

Detroit October 2018

Sixteen Detroit Section members and guests met at the National Weather Service (NWS) Detroit/Pontiac center on 9 October. Warning coordination meteorologist Rich Pollman greeted the group and gave a tour of the outdoor facilities, which include instrumentation to measure wind, temperature, humidity, rain, and a radar system (including tech specs on range, wavelengths, etc.) tracking winds and storms. Attendees then witnessed one of the two daily atmospheric sounding balloon launches, carrying an instrument package to about 100,000 ft altitude. Back indoors, Pollman gave an overview of the functions of many services that NWS and the Detroit center provide.



Detroit Section Chair Frank Maynard and presenter Rich Pollman.



Rich Pollman gives a tour of the outdoor facilities at NWS.



Rich Pollman discusses the warning center at NWS during a tour of the indoor facilities.



NWS satellite radars, outside facility.

Attendees were then taken into the forecast and warning center, where they observed the tracking of a balloon, WSR-88D radar system, and learned how the NWS generates and propagates alerts and warnings to the public via connection to broadcasters, NOAA All Hazards Radio, and to local governments and public safety services.

—Chuck Reti
Secretary/Treasurer

Detroit November 2018

Twenty Detroit-area members of SMPTE, the Society of Broadcast Engineers, and the Audio Engineering Society gathered for an informative presentation by Tim Hosmer of Hitachi Kokusai Electric Comark

Ltd. and Richard Lhermitte from Enensys. Hosmer presented a high-level view of the ATSC 3.0 standard and its advantages for broadcasters. He also discussed high-efficiency video coding and orthogonal frequency-division multiplexing, critical components of the ATSC 3.0 transmission standard. Lhermitte, alternating with Hosmer, provided a more in-depth look with details about the A/321 section of the standard, which deals with system discovery and signaling, a key component in delivering new wireless-based services. The discussion also included the integration with 5G wireless and single-frequency network supplements for broadcast signals. Phil Whitebloom of Enensys provided additional facts and background information, including advantages that ATSC 3.0 will be able to provide to broadcasters on the business side. A very lively and useful Q and A session followed the program. Before the meeting, speakers and many of the attendees gathered at a nearby restaurant for the customary pre-meeting managers dinner.

—Chuck Reti
Secretary/Treasurer



Detroit meeting presenters Tim Hosmer, Phil Whitebloom, and Richard Lhermitte.

New England November 2018

The New England Section meeting held on 1 November was unusual for at least three reasons. First, it was held at 3:00 p.m. instead of the usual evening hour. Second, it was a deferred October meeting; and finally, it offered attendees an incredibly rare opportunity to see the demonstration of a technology that had never been seen in New England before: Sony’s Crystal LED (C-LED) display, heretofore only seen at NAB and CEDIA.

The opportunity presented itself because Sony and its reseller, Whitlock, located in Burlington, Mass., brought Sony’s “junior” 9 ft × 16 ft version of the modular screen to the Boston area to demonstrate to a prospective client. The one seen at NAB in April was approximately four times this size. When we learned of this “diminutive” model that was

on the horizon, we quickly contacted Sony and Whitlock to see if we could jump on the bandwagon.

Thanks to both Sony and Whitlock’s cooperation, the answer was a resounding yes. Special thanks to Sony’s Steve Dirksmeier for doing much of the legwork. Sony C-LED representatives on hand were Zach Kerr, business and development manager for the imaging products and solutions—Americas division, along with Tim Repn, C-LED product manager. They were joined by Sony’s New England broadcast representative Steve Dirksmeier and display product representative Joel Johnson, along with a tech team that handled delivery and setup. Simon Davis, CTS-D, regional director, and Kevin Sennett, CTS, field supervisor, represented Whitlock. Tim Repn explained the difficulties in transporting the device, which is one reason why they don’t take it on the road more often. It also requires a small crew for setup and calibration. The device is made up of small C-LED modules that interlock seamlessly and can theoretically be configured to any size and aspect ratio. Should a module fail, it can be replaced easily without taking apart the entire wall or even disturbing its



Steve Dirksmeier explains how the modular screen is assembled and calibrated.

neighboring modules—a remarkable feat of user-friendly engineering.

