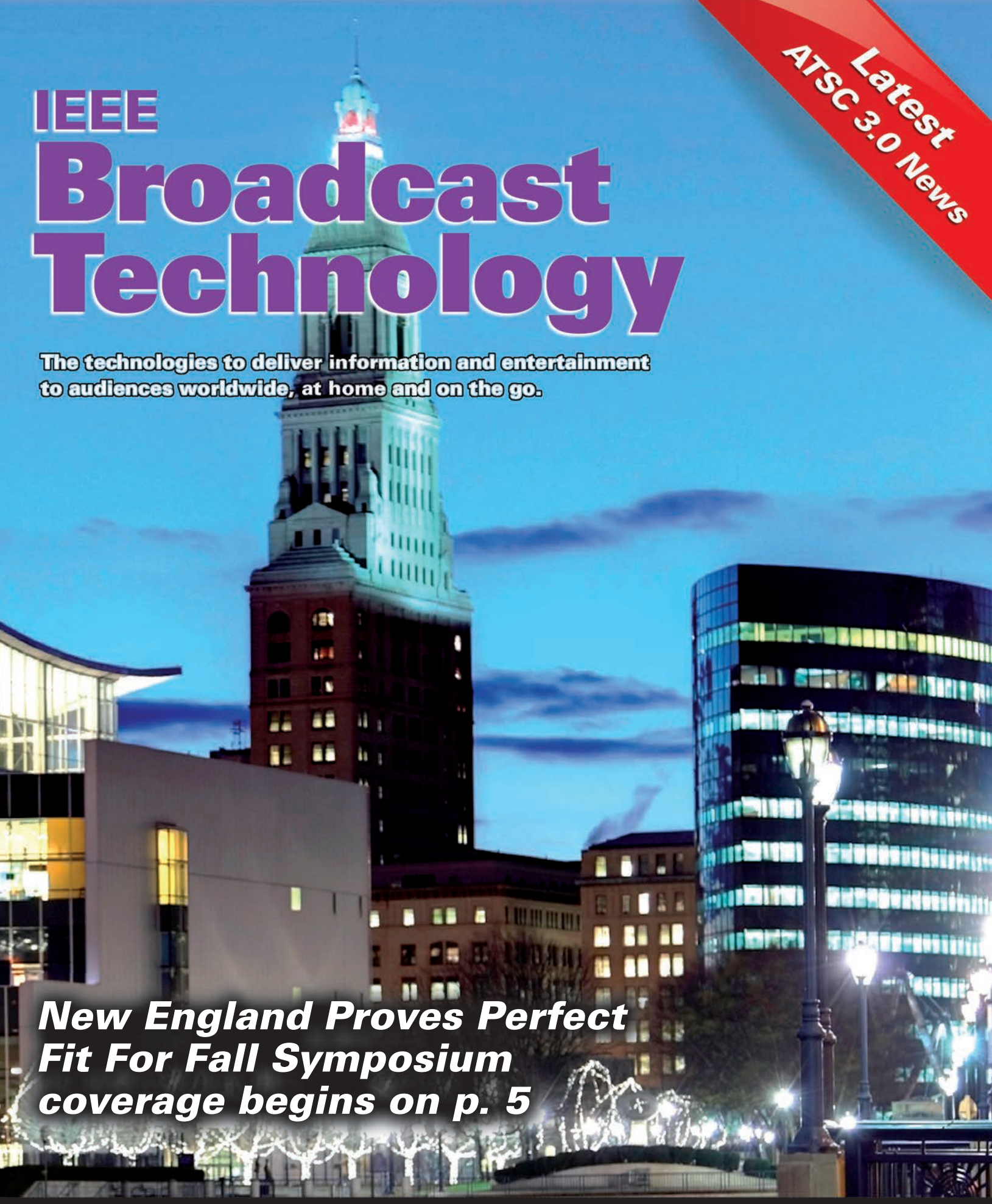

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IEEE Broadcast Technology

The technologies to deliver information and entertainment to audiences worldwide, at home and on the go.

New England Proves Perfect Fit For Fall Symposium coverage begins on p. 5

BTS IEEE

Fourth Quarter 2016

President's Message

Bill Hayes, BTS President

Greetings BTS Colleagues,

At the time that I'm writing this message, we have exited a very busy October and have started what looks to be a very busy November.

