

Q2 Meeting in Shenzhen Features Symwave's New 1.6 Gigabit per Second 1394 IC; Media, Product Sessions Draw Large Crowds

The 1394 Trade Association gathered in Shenzhen, China, April 7-10 for its second quarter meetings, highlighted by host Symwave's introduction of its new 1.6 Gig per second PHY IC and a crowded product seminar that closed the week.

Symwave's "FirePHY-1600" PHY solution is the latest product based on the company's high speed SERDES technology, a core competency required for most next-generation connectivity standards, including the proposed USB3.0 standard. The FirePHY-1600 runs at 2GHz clock speed and complies with the IEEE 1394b S1600 standard, enabling data transfer rates up to 1.6 Gig/second. This is over four times faster than the highest speed USB standard today.

"Symwave is proud to help drive the accelerated migration to the next speed level of 1394b/FireWire technology for both consumer and industrial applications," said Yossi Cohen, president and CEO of Symwave. "The FirePHY-1600 is a significant leap forward for us in ultra-high speed SERDES design and is a remarkable achievement for our mixed-signal engineering team. This 'no-compromise' solution offers our customers the ultimate combination of speed, cost and backwards compatibility."

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IEEE 1394 Reaches Billion Port Milestone; More than One Billion FireWire Ports Have Now Shipped

While in Shenzhen during the second quarter meetings, the 1394 Trade Association announced that more than one billion FireWire ports have now shipped since the introduction of the first 1394-equipped products in 1995. The billion ports provide more than 600 million consumer and computer products worldwide with the most versatile high-speed connections available from any interface standard.

The TA now estimates that the worldwide total of 1394-equipped devices in several important categories will grow by 15 percent or more in 2008. Categories include PCs, hard drives and other peripherals, digital TVs, and television set top boxes. Growth will reach or exceed similar percentages into 2009 and 2010.

"The billion-port milestone is significant – each new 1394-equipped device sold now has one billion opportunities to connect to another 1394 port," said James Snider, executive director. "We continue to see solid growth for 1394 across a wide range of consumer, computer and peripherals markets, worldwide. We also are seeing an exciting new phase of design activity as the standard becomes implemented in automotive networks and as leading silicon manufacturers take advantage of higher bandwidth S1600 and S3200 1394 specifications."

Upcoming Events:

Q3 Meeting, July 27-30, Tokyo, Japan
Q4 Meeting, October, Austria

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Executive Director's Report

2008 is shaping up to be a year of international TA meetings. We just returned from the 2Q meeting in Shenzhen, China, which was very productive. Our next meeting will be this summer in Japan -- and the fall meeting will be in Austria. All of this global travel reflects the truly international composition of our membership, and gives many 1394 enthusiasts at our member companies an opportunity to attend a TA meeting a little bit closer to home. With repeat visits to these international venues, some of the designers and marketers who are able to participate only in meetings outside the USA are becoming familiar to us, adding their immensely valuable insight and energy to the advancement and enhancement of the 1394 standard.

During the Shenzhen meeting we held a half-day product seminar designed to bring local companies up to date on all the work and development underway using 1394, the features and benefits of 1394 in a wide variety of products, and the opportunities for them. We had 10 presentations covering the major markets and the future of 1394 -- all presentations are now available on the 1394TA web page. The product seminar, as well as a news conference and lunch for local electronics media prior to the seminar, would not have been possible without the energy and effort of the Symwave team, which sponsored the Q2 meeting. They did a fine job, and all of us appreciate their hospitality and leadership.

We also held a plugfest in Taipei the week before the Shenzhen meeting. This differed from the workshop we had there last year -- in a workshop, companies leave products for testing. At a plugfest, engineers from each participating company work together to connect the devices and have the opportunity to do some trouble-shooting. We find plugfests provide very useful feedback.

I hope you are starting to make plans now for the summer meeting in Japan, which is scheduled for July. We look forward to seeing you there.

James Snider

New Study Demonstrates Superior Performance of IEEE 1394 in Machine Vision Applications

A comparison of the performance of the IEEE 1394 standard and Gigabit Ethernet (GigE Vision) in machine vision applications has found that 1394 offers easier integration, optimization and interoperability between systems from different vendors.