This device is no video wall. The sharpness, contrast, and brightness of 1000 nits put it in a class by itself. The viewing angle is nearly 180° with no significant loss in brightness. It employs a 10-bit grayscale, and its color gamut is 140% of sRGB. The display is so bright that even ambient room light is no obstacle to comfortable viewing. The frame rate of up to 120 frames/s minimizes judder when viewing fast-moving objects as well as 3D. High dynamic



Zach Kerr, C-LED business development manager, provided SMPTE New England members with an up-close look at C-LED technology.



Images are so sharp and detailed on the 9 ft × 16 ft screen that photos taken from the display appear to be from the original scene. Magnification of small areas show tremendous detail.



The World Champions Red Sox pass their Sony "screen test." Sony's Joel Johnson in the foreground appearing to be holding the Commissioner's Trophy.

range is also fully supported, and the contrast ratio is a whopping million to one. The larger versions of the screen support up to 4K × 8K (4320 × 7680). The pixel width is half the thickness of a human hair.

Repn pointed out that the target market includes government, large corporate, museums, and other applications where high visual impact at close viewing distances are required. Although the screen would be an ideal replacement for projectors in movie theaters, it is still too expensive to make this application practical.

The entry-level cost for even the screen that was demonstrated is around a million dollars. Unless you are a multimillionaire, it is unlikely it will be gracing your living room anytime soon.

The breathtaking footage was all shot in 4K, and one can only imagine what footage originally shot in 8K would have looked like. The material included clips from major motion pictures. To our collective eyes, they

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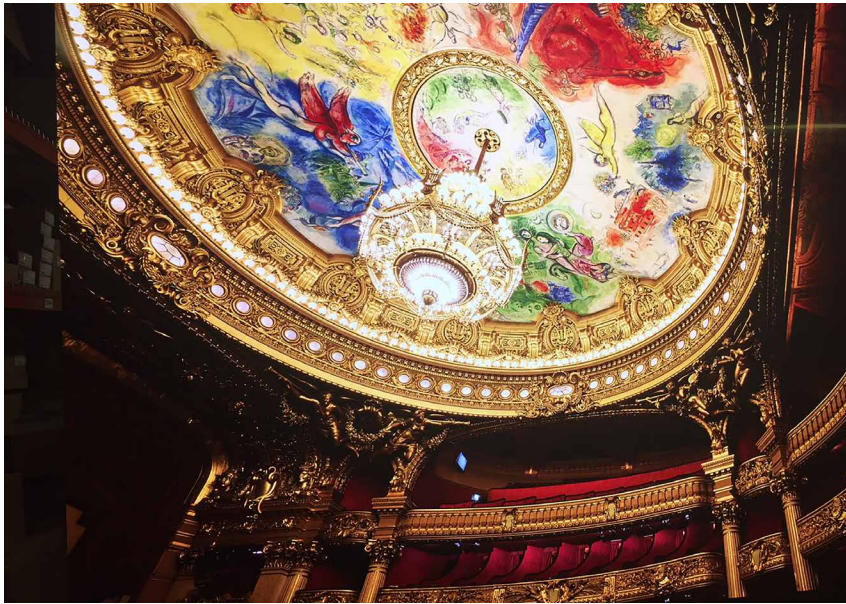
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Off-axis viewing angle extends to 180° with extremely high brightness.

never looked better. It is safe to say that those who were able to make it to this odd-hour event thought it was well worth the trip.

—Martin Feldman
Section Chair

New England December 2018

Filmmaker and director of photography Lindsay Taylor Jackson was one of the principal presenters at the New England Section meeting held at Talamas Sales and Rental in Newton, Mass., on Wednesday, 12 December. Jackson was joined



Lindsay Taylor Jackson, presenter at the New England Section meeting in December.

by Gregger Jones of Panasonic in a presentation on the latest Panasonic VARICAM digital motion picture cameras. Jackson, a cinematographer who often shoots for the award-winning documentary filmmaker Ken Burns, showed clips of several works including one recently shot with the Panasonic VARICAM LT. The New England Section was joined by the New England chapter of Women in Film and Video.

