



# The Future of Analog Component Video

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## Introduction

Currently there is a lot of talk on the street about component video. We are answering an increasing number of questions like, "I heard component video is going away at the end of the year", or other variations. The truth, as it turns out, is not quite as exciting, but it also needs its fair share of being talked about.

Since many of us have end customers that have video distribution systems already installed that depend on component video, and are currently designing systems based on component video, let's dive into the facts behind the rumors.

## Blu-Ray and the AACS License

Blu-Ray disc manufacturers are required to sign a license agreement called the Advanced Access Content System, or AACS. It can be found here:

<http://www.aacsla.com/>

This is the license from the movie industry that requires Digital Rights Management (DRM), and defines what the Blu-Ray player is allowed to do. The interesting part is titled "Analog Sunset"

*"With the exception of Existing Models, any Licensed Player manufactured after December 31, 2010 shall limit analog video outputs for Decrypted AACS Content to SD Interlace Modes [composite video, s-video, 480i component video and 576i video] only."*

So for new Blu-Ray players designed and manufactured in 2011 and beyond, must limit their analog outputs to 480i standard definition video.

The license goes on to read:

*"No Licensed Player that passes Decrypted AACS Content to analog video outputs may be manufactured or sold by Adopter after December 31, 2013"*

So starting in 2014, new Blu-Ray players will in fact get rid of component video. Blu-Ray discs also have a signal that can be embedded in the media itself, called the Image Constraint Token (ICT). To date, there has never been any official announcement or even credible rumors on any planned use of ICT. Keep in mind that all of this does not affect existing players, so without the use of the ICT flag, existing Blu-Ray players installed today will output 1080i indefinitely.

## Satellite and Cable Boxes and Selectable Output Control (SOC)

Satellite and cable set top boxes fortunately do not require an AACS license, and are actually subject to US laws as regulated by the FCC. Title 47 CFR Sec. 76.1903 requires that analog outputs on these boxes must work. In 2008, the Motion Picture Association of America (MPAA) asked the FCC for a waiver of that law, in order to remotely turn off analog outputs during movies or video they deemed 'high value'. The current state of this issue can be viewed here:

<http://fjallfoss.fcc.gov/ecfs/proceeding/view?name=08-82>



The teaser is the MPAA claims they would like to offer movies while they are still in the theaters, therefore it is 'high value' and must have extra protection. However much they want this, they have not been granted this waiver, and there are no signs of the FCC budging anytime in the future. Since it has been almost two years since the original request, one might assume it to be a dead issue.

## **DVD, Media Players, and Gaming Consoles**

DVD players also have a DRM license called Content Scramble System (CSS). This license has been around a long time, and has no such provisions for disabling analog outputs, although that license has always restricted DVD analog outputs to 480p. This is not significant because that is the maximum resolution of the video on the disc.

There are many network media players on the market that have far less license restrictions, if any. These devices regularly output component video up to 1080p, and without any restrictions, should do so forever.

Gaming consoles are in a strange place in the market. For video output during a game, no one seems to care about encrypting video or restricting it in any way. Sony's PS3 console can output component video up to 1080p. However it also has a Blu-Ray disc drive, which is subject to the AACS license. So if the user inserts a Blu-Ray disc, the rule set changes until the disc is removed. Put in a game disc, and there are no output restrictions. Microsoft's Xbox does not have a Blu-Ray disc drive, so is not restricted by the AACS license.

## **Conclusion**

While Blu-Ray players do have upcoming restrictions, there are currently no other real threats to component video. Even for Blu-ray, we will not see complete lack of analog support for another four years. Perhaps a more important question to ask is, how will we be buying and renting movies in four years? Will DVD and Blu-Ray still have significant market share, or will streaming services like Netflix or Amazon be the distribution of choice?

It is worth noting that currently Blu-Ray disc sales are only 10-13% of overall disc sales. If the Blu-Ray players currently in use were to become less useful by way of output restrictions, it can only hurt disc sales. We feel it is unlikely that the content industry would want to cause any self inflicted wounds on sales, so what they should do is amend the AACS license to extend the analog sunset dates.

Satellite and cable boxes are currently not restricted. Our D.C. insiders believe that rather than deny the waiver and create a rift with the content industry, the FCC will instead just never make a decision which then leaves the current law intact.

Most digital video distribution systems on the market for residential applications are currently far from perfect, and give system integrators such serious challenges that it is difficult to make a reliable home experience. Our best recommendation for new system designs is to use what is reliable and cost effective today, but prewire and prepare for digital video in the future. Component video will be that cost effective and reliable medium, by our estimate, for another 4-8 years.