

ORIGINAL

RECEIVED

EX PARTE OR LATE FILED

UNITED STATES GOVERNMENT

NOV 29 2001

Memorandum

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

DATE: November 29, 2001
TO: Magalie R. Salas, Secretary
FROM: Thomas Horan, Legal Advisor, Cable Services Bureau
SUBJECT: Ex Parte Meeting in PP Docket No. 00-67

On November 16, 2001, Commission staff met with industry representatives regarding the above-referenced proceeding. A list of attendees is attached. The discussions concerned the topic of content protection for digital terrestrial broadcasts. Hand-outs from this meeting consisted of the attached presentation entitled "Protecting Against Unauthorized Redistribution of Digital Broadcast Content," which was presented jointly by the studio and consumer electronic manufacturer representatives, and the attached article from The Perfect Vision magazine which was provided by Fox.

No. of Copies rec'd 01
List A B C D E

Protecting Against Unauthorized Redistribution of Digital Broadcast Content

Joint 5C/5S Presentation

November 16, 2001

Problem Statement

- Currently, there is no enforceable means to prevent unauthorized redistribution of unencrypted digital terrestrial broadcasts.
- A solution for such content is needed that would:
 - ◆ Enable content owners to trigger application of content protection.
 - ◆ Avoid deletion or alteration of triggers.
 - ◆ Prevent unauthorized routing of protected content to unprotected digital outputs and unauthorized recording technologies.
 - ◆ Not interfere with lawful consumer recording and consumption of broadcast content.

November 16, 2001

Joint Technical Proposal

In-the-clear, terrestrial
digital broadcast content

Tuner

TSP

No

Permitted recording technologies
and methods

Yes **Marked Content**

Permitted physical
outputs

November 16, 2001

HDTVinsider

Gary Merson Reveals the Satellite Industry's Secret Plan to "Down-Rez" Your HDTV Picture

Back in 1963 a science fiction TV series premiered called *The Outer Limits*. Every week it began by explaining that there was nothing wrong with your television set and that you shouldn't try to adjust it because the program itself had taken control. DirecTV and EchoStar appear to have taken this opening quite seriously. Their theme could be:

- We can take control of your HDTV set-top box.
- We can control the vertical resolution.
- We can control the horizontal resolution.
- We can take your picture from crystal clear full high definition with 2.0736 million pixels (1080i resolution), down to only 518,400 pixels resolution or less.
- We are now in charge.

One minute you could be watching full high-definition HDTV (1920x1080 pixels) via satellite; the next minute DirecTV sends a signal to your set-top box that reduces the resolution to 960x540 pixels.

At the end of July 2001, DirecTV announced that, starting with new models appearing at the end of 2002, all high-definition set-top boxes equipped with DirecTV reception will have a Digital Visual Interface (DVI) output with High-Bandwidth Digital Content Protection (HDCP). [See *Issue 36, pages 25-27 for a full explanation of these technologies.—Ed.*] This is a digital connection designed to go between a source device (like an

HD set-top box) and a display device (like an HDTV monitor). The connection passes uncompressed high-definition video with an encryption key. (Uncompressed video *cannot* be recorded or time shifted by a consumer.) Only display devices with a DVI interface and HDCP copy protection will be able to always display full (1920x1080 pixel) high-definition content through this connection. Currently there is only one make and model of a DVI/HDCP display device, the JVC AV-61S902 D'Ahlia rear-projection television, reviewed in *Issue 38*. To date, no other company has publicly stated it will put a DVI/HDCP jack on its HDTV sets (though a number of other companies are considering it).

There is a competing digital interface called IEEE1394/DTCP, which will be in

certain newly-released Sony and Mitsubishi models. Along with Panasonic, Hitachi, and Toshiba, Sony and Mitsubishi are part of the "5C" group, which supports IEEE1394/DTCP—a digital interface that is also copy protected, but in which video and audio data are compressed. With an IEEE1394/DTCP interface, you *can* record a signal in high-definition—if the content-provider allows it—via the D-VHS recorders that will soon be on the market.

In *Issue 36*, I described the CGMS (Copy Guard Management System) that allows DirecTV to turn off the analog high-definition output of a DirecTV HD set-top box. This system is included in every DirecTV HDTV set-top box sold by Hughes, Toshiba, Mitsubishi, Panasonic, and Sony. What I have just discovered is that DirecTV (and competitor EchoStar) have also developed a system that will allow them to reduce output resolution at any time on any high-definition program transmitted by satellite. They can do this at will to whichever brands of these boxes they want.

Picture this: Someday soon you could be watching *The Carrot Top Movie* (on your current analog-only component-video-equipped HD set-top box and HDTV monitor) in full high-definition HDTV (1920x1080 pixels) via satellite. The next minute, *The Sopranos* begins, also broadcast in full resolution HDTV, but DirecTV sends a signal to your set-top box that causes your box to change

The Studios' Position

The biggest obstacle to HDTV's wide-scale acceptance is the lack of programming, according to an expert panel at the recent DTV summit in Washington, DC. The major studios (via their trade group, the MPPAA) have stated they want to release many more high quality movies in high definition to the satellite companies but they won't because there isn't a digital copy-protection system in place. Without digital copy protection, the movie studios fear that one day you might be able to go on the Internet and download HDTV movies free via a high-definition movie version of Napster. Once a protection system is in place (according to the MPPAA), the HDTV movie floodgates will open.

the output resolution of the program to one-quarter the broadcast resolution (960x540 pixels). Meanwhile your neighbor is viewing his new DirecTV box and TV, equipped with a DVI interface, at full HD resolution.