—Martin Feldman
Section Chair



Mike Strein, Matthew Goldman, and Barbara Lange at the New York Section meeting in October.

New York October 2018

On Monday, 15 October, Mike Strein produced a meeting focused on the broadcast migration to IP. Matthew Goldman, MediaKind's senior vice president of technology and the now SMPTE Past President, was the sole presenter for this event. The meeting, held at Hitachi's facility in New York City, was just a short walk from Grand Central Station. Roughly 75 people were in attendance.

Goldman's presentation was titled, "A Master Class in Broadcast Migration to IP and a Preview of the SMPTE Fall Conference." He covered the compelling reasons for this migration—reductions in power, space, increased density, alignment with the enormous IT industry, etc.—and showed how the standards and workflow organizations beyond SMPTE—the Video Services Forum (VSF), Advanced Media Workflow Association (AMWA), and the Institute of Electrical and Electronics Engineers—have worked together to not only make this migration possible but desirable as well. He reviewed many of the underlying technical standards, the emerging workflow

PHOTO COURTESY MARK FORMAN

standards and specifications that work together to create this environment. He showed the “stacks” and “suites” and put this together in a presentation that worked for both skilled engineers and those who are not quite as technical. A Q and A session followed the presentation.

Goldman then ran through a preview of the then-impending fall conference, which included the symposium, keynote speakers, a list of the topics, and some of the many awards that were to be presented and also detailed many of the social events to occur at the LA conference.

This meeting was held during a week when many other industry-related events were also occurring in New York, such as the VSF meetings, an SVG event, and the NAB NY conference. The meeting included many notable visiting attendees, including some from the Atlanta and Philadelphia chapters as well SMPTE’s Executive Director Barbara Lange.

More information about subsequent NY SMPTE events can be found at the NY SMPTE website: www.smpteny.org

—Mike Strein
Section Manager and Program Chair,
Television

New York November 2018

The SMPTE ST 2110 standard supports the replacement of circuit switching serial digital interface infrastructure with an IP-based fabric architecture. It is truly revolutionary and represents a broad range of challenges for the entire industry from equipment manufacturers through the end users. The speakers at this meeting represented that inherent complexity from different perspectives. Ammar Latif, principal systems engineer at Cisco, was joined by John Mailhot, CTO of networking and infrastructure at Imagine Communications, and, as a surprise guest, Brad Plant, director of Technology and Operations at NBCUniversal Media, who is



Attendees at the New York November meeting.

PHOTO COURTESY MARK FORMAN

currently working on implementing IP architectures in real-world broadcast settings.

Latif provided an overview of the SMPTE ST 2110 standard. His session focused on the best practices for building an IP fabric, including an overview of the requirements around a deterministic structure, Precision Time Protocol (PTP) support, visibility, and security. The discussion included an overview of the fabric building blocks, such as leaves, spines,

form factors, and port speeds, as well as the benefits provided by a spine-leaf architecture. Latif also addressed the scale requirements and flexibility as well as the best practices for setting up multicast, high-availability fabric, essential security concerns, and the benefits of PTP boundary versus transparent clocks to synchronize devices across a network.

Mailhot discussed how the SMPTE ST 2110 suite of standards, SMPTE ST 2059, and




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(L-R) John Gallagher, Ammar Latif, Brad Plant, John Mailhot, Sara Kudrle, and John Cerquone.



(L-R) Ohio Section Chair John Owen and guest presenter Jay Dill, McFadden.

AMWA IS04/05 are ready for regular use by the entire community, including equipment manufacturers, integrators, and end users. He then explained the concept of “Full Stack” implementation, which is pulling all those pieces together with enough information to make it all work for individual use cases. ST 2110 is a flexible standard that will be found in settings as varied as those used by the consumer, as well as professional engineered environments. The “Full Stack” approach will provide a straightforward workflow that will allow devices from different vendors to be easily registered on a network and work in an interoperable manner, both regarding hardware and software.

Mailhot reminded attendees several times during the presentation, “Did I mention that SMPTE ST 2110 is done? And that AMWA IS04 and IS05 are stable?” He emphasized these points as these tools are ready for use now, not just in the future. The “Full Stack” proposal has been drafted under the AMWA Intellectual Property Rights (IPR) guidelines, and interop sessions are scheduled for Spring 2019.

