



Issue 2, May/June 2006

Dear Stay Tuned Subscriber,

Here is your latest issue of **Stay Tuned**, the Simplay HD newsletter. Find out which HD CE products are interoperable and get a lesson from Dr. HD on Surround Audio. As always, your feedback is appreciated.

Please browse for the latest news in the following sections:

- Notes from the Test Bench
- Simplay at Large and in the News
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Notes from the Test Bench

One of the larger issues in HDMI functionality has been with cable set-top boxes that don't fully support all the HDMI features, resulting in interoperability problems with newer AV receivers and TV sets. That's why we consider it a big deal that Scientific Atlanta has updated the firmware for its popular Explorer 8300HD set-top box, and that this device, used and deployed by so many cable systems, is now Simplay HD verified. If you're experiencing problems with this unit, call your cable operator and ask for the updated firmware that passed Simplay HD testing. This is something they should be able to send out and update from the central office – no need for a service truck to roll to your house. It will get you back to the single-cable, best-quality audio and video that you've been missing if you haven't been using your HDMI connections, particularly if you connect to your TV through an AV receiver.

Other newly-verified products include Sanyo's HT30746 as well as a number of TV's from major manufacturers that have not been released yet. We don't want to tip their hand on these new models, but are glad to see they are getting tested and validated before reaching the market. And the testing pipeline continues to grow, with a number of new companies joining the program and submitting products for verification. A hearty test-bench welcome to Microsoft, Japan's Victor Corporation, parent of the JVC brand, Grundig, and to Simple Engineering, makers of the MovieBeam set-top box. It's a good thing that we've now got a third testing lab operational, this one in Shanghai, to help handle some of the increased traffic. To get in touch with any of our labs, or to inquire about submitting a product, follow [this link](#).

Simplay at Large and in the News

In April, we took a road show to Orlando for the Electronic Home Exposition (EHX). This

conference is focused on home automation and high-end audio/video installations, and features plenty of cool consumer gadgets. It was a great opportunity for us to meet with installers, designers, and savvy consumers to hear about their experiences, good and bad, with HDMI connectivity. For the most part, HDMI awareness is high, and the user experience has been largely positive. There is also a plethora of new products aimed at solving HDMI installation challenges, such as long cables with amplifiers, HDMI switchboxes, and even HDMI-to-fiber or CAT-6 cable runs that allow pre-wiring in a home. Mark Hartney, our Director of Business Operations, was a featured speaker at one of the vendor roundtables, explaining the benefits of Simplay testing and providing answers to installers' questions about HDMI.

Our other big sortie in April was a trip to "Plugfest," a [CEA](#)-sponsored event in Milpitas, California. This working conference brought together more than 60 manufacturers of consumer electronics gear to test their products for HDMI and HDCP interoperability. Teams from Simplay Labs tested over 70 TVs, DVD players, set-top boxes, and AV receivers with some of the tools used in our testing lab. This gave us a great chance to introduce the Simplay program to some new manufacturers, and to get a scan of many new and soon-to-be-released HDMI products. The good news is that most devices performed well under our abbreviated testing process (one-hour testing at the Plugfest vs. multiple days for our full protocol), indicating quality implementations and a good understanding of HDMI issues. The Simplay testing team will be a standard fixture at future Plugfest events, held roughly every six months. It's a great way to get a big dose of testing in a short period of time, with lots of exposure to new products.

While we're still not exactly a household name, the Simplay HD program has been slowly gaining recognition, and garnering more attention in the electronic press. Recent mentions include items in [BusinessWeek Online](#), [Audioholics](#), and [CE Pro](#) and [CNET](#).

Dr. HD on Surround Audio

Dear Dr. HD:

Between Dolby, DTS, and THX, there seem to be dozens of competing audio formats to choose from. Why so many, and which ones will be most important going forward?

Ever since 1940, when Disney's *Fantasia* opened in specially equipped "Fantasound" theaters, Hollywood has played a big role in the development of surround-audio. Dolby Labs got its big break in 1977, when George Lucas used Dolby Surround technology in *Star Wars*. A competing firm, Digital Theatre Systems (now DTS), had a similar big-screen debut in 1993 with *Jurassic Park*. The two companies have been duking it out ever since, both in the cineplex and the living room. The fact that you see both their marks side-by-side on so much hardware is evidence that the competition is still closely fought. And the reason for all those sub-brands is that they compete in multiple markets.

