Issue 1, March 2006

Dear Subscriber,

Welcome to the first issue of **Stay Tuned**, the Simplay Labs newsletter. In this issue we will cover topics such as:

Notes From The Test Bench
HD News Roundup
Dr. HD on 1080p

Your feedback on our newsletter would be most appreciated. If you have specific topics you'd like to see covered in a future issue, please reply to this email to let us know.

Notes From The Test Bench

Things have been mighty busy here at Simplay Labs. With the launch of our new test facility in Shenzhen, China, we've effectively doubled our product-testing capacity, and made it a lot easier for manufacturers in Asia to get their products to us for verification. The new lab follows the same testing protocols that we use here in Sunnyvale, California. A third testing center in Shanghai, China, and a fourth lab, in Europe, are on our "to-do" list for later this year.

All of this comes right on time, since our testing pipeline is starting to fill up with high-def products. Our engineers are currently looking at, or will soon be testing, more than twelve HD source components, including both DVD players and set-top boxes. Also in the pipeline are at least 10 HDTVs, including rear-projection, plasma, direct-view CRT, and direct-view LCD sets, plus eight A/V receivers with HDMI capabilities. The products that pass verification testing will appear on our web site in the coming weeks, along with those that have recently passed, like Sony's 42-inch Plasma WEGA™ EDTV and Sanyo's 30-inch 1080i HDTV CRT .

If you're planning to be in Florida at the end of March, by all means stop by and see us at the Spring 2006 Electronic House Expo, March 30-April 1 in Orlando. We'll be demonstrating the compatibility of tested products at our booth, #1836, along with some of the incompatibilities that might occur with untested products. For more information on the event, visit www.ehxweb.com.

HD News Roundup

Analog TV phase-out: After considerable haggling over the exact date, the Senate voted to end over-the-air analog TV broadcasts by February 18, 2009. The estimated 70 million viewers who currently watch analog broadcasts will have to either buy new sets or get digital-to-analog converters after that date. Luckily for them, the bill also includes a $1.5 billion subsidy to defray the cost of those converter boxes. Set-top box makers Thomson and LG are already working on a "reference design" for the converter devices, which analysts predict will sell for around $50. Under the plan, consumers will be able to receive up to two $40 vouchers for buying them.

Set-top box woes: According to the CableCARD rules adopted by the FCC in 2003, all set-top boxes were supposed to have HDMI or DVI outputs by July of last year. Seven months later, U.S. cable companies are still scrambling to comply with the order. Even in cases where consumers have received an HDMI- or DVI-capable box, many complain that the digital connection doesn't work properly, or that certain functions seem to be disabled. Based on anecdotal evidence, it seems that a number of set-top box makers may have failed to properly implement HDMI or HDCP. Bottom line: if you can't get the digital connection to work properly, contact your cable company and see if there is a firmware update available – if not, you should request a new set-top box, or consider switching to a new provider that provides HD compliant equipment.

Flat-screen frenzy: Fueled by increased production, prices have been falling dramatically on HDTVs. With manufacturing capacity on the rise, particularly in the LCD and plasma segments, some analysts expect dealer deliveries to nearly double this year over 2005 numbers, outstripping the rise in demand and driving prices even lower. LCD sets in the 30-32 inch range can already be found for under $1,000, and a 42-inch plasma can be yours for less than $2,000. Another factor in the price drop seems to be that consumers are putting less of a premium on brand loyalty, and switching to less-known manufacturers like Olevia and Vizio. Competition is getting fierce in the flat-panel market, and that's bound to be a good thing for HDTV buyers.

I want my MHD: MTV recently launched its new high-def video music channel, MHD, but most consumers aren't getting it yet. It's bound to be picked up by providers eventually – but the current situation is a little reminiscent of the old "I want my MTV" days. For the impatient, it should be noted that there is already a music channel broadcasting in HD: Rave, part of Dish Network's VOOM package. And speaking of VOOM, they recently launched an all-kicking, all-punching martial arts channel called KUNG FU HD. Hyaaaa!

Ask Dr. HD: 1080p Fact & Fiction

Dear Dr. HD: How important is it to buy an HDTV with 1080p capability? On the one hand, it's being touted as the ultimate in performance and a must-have feature. But you also hear rumblings that it's just a marketing term, that there is no 1080p content available, that it's not supported by HDMI, etc. What's the real story?

In the history of marketing-speak, few terms have been as abused as "1080p." To compound the confusion, some manufacturers have adopted catchphrases like "True HD" and "Full HD" to describe their 1080p machines, implying that other HDTV sets are not "real" high-definition. What a load of bunk! It's hardly surprising that so many misconceptions have sprouted up around the term.