Completed last year by the Fraunhofer Institute for Photonic Microsystems (IPMS) in Dresden, Germany, the report was developed for Sony Corporation's Image Sensing Solutions Division. The study was designed to objectively compare the specifications and performance of GigE Vision with IEEE 1394, the most popular and commonly used machine vision interconnect standard.

The Fraunhofer IPMS research concluded that while GigE Vision provides higher raw data rates and longer cable lengths than does 1394b, it is less suitable for machine vision implementations. Also, GigE Vision lacks 1394's quality of service (QoS) guarantees, so it is less efficient in moving real-time data. Additionally, GigE Vision tends to require more CPU loading than does 1394, which encumbers the host processors in a system, and also requires designers to be actively involved in low-level configuration tasks, such as setting packet sizes.

In contrast, 1394 lets integrators work using application programming interfaces at a high level. As a result, the report concludes, while GigE Vision holds theoretical promise for future applications, 1394 is more reliable, easier to integrate and optimize for most applications, and provides superior interoperability.

Report Results Also Apply in Automotive, Networking Applications

The 1394 Trade Association views the report as confirmation of 1394's superiority in the industrial instrumentation market, as well as in other market sectors such as automotive and home networking, according to James Snider, executive director. "The 1394 standard has become widely applied and popular throughout a broad range of industrial instrumentation applications, including machine vision," Snider said. "This report defines and explains in detail the benefits of 1394 in these applications. It also identifies important differentiating features for 1394, such as ease-of-use and quality of service, that are critical for emerging automotive and home networking applications and products."

The complete report, including summary and methodology, is available online at:
www.sonybiz.net/biz/view/ShowContent.action?site=biz_en_EU&contentId=1196773884857

Vice Chairman Max Bassler presented an update on 1394 automotive standards to the Chinese media during the second quarter meeting in Shenzhen. Bill Rose, marketing chair, at left, presented an overview of the benefits of 1394 in consumer, computer and other markets.

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FirePHY-1600 is an ideal interface technology for next-generation Mac and PC platforms, computer peripheral devices and prosumer applications that demand a high-speed interface with the guaranteed bandwidth and quality of service that characterize the 1394 standard. Target applications include Mac and PC interface ports, PC add-in cards and Express Cards, external storage devices/enclosures, high definition industrial cameras, FireWire hubs/repeaters and high-speed Flash card readers. In its announcement, which received worldwide media coverage almost instantly, Symwave noted 1394's ability to support 45W power over 1394 cables, peer-to-peer networking and long distance networking over CAT-5, POF and Coax cables.

Media Briefing, Product Seminar Highlight the Meeting

Almost 100 attendees joined the four hour 1394 product seminar, which featured presentations on 1394 in its primary markets, including consumer electronics, computing, storage and industrial products. Moderated by Executive Director James Snider, presenters included Max Bassler of Littelfuse, Dave Thompson of LSI, Sean Zhang of Texas Instruments, Sam Liu of Newnex, Richard Mourn of Quantum Parametrics, Burke Henehan of Symwave, Gene Lin of Oxford Semiconductor, and two industry consultants who have worked closely with the Trade Association, Bill Rose and Hans van der Ven, among others.

The demonstration room at the meeting included updated demos from Quantum Parametrics, Eqcologic, and Symwave, which showed its new 800 Mbit/second and 1.6 Gig/second ICs.

A media lunch also was held, with editors from EE Times China, EDN China, Computerworld China, China Daily, and other outlets meeting with James Snider, Max Bassler and Bill Rose, along with Symwave executives.



TA Chair Eric Anderson gives closing remarks at the 1394 Product Seminar in Shenzhen, China during the second quarter meeting.



New 1.6 Gigabit/Second IC, PCs, Highlight Recent Product Introductions

Symwave, Inc., which develops high-performance analog/mixed signal semiconductor solutions for PCs, consumer, and mobile devices, introduced two new products during a busy spring, including "FirePHY-800" - its new 1394b S800 Physical Layer (PHY) device, targeted at high volume consumer applications. FirePHY-800 is compatible with all popular operating systems drivers, including Mac OS X v10.4, OS X v10.5 (Leopard), Microsoft XP/Vista, and Unibrain. It enables robust, 800Mbps data transfer between Apple Macs or Windows PCs and external storage devices.