Plant discussed the significant challenge of creating an all-IP centered facility and the various design decisions required to build a working operational facility. These included some practical issues, such as how network management impacts the end user and how signals and quality control functions

can be performed using test and measurement equipment such as waveform monitors in the absence of a traditional video signal. Both audiovisual specific and data-based tools for troubleshooting should come into play in the ST 2110 environment. It is also essential to bring broadcast engineers and operators into the design process as early as possible, as their specialized workflows need to be taken into account and integrated into the design.

One of the challenges of building new facilities is that, with the rapid development of SMPTE ST 2110, building a modern state-of-the-art facility is like hitting a moving target. Although the standard is a solid one in practice, there is a rapid development in hardware, software, and the conceptual engineering involved in building out a facility. This constant, rapid evolution makes it somewhat challenging to have a standard implementation. As one of the speakers stated, we have to retrain our minds for SMPTE ST 2110.

SMPTE ST 2110 is ready for use in the industry along with AMWA IS04/05. This meeting could not have been more timely.

—John Gallagher
Section Member

Ohio December 2018

The Section meeting on 6 December was combined with the local SBE Chapter 52 and held at the Sinclair

Television broadcast plant (WSYX/WTTE-DT) in Columbus. Guest presenter Jay Dill from McFadden Audio Consulting and Design, Westerville, Ohio, gave a presentation on the various “after actions” necessary for the current and future TV broadcast spectrum “white space” users, especially for wireless microphones operators (both commercial and noncommercial) located in any given area. All of the local market TV stations have completed their respective frequency relocation activities, which was part of the current 39-month U.S. congressionally mandated TV broadcast spectrum repack window. This will dramatically affect all “white space” TV spectrum users in the U.S. due to the necessity of most wireless microphone operators/users’ needs of replacing them all with new ones then transmitting on different frequencies, due to that mandated frequency allocation window.

This will mean that the free open white spaces portion of the TV broadcast spectrum available today in any given local TV broadcast market will not likely be available tomorrow, along with little or no notice to be given to the end user. Dill offered practical suggestions for a work around on some of these types of issues, especially for wireless microphones users, possibly involving the use of lesser known white space frequencies that are not currently being utilized today, and by designing new software/hardware modifications and manufacturing as an alternative to just an

across-the-board replacement of all wireless microphones at any given site. A lively Q&A session followed involving 40 members/guests in attendance.

—Gene Batey
Secretary/Treasurer

Toronto Western Canada Subsection November 2018

The SMPTE Western Canada subsection participated as an exhibitor at the Western Association of Broadcast Engineers (WABE) annual convention on 4–6 November at the Sheraton Airport Inn, Richmond BC. Section Chair Oliver Eichel and Past Chair Jim Nelson attended the booth over the three-day convention, collecting interest from 15 to 20 prospects. The purpose of SMPTE’s participation in the event was to bring awareness to SMPTE, the Western Canada subsection, and to promote membership. Visitors to the booth were encouraged to trade their e-mail addresses for an opportunity to win a Sony Bluetooth speaker. Garry Shepherd, instructor, Broadcast Systems Technology, Southern Alberta Institute of Technology, was the winner of the drawing.

An enthusiastic thank you to the 2018 executive of WABE for their support of SMPTE and the startup challenges of the Western Canada subsection. At the next event, the Western Canada subsection will participate in a Certified Technology Specialist credit-training course



PHOTO COURTESY OLIVER EICHEL

Western Canada Subsection Past Chair Jim Nelson and current Chair Oliver Eichel.

for radio frequency technology, held by Sennheiser. During this event, Eichel will address the class through a short PowerPoint presentation on the benefits of membership and to distribute SMPTE printed material in the participant’s information package.

—Oliver Eichel
Section Chair

Washington, D.C. November 2018

The Washington, D.C., Section held another of its student outreach events on 8 November at the main campus of Maryland’s Montgomery College. The Media Forward program presented was created by the D.C., Section and is designed to provide college and high school students who are interested in pursuing television and cinema careers an opportunity to meet with professionals working in these areas and to ask questions

about the requirements for embarking on such a career path. The students were also briefed on what it takes to be successful in this industry as far as skills both in front of and behind the camera.