DirecTV beams this program down to both boxes in full 1080i resolution, but firmware that DirecTV has developed for your set-top box will instruct it to show *The Sopranos* at a much lower resolution. When DirecTV flags a program to be down-rez'd, your (analog output) box will hide the full resolution and may be directed to output only every other horizontal and vertical picture element (pixel), or even only every third pixel.

When DirecTV flags a program to be down-rez'd, your box may hide the full resolution.

If this feature is enabled, DirecTV truly will be in control of your HDTV (unless it has a DVI/HDCP input, and you have a DVI/HDCP equipped HD set-top box)—and the satellite companies can enable this “feature” at any time. The same scenario could theoretically occur if the set-top box and display device were equipped with IEEE 1394/DTCP. DirecTV has stated that it will only allow DVI-equipped DirecTV HD set-top boxes to always output full resolution. In other words, if you are using a box that gives you the option of recording an HD program in full HD resolution, DirecTV may not let you do it.

Does this surprise you? You're not alone. I spoke to two DirecTV HDTV set-top-box manufacturers who were also unaware of this “enhancement.” Will this insidious system be implemented? And if so, when? The DirecTV spokesperson could not say.

What About EchoStar?

I spoke with Dave Kummer, senior vice president of Engineering at EchoStar, about DVI and “down-rez'd” analog outputs, and he

informed me that EchoStar's “DISH Network” HDTV set-top box (Model 6000) also has the ability to limit you to the same “constrained image” (the euphemism employed by the DTCP copy-protection license agreement to describe lowering HDTV image resolution). Kummer said that EchoStar will try to enact a “grandfather clause” to allow their current Model 6000 owners to maintain the full-resolution HDTV of their set-top box's analog outputs, when EchoStar's own always-full-resolution DVI/HDCP boxes appear, but he didn't know if this would be agreeable to the content providers. He also indicated that EchoStar might offer an HDTV set-top

box with an IEEE1394 connector and DTCP copy protection. If it is offered, he noted it would have limited functionality (compared to the company's DVI-equipped box) and if it also contains analog outputs (according to the DTCP copy protection agreement) it will have the same ability to “down rez” the analog outputs.

What About Cable TV?

The DirecTV DVI announcement stated that CableLabs (the cable industry standards consortium) supports both DVI/HDCP and IEEE1394/DTCP. Those cable stations broadcasting HDTV today use two systems. Time Warner Cable is supplying HDTV set-top boxes in five markets with analog HD component video outputs at full resolution. Cablevision (which supplies service in the NY metro area) and Connecticut will soon begin leasing (to their subscribers) digital STBs with high-definition IEEE1394/DTCP outputs (no analog) built by Sony. According to a

Cablevision spokesman, a “solution” for current and future HDTV set owners with analog component-video inputs HDTVs will be provided. No further information was available at press time as to whether this down-rez'ing issue may apply to cable programs in the future.

What does this all mean to someone buying an HDTV monitor and a set-top box today?

Currently, there are no HDTV set-top boxes available with DVI/HDCP outputs and, as previously mentioned, only one display device with DVI/HDCP inputs. These connectors on other HDTVs are not expected to start to become available till around this time next year or later. The good news is that this whole “down-rez'd” issue currently applies only to content broadcasts over satellite. If you can receive over-the-air HDTV broadcasts, you have nothing to worry about. Today and tomorrow you can receive full resolution HDTV and display it on the wide range of the latest HDTVs that are now showing up in dealer showrooms. This fall there will be many more HDTV programs via “over the air” broadcasts. ABC will add four more HDTV programs to *NYPD Blue* and the movies that it currently broadcasts in HD. NBC is expected to announce its first prime-time HDTV series soon. CBS will continue to broadcast most of its prime-time programs in HDTV, and just announced it will broadcast a college football game each week in glorious high definition.

As for satellite, it will be at least the end of 2002 before DVI boxes appear. Until they do, DirecTV and EchoStar have no reason to “down rez.” Armed with this new information, we hope set-top box makers and the consumer electronics industry will persuade the satellite and content providers to realize their error. Baiting current and near-future DirecTV and EchoStar HDTV subscribers with full resolution HDTV demo channels and movie channels and then switching them to “down-rez'd” content later on is a very bad idea. ☹

Copyright © 2001 HDTV INSIDER. All rights reserved. The material may not be reproduced or distributed in any form without a licensing agreement from HDTV Insider. The content is based upon information provided to the editor, which is believed to be reliable. HDTV Insider is not responsible for errors or omissions. This newsletter is e-mailed by subscription at www.hdtvinsider.com