Symwave followed its FirePHY-800 announcement with the introduction of the industry's first 1.6 Gigabit 1394 silicon (see page 1).

Camcorders and Cameras

Sony debuted the new members of its 1394-equipped XDCAM-HD Professional Disc system to Asia Pacific customers in April. The premium products include the PDW-700 XDCAM HD camcorder and the PDW-HD1500 recording deck, plus the dual-layer 50GB version of optical Professional Disc media, model PFD50DLA. The PDW-HD1500 is a half-rack recording deck with a tilt-up front panel that supports a range of interfaces, including HD-SDI, SD-SDI, i.LINK (1394), and Ethernet. It delivers high-quality eight-channel, 24-bit audio recording, and has a dual optical pick-up for higher-speed file transfer.



Sony's PDW-700 XDCAM HD camcorder

JVC announced an enhancement for its GY-HD200 professional camcorder (\$5995 MSRP) prior to the start of the National Association of Broadcasters (NAB) show in Las Vegas in mid April. The camcorder will offer the ability to output 1080/50i and 1080/60i through its 1394 connection. The 1080i signals do not record to tape, but they are outputted in real time.



JVC's GY-HD200 allows for output of 1080/50i or 1080/60i over FireWire

This upgrade now allows the GY-HD200, in combination with a hard disk drive recorder such as the JVC DR-HD100, to record in either 720p or 1080i in native QuickTime or M2T files. For details:

www.camcorderinfo.com/content/JVC-Adds-to-1080-50i-and-60i-Output-to-GY-HD200-34910.htm

Canon's building on its well-received XL H1 prosumer, interchangeable-lens video camera with the new 1394-equipped XL H1S and XL H1A. The primary addition shared by the new cameras is the updated 20x HD Video Lens III, but there are also improvements to the image and color settings, audio input capabilities and an external LCD monitor output plug. The XL H1S bests the H1A with uncompressed HD-SDI output, but will cost \$9,000 in June, with the H1A available in mid-July for \$6,000.

www.usa.canon.com/consumer/controller?act=ModelInfoAct&categoryId=165&modelid=12152

Red's forthcoming consumer camcorder, called Scarlet, also is equipped with 1394b. Scheduled for release in early 2009, it has a resolution of 3K, which the company says exceeds that of 1080 HD video by 1,920. The model is based on of an earlier Red camcorder that featured a resolution of 5K. The Scarlet can shoot between 1 and 120 frames per second. Video is recorded to a pair of CompactFlash cards.

www.red.com/nab/scarlet

At the annual NAB in Las Vegas, **Panasonic** introduced the successor to its DV-based DVX100 camcorder, the 1394-equipped AG-HMC 150, an AVCHD (AVCCAM) handheld camcorder that supports both 1080 and 720 (21 Mbps/Max 24Mbps) HD resolution and captures video to a standard or SDHC SD memory card. Slated to ship in the Fall 2008, the AG-HMC150 can record in four modes: PH mode (average 21 Mbps/Max 24Mbps), HA mode (approx.17 Mbps), HG mode (approx.13 Mbps) and HE mode (approx. 6 Mbps). Pricing on release will be \$4,500.

www.panasonic.com

Computers

Sony launched its 1394a-equipped Vaio AR model in January. Designed to replace a desktop PC, it also doubles as a few components of a home theater for home entertainment enthusiasts who want to take a full-fledged Blu-Ray BD-R drive with them when traveling. The Vaio AR comes with FireWire input, HDMI output, and even a Blu-Ray burner, for archiving and passing along hi-def content. Price: \$3,600. For more details and information, visit:

www.sonystyle.com/webapp/wcs/stores/servlet/CategoryDisplay?catalogId=10551&storeId=10151&langId=-1&categoryId=27835&parentCategoryId=16154

GammaTech, formerly Twinhead, has introduced the new 1394-equipped D15-TS notebook PC, featuring a 15.4-inch wide screen WXGA LCD with graphic resolution up to 1280X800. The on-screen graphics are driven by the Intel Graphics Media Accelerator GMA X3100, which supports up to 384 Mbytes of shared memory. Along with the 1394 port, there's one Type II Express Card slot and an RS-232 serial port. The notebook has a smart card reader, Webcam and Bluetooth support.