First of all, what does 1080p really mean? At the most basic: 1080 lines of vertical resolution, with a progressive-scan display. But are we talking about what the machine can display, or what kind of signal it will accept? If it's the former, then just about any high resolution display might theoretically qualify. But while some manufacturers and retailers feel no shame in assigning the "1080p" label to these sets, the term is more commonly taken to mean that the device can actually receive and process a 1080p signal, at up to 60 frames per second, without any conversions required. Most of today's HDTVs claiming 1080p go halfway: the display has 1080p resolution, but the internal electronics can only accept 720p or 1080i input signals, relying on line-doubling and scaling to fill the image out. A true 1080p set is one that can accept 1080p signals, and then fully resolve them on a 1080p display. This definition narrows the field considerably, since such sets are just starting to become available. HP's new 1080p DLP TVs are examples of the few true 1080p sets we have seen, but more are expected to become available this year.

Now if 1080p refers to the input as well as the output capability, what content is currently available in the 1080p signal format? As of today, the answer is "not much." All HD broadcast content is currently in 1080i or 720p format, and will be for the foreseeable future for bandwidth reasons. Some current-generation DVD players can upscale their signals to 720p or 1080i over HDMI; one player by Denon even upscales to 1080p. Next-generation HD discs (HD-DVD or Blu-ray) may be able to output a 1080p signal, and it will likely be at 60 fps. What else is out there? Sony has announced that its much-anticipated PS3 gaming system will support 1080p, and the assumption is that it will drive a full 60Hz frame rate. And of course there's your good ole PC, where 1080p is a relatively low resolution. PC games look great on a 1080p display, and PCs can do some pretty elegant video processing to upscale even standard-definition DVDs to 1080p. Lots of companies including Intel, Microsoft, Dell, HP, and Apple are making products designed to make PCs look and feel more like CE appliances.

Another thing to keep in mind is that any HD signal is only as good as its source content. No matter how much you trick up the signal, it's never going to look better than the film, tape, or data that it was created from. So when people start arguing about the theoretical advantages of 1080p over 1080i, or the smoother transitions you get at 60 frames per second, remember that films are shot at 24 frames per second, and all the variations of HD signal are just different schemes for repeating certain frames. You don't get any more visual information; it's just refreshed on the screen in a different order. Assuming that your equipment does a reasonably good job at converting from one format to another, the difference between a 1080i set and a 1080p starts to look negligible. Finally, remember that your eye can't resolve the smaller pixels in an HDTV if you're sitting too far away, so all those extra pixels won't be noticeable unless you sit closer to the set.

As with any "latest and greatest" feature, expect to pay a steep markup for true 1080p capability – as much as $1,000 or more. And the bleeding edge is not without its risks. Since 1080p signals are just starting to come into play, most manufacturers have never had to accommodate them before, and there have been a few "growing pains." For instance, the HDMI format allows for transmitting and receiving a 1080p signal, but only if the manufacturer takes advantage of this capability with the right electronics. This is new territory for everyone, which is why you may have heard the rumor (untrue) that HDMI "can't do" 1080p.

So do you need it or not? If you're going to hook up an HDTV to a PC, then a 1080p machine is definitely worth considering – but read the fine print and make sure it will actually work as a computer monitor (just because it has a DVI or HDMI plug on the back doesn't mean it can accept a 1080p input!). If, on the other hand, you're going to be using the device primarily as a TV, it may be time for a reality check. Most people can't see a significant difference between 720 and 1080, much less between 1080i and 1080p. And a thousand bucks is a lot to pay for bragging rights.

Published by Simplay Labs, LLC
© 2006 Silicon Image, Inc. All rights reserved. Silicon Image, the Silicon Image logo, Simplay, Simplay HD and the Simplay HD logo are trademarks or registered trademarks of Silicon Image, Inc. HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of, and are used under license from, HDMI Licensing LLC. All other trademarks and registered trademarks are those of their respective owners.

You may download one copy of this newsletter onto a single computer for your own personal non-commercial use. You may not copy, modify, republish or distribute the contents of this newsletter. This newsletter has been compiled in good faith for general informational purposes; however, this newsletter is provided solely on an "as is" basis. No representation or warranty is made as to the completeness, reliability or accuracy of the contents of this newsletter. To the fullest extent permitted by applicable law, all liability and all representations and warranties (express and implied) are expressly disclaimed. This newsletter is free and therefore you agree by receiving this newsletter that this disclaimer is reasonable. This newsletter does not constitute information technology consultancy or professional advice. Any reliance on the contents in this newsletter is at your sole risk.

This newsletter may contain content and promotions of third parties and links to third party websites. Silicon Image and Simplay Labs, LLC disclaim all responsibility and liability with respect to such third party content, promotions and websites.