The Annual Broadcast Symposium took place in Hartford, Conn., and based on the preliminary analysis, it appears to be one of the most successful in many years. I'm not going to go into a great deal of detail on the event, as coverage of the event will be found in the pages of this edition of **Broadcast Technology**.

There are a number of elements that contributed to the success of the event: (1) Having a strong program that deals with topical issues; (2) Selecting a venue that's easy to get to, affordable and offers comfortable facilities for meeting, socializing and accommodations; (3) Making sure that the event moves smoothly and efficiently, as this is essential so that attendees, presenters and exhibitors see it as a good use of their time and resources. I personally want to commend the BTS staff and volunteers that made this event such a success.

BTS was also represented at another event in October, which was put on by our colleagues at the Society of Motion Picture and Television Engineers. The SMPTE Annual Technical Conference and Exposition in Hollywood took place a week after our event. BTS has been an exhibitor at the SMPTE show for several years, and we've taken advantage of the opportunity to meet with many colleagues that work in our industry, but are unfamiliar with our society. BTS and SMPTE have a long and symbiotic relationship which has grown stronger over time as digital technologies have created a much stronger bond between the creators and distributors of content. This year's event was exceptional, as it was the culmination of a year-long celebration of SMPTE's 100th anniversary. It was a great pleasure for Amanda Temple, Margaux Toral and me to join our colleagues at this celebratory event.

So, I congratulate my SMPTE colleagues and friends on their first 100 years and wish them well in their next century. One amusing observation I will make is that at the beginning of planning for their centennial celebration, Barbara Lange, SMPTE's executive director, and I were on a conference call where there was a discussion about which of the organizations on the call was the oldest. It's not to often you get to hear people talking with pride about how much older they are than their colleagues. For those interested, the BTS was originally formed as the Institute of Radio Engineers (IRE) in 1912, while SMPTE started as the Society of Motion Picture Engineers (SMPE) in 1916.

Looking into past is always a good exercise, as it allows us to analyze situations, conditions and decisions that were made to revise and refine what we do and how we do it, so that as we move forward, we grow and adapt without repeating errors and mistakes from the past. Living in the past is a much less beneficial exercise, and in many cases, may lead to repeating the same failures. I say this, because on a global basis, broadcasting is undergoing changes as new technologies are implemented, and communication and entertainment become more interactive and more mobile. I've spoken with many colleagues that see this disruptive change as a threat to their existence.

Whenever I speak to folks in the industry, I always encourage them to look at what is happening as opportunities to grow and learn and expand. Regardless of where you are in your career, you can never stop learning and growing. This is especially true if you're on a path that you love. I know many colleagues that are "retired," and yet continue to be actively involved in our industry. I've often joked with them that they are not very good at retirement as they're still working. What I have in fact discovered when I speak with these people is that they recognized that the journey they were on in their careers was the enjoyable part and that the destinations they reached over time were only waypoints along the path.

Looking forward, I'm excited to say that I have been invited to provide a keynote address at the unveiling of an IEEE

continued on page 28

Inside

President's Message 2
From the Editor 3
BTS Broadcast Symposium Sets Attendance Record 5
Three Memorable Symposium Keynote Addresses 12
The 2016 Symposium In Pictures 15
ATSC 3.0 News Briefs 20
IBC Show Reports Another Record Attendance 21
The 2016 IBC Show In Pictures 23
IBC Session Provides FOBTV Update 29
DVB Group Gets New Chairman; Prepares For Advanced TV 33
New At The 2016 IBC Show: The IP Interoperability Zone . . 35
Three 'Rising Stars' Share IBC Show Experiences 37
SBE Combines National Meeting With Ohio Engineering Conference 42
A SMPTE Event For The History Books 46
Weeklong Celebration Commemorates 50 Years of IEEE Region 10 50
Book Review: New SBE TV Ops Manual 52
The Downward Path to Broadcast Engineering 53
RF News and Views 54
First Successful Transatlantic Telegraph Cable Celebrates 150th Anniversary 60
ITU Report 62
Germany's First Radio Broadcast Receives an IEEE Milestone 64
Margaux Toral Named BTS Promotion/ Marketing Manager 66
Chapter Reports 67
In Memoriam 68
What's New 69

COVER PHOTO: Hartford Connecticut Skyline

From the Editor

A Record-Breaking Symposium

By James E. O'Neal, Editor-in-Chief

I'm writing this as I return from the Oct. 12–14 BTS Fall Symposium, held this year in Hartford, Conn. and by all measures was "one for the books!" The number of registered attendees hit the 200 mark, a modern record for the event and one in which everyone involved can be very proud. The roster of speakers was top drawer, the venue first rate, and even the weather (though few of us ventured too far from the presentation) was quite nice—a very typical New England autumn..