www.gammatechusa.com/PRO/D15TS/

Everex has introduced a Mac-mini format computer: the gPC mini with 1394a, and has managed to pack in the mini's small frame a 10/100/1000 Ethernet port and a DVI-I and S-Video graphic port along with the 1394 port. Priced at \$500.

www.everex.com/products/gpc_mini/gpc_mini.htm

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New 1.6 Gigabit/Second IC, PCs, Highlight Recent Product Introductions

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Dell is now offering the 1394-equipped ruggedized Latitude XFR D630, a slightly upgraded version of the Augmentix/Dell XTG630. The XFR D630 is a 9-pound notebook with a 13.9 x 10.2 inch footprint. It is 2.6 inches thick, has a 14.1-inch 1280 x 800 wide-format DirectVue display. A base XFR starts at \$3,899 -- and that includes a shock-mounted hard drive. A fully optioned one with a touch screen approaches \$6,000, the average price for a rugged machine in this class. www.dell.com/xfr



Dell's new XFR D360, designed for reliable performance in the harshest environments, meets the strict military standard MIL-STD 810F, for extreme temperatures, shock/drop, moisture, altitude and more.

Industrial Cameras

The high speed 800 Mbps IEEE-1394b LightWise camera family is ready from **ISG, Inc.** The first camera is a 5 megapixel 1394b camera, which offers full resolution 2592 x 1944 running at sustained 12 fps. It also has a large image buffer of 128MB. The LightWise LW-5-S-1394b camera is available in both color and monochrome versions. All camera controls are done via the 1394 interface, which includes a fully programmable image processing pipeline and dynamic range/gamma control LUT for any desired response curve and a wide range of triggering and strobe control capabilities.



Imaging Solutions Group's LightWise 1394b 800Mbps Camera Family and 1394b Link Layer IP

The camera comes packaged with driver software and a user's manual. ISG implemented the 1394b Link Layer as an IP Core solution in Verilog and it can be ported to any FPGA or ASIC solution. ISG will offer this IP as a core solution for customers. Price on request. <http://www.isgchips.com/>

Aegis is the latest provider of industrial cameras solutions to introduce 1394b products. Aegis featured the new XCD-SX90CR from Sony with 1394b at the Apex Conference in Las Vegas in early April. Aegis offers a full line of industrial and machine vision cameras, lenses, frame grabbers, monitors and software. <http://www.aegis-elec.com/>

Other Applications

Thermaltake Digital Home has a new home theatre chassis, designed for home entertainment enthusiasts. The DH Series cases support ATX and mATX form factors and ATX PS2 power supplies. Each have one 5.25-inch external drive bay and three 3.5-inch internal drive bays. Front I/O ports include IEEE 1394 and HD-Audio. All three cases have seven expansion slots and measure 426.5 x 435 x 153.5 mm. In the DH 101 series, the VF7000BNS and VF7001BNS will retail for \$199 AUD and \$329 AUD respectively. The DH 102 series VH2001BNS will retail for \$649 AUD.

Paradigm Imaging Group, a leading supplier of large-format scanning, printing and document archiving solutions, announced the enhancement of the 1394-equipped Rocket Scanner Controller. Paradigm's exclusive Rocket Controller now comes with a 2.4GHz Quad-Core processor, 2GB of RAM and a 250 GB SATA hard drive. <http://www.paradigmimaging.com/>

Plugfest in Taipei Boosts TA's Compliance Program

The Trade Association conducted its latest compliance workshop in Taipei just before the second quarter meeting. A total of ten different Taiwan-based suppliers of more than a dozen 1394-enabled products ran through the basic compliance testing, provided by Allion Test Labs. The TA tested a total of 14 1394a and 1394b products, ranging from storage drives to PCs and including contributions from Via Technologies, DataFab, Symwave, and JMicron, among others. "The plugfests are very valuable to the Trade Association," said James Snider, executive director, who attended the sessions. "We learn from them, and it gives us the opportunity to meet and work closely with companies that are developing new 1394-equipped products and systems. We appreciate the efforts of all the companies who took part to attend this important event."



Richard Mourn of Quantum Parametrics, testing products at the Plugfest event in Taipei in April at the Landis Hotel.