The evening’s activities began with refreshments and a time for socializing and networking, followed by a tour of the school’s television studio facility. After a regular Student Section business meeting, event presenters were introduced and provided information about what was in store for the students during the Media Forward event.

Karl Kuhn, SMPTE’s North American membership director, led with a keynote address and briefed attendees about the objectives and goals of SMPTE and its outreach events such as Media Forward. Kuhn’s remarks were followed by an introduction of the industry professionals participating in the evening’s program. These included Ed Sherry, Tom Hackett, and George Kinney from Diversified Systems (Hackett is also the Washington, D.C., Section chair); Dan Huntzinger and Darryl Jackson from Evertz; John McCoskey, with the technology, media, and entertainment unit at Eagle Hill Consulting; TeamPeople’s Edward Milligan and Kimberly Joyce; Greg Smalfelt, with the Fairfax County (Va.) television operation; James Snyder from the Library of Congress; Megan



PHOTO COURTESY OLIVER EICHEL

SMPTE Western Section booth at WABE convention.



John McCoskey (standing), Peter Wharton (seated), and Mollie Chang (far right) welcome attendees at the Media Forward evening program.



Karl Kuhn, SMPTE North American membership director, provides an opening keynote address at the November Media Forward event.

Wagoner from Vimond Media Solutions and also the Washington, D.C., Section program chair; Louise Gebel with Chesapeake Systems and a Washington, D.C., Section manager; and Greg Siers from TSL Products.

The Media Forward event then transitioned to a “breakout” session, with eight tables staffed by the industry participants offering information and engaging in discussions about a range of topics, including 4K video, video archiving, women in media technical positions, mobile video, creating technical staffs for the video industry, the SMPTE

organization, broadcast product technology, and more. Students were encouraged to ask questions and enter into dialogues about how to prepare for a job in the television/cinema industry, how to gain an entry point into the profession, what to expect in “real-world” work experiences, and other career-related topics. Following the table “breakout” session, events shifted back to the building auditorium with a Q and A session moderated by Peter Wharton, SMPTE’s membership vice president.

The genesis of the Montgomery Media Forward was a similar out-



Megan Wagoner, Section program manager (left), and Louise Gebel, Section manager (right), fielded questions and offered advice for prospective industry job seekers at the “Women in Media Technology” table.

reach program conducted earlier in 2018 at the McDonogh School in Owings Mills, Md. Several Montgomery College students studying television and cinema production had attended the March event and asked if it were possible to provide a similar program at their institution. The evening’s activities concluded with a raffle drawing for students and educators with Avid Media Composer software as the prize.

Media Forward is produced by the Washington, D.C., Section and was part of Maryland’s 2018 Science, Technology, Engineering, and Mathematics (STEM) Festival event. The Section wishes to extend thanks to all of the participants involved in the Montgomery College event, with special recognition extended to Student Chapter co-leaders Molli Chang and Jose Garcia; faculty advisor and broadcast media production program coordinator and Montgomery College professor Joanne Carl; Peter Wharton; and Section Manager Maciej Ochman, without whose combined efforts the event would not have been possible.

Events such as Media Forward are valuable to students, as the curricula at most schools educate students as to television/cinema technologies and aspects of production but do not



Approximately 50 students, educators, and industry professionals participated in the Montgomery College Media Forward STEM program.



Molli Chang and Peter Wharton smile for the camera as the Media Forward two-and-a-half-hour evening event wraps up.



Event planners and coordinators included (L-R) Maciej Ochman, Joanne Carl, and Molli Chang.

adequately prepare the students for entry into the profession. Students attending the event were polled and said that the information provided was very helpful to them, and they found the opportunity to engage in

dialogs with the industry professionals on the program valuable. Similar events by the Section are planned for 2019.

The Montgomery College SMPTE Student Chapter is the Society's

newest, having been formally approved only a couple of weeks prior to the Media Forward evening.

—James E. O'Neal
Section Manager

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