In the home theater sector, the technical focus for both companies has recently been on data compression – trying to squeeze all that lush multichannel audio into the limited storage space of a DVD. DTS has traditionally taken a "less is more" approach, using less aggressive compression to deliver higher audio fidelity. Just as an MP3 encoded at 256 kbps will tend to sound better than one encoded at 128 kbps, a DTS DVD, encoded at rates up to 1536 kbps, will sound better than its Dolby Digital counterpart, which is limited to much lower data rates. Of course, to perceive the difference you'll need good-

quality equipment and reasonably loud listening levels, similar to the volume in a movie theater. As a rule of thumb, if your DVD player, AV receiver, and speakers cost less than \$500 in total, chances are you won't be able to resolve the differences between Dolby Digital and DTS. Moreover, the higher fidelity comes at a price: DTS audio hogs up a lot of disc space, so a DTS-encoded disc will have fewer of the DVD extras that you might be looking for. Luckily, most AV gear supports both formats, and many discs are recorded in two versions, so you can decide based on the DVD itself: if sound quality is paramount, look for DTS encoding. But if you really love those extra features, then the Dolby Digital version is still going to give you a great listening experience.

With the higher storage capacity of the new HD-DVD and Blu-ray Discs, compression is now less of an obsession, and the audio bar has been reset to a higher level. The emphasis today is on providing high-def audio that can match the depth and richness of HD video, and both companies have come out with new audio formats designed to meet that goal.

Unlike earlier technologies, Dolby TrueHD and DTS-HD Master Audio are both "lossless" surround-audio formats. They still use data compression, but in a smarter and non-destructive way that preserves the integrity of the original signal with 100 percent bit-for-bit accuracy. It's like the ".zip" file format that we use for archiving PC files- it's compressed, but the de-compressed data are identical to the original. Both companies boast that their new formats deliver exactly the same sonic experience that the film's sound engineers heard on the dubbing stage.

Both technologies take advantage of the HDMI interface, and both deliver more channels of audio information at substantially higher bit rates than their predecessors. When teamed with the superior data transfer capabilities of HD-DVD or Blu-ray, either of these new formats will deliver better-than-CD quality sound through eight or more full-bandwidth channels. And not just a little better than CD: with sampling rates of up to 192 kHz, we're talking potentially four times better.

Both technologies are elegantly integrated with their respective older, "lossy" formats to offer the best of both worlds. Dolby TrueHD is complemented by another new compressed format release called Dolby Digital Plus, which brings expanded HDMI capability and faster data transfer rates to the popular Dolby Digital codec. It can be used by filmmakers in tandem with Dolby TrueHD to integrate standard-def content like commentary tracks and audio downloadables, where lossless compression is not required. DTS-HD is even more fully integrated with its sister technologies, including them in a single codec that gives content creators access to multiple sound options.

So what about THX? THX is not a standalone surround-audio format like Dolby or DTS. Rather, it is a specification that complements the other two. At its core is a series of post-processing effects designed to correct for common flaws and produce a consistent home theater experience that matches the filmmaker's intent. It may also refer to certain requirements for hardware and movie content, so the THX label can mean several things depending on which type of product it's found on. A "THX-certified" receiver has the ability to perform those signal-processing functions regardless of which surround format is chosen, and also meets strict hardware requirements for power, low distortion, and overall audio accuracy. A "THX-certified" DVD movie means that the movie was mastered according to THX requirements for things like color reproduction, audio mastering, and the process of transferring the movie from film to DVD. A THX-certified

product is more likely to give you a high-quality experience because it has been tested to a stricter standard, but if a device lacks the certification, that doesn't necessarily mean it is inferior – it may just mean that the manufacturer chose not to pay the THX licensing fee. As always, you should take a test drive at a store and determine which product gives you the right performance for the right price.

Looking forward, it's clear that Dolby TrueHD (along with Dolby Digital Plus) and DTS-HD are going to be the ones to watch. So if you're thinking about stepping up to an HD-DVD or Blu-ray Disc player, make sure that the player can convert these formats to the 6- or 8-channel uncompressed (PCM) format. That way you can hook it up to just about any HDMI-capable AV receiver and get the full sonic benefit. Alternatively, you can wait to buy an AV receiver that directly supports these new high-def surround formats, though it may be a bit of a wait. Either way, your ears will be just as happy as your eyeballs.



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