What made the event even nicer was the presence of some young faces for a change—a goodly number of students (and some of their professors) from both the University of Hartford and Quinnipiac University were there for at least part of the proceedings (some exams took their toll on Friday). The Society even gained new members, with sign-ups from some of the attendees attending their first BTS Symposium.

All in all, it was a most successful event and I'm hoping that this success will continue as the Symposium "comes home" to the Washington, D.C. area after having been on the road for the past four years. (At least one Hartford area attendee I spoke with said that he was planning to make the trip to the 2017 Arlington, Va. Symposium location, as he was extremely impressed with the amount of knowledge he took take away from this year's event.

October is the month that a lot of events in our profession are happening and I hope that our members are able to participate in these too. (I'm thinking in particular of the SMPTE Conference and Exhibition, and the Society of Broadcast Engineers' National Meeting.) In case you couldn't make either or both of these events, we're providing coverage elsewhere in this issue.

An Interesting Book

Speaking of the SBE, I had the opportunity to review a new book that's just been added to that organization's ever-growing list of titles: "Television Operations: A Handbook of Technical Operations for TV Broadcast, On Air, Mobile and Internet" by Fred Baumgartner and Nicholas A. Grbac. If you read the review, you'll learn it's a primer, a TV master control "101" as it were, covering just about everything necessary to work in the master control room of a television operation. While I readily admit that this is knowledge that the vast majority of our membership already possesses, I took on the review and make mention of it here for good reason. As we know, fewer and fewer young people are seeking a career in the technical side of broadcasting. Let's face it, TV and radio no longer are shrouded in the "mystique" (for want of a better word) that attracted most of us into the profession. The Baumgartner and Grbac book paints a very good picture of what working in the nuts and bolts side of television is all about, and I feel that if a young person who is undecided about his or her career path were the least bit interested in broadcast engineering and even skimmed the book, it just might have an influence on their career choice. For that reason, I consider it a very important book, and one that should be available in the library of every technical high school, vo-tech school, and community college offering job-related curricula. However, it may not be very prominent on the radar screen of the folks who purchase books for these institutions and it just might behoove us (I'm speaking both of our Society and us as individuals) to consider purchasing some copies and donating them to these sorts of libraries.

More Radio Rants

A week or so before the Symposium I was on the road again; this time it was a fly/drive trip in southern and southwestern states. First off—by luck of the draw I guess—I was presented the keys to a rental car that after a week of being up close and personal with, and one that I know now would never own. There were several problems and annoyances, but the greatest of these were with the "entertainment center," which I think existed more for the entertainment of the car's on-board artificial intelligence computer than myself. Although touchscreen controls existed, they "went away" (were locked out) as soon as the machine was placed in gear. (I can only guess that this was to prevent driver distraction.) From then on it was strictly voice-activated control. I couldn't help but imagine what if I had laryngitis, had lost my vocal cords, had a severe speech impediment, or had been born without the power of speech? There would be absolutely no way to communicate with the system. (Take strong note, consumer electronics design people!)

Even with those gifted with the power of speech, the system still presented a number of challenges, the most basic of which was trying to learn the computer's particular dialect. For instance, on many weekends, I listen to public radio, especially the Saturday morning shows and thought this might make some miles go by faster as I was traveling the Interstate highways. No problem I thought, I'll start at the bottom of the FM dial and work my way up and should be certain to hit a station carrying NPR programming. This proved to be more of a challenge than I thought, as it wound up in a game of "Simon Says," with the computer versus me. After a several attempts, I finally guessed the magic words the system wanted me to utter to bring up the FM band and felt elated when I was able to tell it to tune to "eighty-eight point one" and after a few beeps and squawks I saw 88.1 displayed on

pseudo dial. However, this is where the fun really began. I thought it should be comparatively easy at that point to just say something like "scan FM band" or "scan dial." Un-uh! My next bit of dialog with "Silicon Sally" took me right back to 1968 and Stanley Kubrick's "2001: A Space Odyssey" film and the scene where the HAL 9000 computer has tricked astronaut Dave into leaving the space vehicle and won't let him re-enter.

