- **Rise of TPMs Has Changed the Face of Copyright Law**
- **Over-Use of TPMs Can Destroy Critical Balance between Owners and Public**
- **Mandatory TPM Use Must Serve Demonstrated Need and Not Overreach**
- **The Broadcast Flag Proposal Fails Test**

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