"*Open the pod bay doors, Hal.*"

"*I'm sorry Dave. I'm afraid I can't do that.*"

I found my 2016 conversation with the car computer going something like that:

Me: "*Scan the FM band*"

Computer: *"I'm sorry. I can only scan devices inserted into my USB port."*

Me: "*Scan the dial, etc., etc.*" *until all the permutations of the command I could think of were exhausted.*

Each time the computer voice would reply with:

"*I'm sorry. I can only scan devices inserted into my USB port.*"

Eventually by trial and error I got the computer to change the tuning in 200 kHz steps:

Me: "*Change stations*"

Computer: "*What do you wish?*"

Me: "*Eighty-eight point three, etc.*"

I thought was finally getting somewhere in my quest to scan the FM band. The problem was that each frequency change took 20 seconds or so to process. First, I would hit the button on the steering column that woke the computer up for a verbal command. Then I would wait for a beep that told me it was listening. Then I would say "change stations." Then the computer would ask for that station and I would state the new frequency and wait for the command to be processed. Of course, I had to mentally keep track of the last frequency I'd entered so as not to repeat things.

I really like to concentrate on my driving, and occasionally during a lane change or when passing someone I would lose track of the game the computer was playing with me and repeat myself or inadvertently call out a lower frequency. Actually, I found the radio drill very distracting and even now can't imagine why someone would design such a control system that not only constantly distracted the driver from his or her focus on operating the vehicle, but also created a growing state of aggravation. However, it seemed the only way to tune the radio until I hopefully found a station carrying the programming I wanted to hear. More than half an hour went by, with me able to move the tuning about halfway up the band. At that point I grew tired of the drill and gave up, deciding to turn the radio off. However, despite my trying every possible way I could think of to get the computer to disable the radio (including some that can't be repeated here), it would not switch off. The only way I could partially disable it was by taking my eyes off the road and locating a "step-up/step-down" type of volume control also on the steering column and use it to drop the volume as low as possible. When I reached my destination, my friend, after hearing my tale of woe, decided to try and shut the radio off. He too was unsuccessful.

(Note: A day or so later, I did stumble onto a command that speeded up tuning but only marginally. I found that I could tell the radio to either "tune up" or "tune down" and it would go up or down one dial position. However, this still took time and was a distraction. Perhaps there was a workaround for all of my difficulties, but there was no owner's manual to enlighten me—a common problem in new cars delivered during the past several years.)

Another annoyance which can't be blamed entirely on the radio occurred when it was time to drive back to the big city airport a couple of hundred miles away and return the rental car. By that time, I'd mastered a few more of the radio's desired phrases (make that the computer had taught me how it wanted to be addressed) and I was able to get it to switch between FM and AM bands. Knowing the frequency of a large AM all-news operation in the city I was going to fly from, I thought it might be beneficial to monitor traffic conditions as I got nearer the city and its airport. About 75–80 miles out I was able to hear the 50 kilowatter and commented to myself that they had fairly good audio quality for an AM in this day and age. (Surely you're read some of my previous rants about this).

However, things went bad as I got within 45–50 miles or so of my destination and the radio discovered an IBOC signal wrapped around the carrier and locked onto it, disabling the plain old ancient modulation audio I'd been enjoying. I wasn't too sure what had happened initially, as the first indication was a lot more upper end (make that *extremely shrill*) audio and along with it some very, very bad sibilance. I glanced at the radio and the display confirmed that it was decoding an HD signal. However, this was a very bad and annoying signal. Obviously, no one was monitoring the off-air HD signal. And once again, the radio continued to outsmart me as I tried to get it to change from HD back to AM. Despite my desire to keep track of road conditions, the signal was so shrill and sibilant that I had to give up and switch stations. As usual, the AM band was crowded with activity, but the vast majority of it was extreme right-wing political talk, sports talk, religion or foreign language. I gave up and inserted a CD for entertainment for the remainder of my trip!

I need to add that in my week of being up close and personal with this "out-of-control" radio, in addition to AM, FM and Sirius XM satellite-delivered radio (not enabled in the car I rented), the device's selection screen also such Internet radio offerings as Pandora, aha, Sticher, etc. These were not available either, but I can't help but wonder if they had been, would these "radio" offerings might have been more user-friendly and listenable? And as most radio broadcasts are consumed in our cars, I worry about where this may be going. (A friend recently told me that the "entertainment center" in his new car omitted the AM broadcast band.)

Something to think about!

continued on page 45