



Historical Electronics Museum Reflections

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Over the Horizon

On behalf of the Board of Directors and the staff I would like to announce the unveiling of a new name and corporate logo for the Museum. Beginning January 1, 2009, the Historical Electronics Museum is now the National Electronics Museum. The Museum is still a registered non-profit with the same funding sources and our day to day operations remain the same. The new name and logo reflect a change in our strategic vision. We are positioning ourselves to be the premier electronics museum in the country with a focus on electronics systems, defense electronics, and cutting edge technologies, all the while maintaining our dedication to the history of the electronics industry. We are expanding our commitment to the promotion of science, engineering, and technology, reaching out to the students at all levels. The name and logo changes are just the first step in our transformation.



The name and logo changes were in the offing for several years. After consultation with the American Association of Museums (AAM) in the spring of 2007, the Museum Board began exploring new names. The folks at the AAM, as objective outsiders, felt our name did not reflect well our mission, leading visitors to believe that we were more of a home electronics museum. Before any changes were made, Board President Roland Anders and I sought out the blessing of the Museum founder Robert Dwight. The Board held a retreat in late spring to discuss our mission, strategic plan, and the museum's name. They revised the mission to reflect a renewed emphasis on education and the diversification of our collections. A strategic plan was prepared to guide the museum in its new mission. That left a new name and a logo to illustrate our new name.

In choosing a new name, the Board wanted something to make us stand out from other museums but not pigeon-hole the Museum in peoples minds. Replacing "Historical" with "National" proved to be the simplest and most elegant solution. National implies a depth to our collection. Our objects are derived from a nationwide source of scientists, engineers and technicians working in industry and research. They often were used at the national level to benefit the nation as a whole. National also adds a level of gravitas to aid in fundraising and promotion of museum programming. Museum and marketing professionals I consulted are positive about the change.

Selecting a logo proved to be a harder task. A subset of the Board met with several designers with marketing experience to help us distill our mission to a simple compelling image. One image appeared over and over - an antenna. Antennas encapsulate our collection. They are the one easily recognized device that can be found in all of the Museum galleries. To the visitor they can signify different things; communication, surveillance, exploration, defense, but the common denominator is electronics. In choosing the final design we picked a representation of an antenna that is modern, high-tech but still shows the classic lines of a parabola; it is grounded but points up and out. It is not specific to one application but brings to mind many potential uses. Working together, the name and the logo look to the future, represent the present, and recognize the past.

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Letter from the President

Greetings to all Historical Electronics Museum members. That is the last time you will be addressed in that manner, as you are all now officially members of the National Electronics Museum, since your board has voted for a new name and spiffy new logo. Signage will be changing soon, and we'll begin using the new name in January. 2008 has been a wonderful year for the museum, and the museum looks better than ever. We have had a successful Young Engineers and Scientists Seminar program again this fall, this time under the direction of Connie Finnie and Anne Mech. A number of special events have been held for members and the public, most recently our induction of J.C. Bose into Pioneer Hall, with very interesting speakers and fantastic Indian food! We also had a very interesting presentation for members and the public commemorating 50 Years of NASA. The amateur radio club continues to be very active, and they now have two working high power stations on line. Most recently they contacted more than 1000 amateur stations around the world in a signal weekend commemorating Pearl Harbor. This activity not only honored the sacrifices and contributions of so many during World War II, but also told many of our fascinating museum. And, I continue to see several History Channel "Modern Marvels" pieces from the museum on the microwave oven, vacuum tubes, and transistor radios. Hope you can catch those!

Many of the exhibits have been "spruced up" and changed thanks to the continued excellent work of Mike and his paid and volunteer staff. They are doing a great job. Chip Weems and others put together a very attractive temporary exhibit on Hallicrafters and Heathkit, and the contributions of these companies to amateur radio. Be sure to drop in to see it. Meanwhile, progress continues on our Fundamentals Gallery major changes, which should be ready by next summer. "Behind the scenes" much work has been accomplished to improve our collections management, an important mission for the museum.

If you haven't been to the museum lately, make plans to visit your National Electronics Museum soon!

Roland Anders

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To date the staff has just begun to incorporate the new look. As the year progresses watch for more changes as we introduce new signage, a revised website, brochures, newsletter, and collectables. Remember 2009 is not just about the name and logo. Through our own initiatives and in partnership with the Northrop Grumman Corporation we are increasing our educational outreach in the coming year. We have a slate of great programming, and new exhibits planned for 2009. Our oral history program is in full swing and the restoration of the XAF is planned for the spring. We are looking forward to a great 2009.

Mike Simons
Director

HEM Mission Statement

Our mission is to educate, inspire, and excite the interest of students and the general public. We carry it out by presenting to them our electronics heritage through the collection, preservation, and display of significant artifacts and literature and the commemoration of the creativity and dedication of pioneers and all workers in the field of electronics. We focus on electronics developed for the defense of our country, the technologies that made them possible, and the commercial products derived from them.

***"Dedicated to the thousands
who devoted their careers to
advancing electronics
technology."***

2008 International Microwave Symposium in Atlanta

The IEEE Microwave Theory and Techniques Society (MTT-S) sponsored the International Microwave Symposium in Atlanta, Georgia the week of June 15 this year. We shipped the MTT historical collection, which is housed at HEM between shows, and had it set up for three days, in the hall next to the commercial exhibits. We were also next to the members' breakfast area, so we had fairly good traffic. This year's historical exhibit was organized by Rachael Zellner of Georgia Tech. In addition to MTT's permanent collection, Rachael arranged to have local exhibit materials from Electromagnetic Sciences (EMS), Scientific Atlanta, and Georgia Tech Research Institute. A poster on 19th century Indian physicist Sir J.C. Bose was also on display, in anticipation of a special event planned for HEM in November.



IMS 2008 Historical Exhibit



George Vendelin, Tom Hyltin, Brit Vincent, John Horton

Of particular interest to HEM was the talk by Tom Hyltin on the development of the MERA radar antenna. Mr. Hyltin is an IEEE Life Fellow, retired from Texas Instruments. The Molecular Electronics for Radar Applications antenna was developed by TI for the Air Force Avionics Lab in Dayton, OH in the 1960's. It is now on display in the Modern Radar Gallery at HEM, along with several other phased array antennas including those for the B-1B and F-22. Several of the MERA electronic circuit modules were displayed at the symposium, and they are now back on display at HEM. These were the first silicon and gallium arsenide (GaAs) monolithic microwave circuits developed. Other papers discussing develop-

ments from the same era were presented by Britton Vincent and George Vendelin, who were also involved with MERA. Papers on the development of computer modeling software were prepared by Les Besser (COMPACT) and Jim Rautio (Sonnet). Reprints of Hyltin's talk and the others are available from IEEE or HEM.

MTT-S is one of HEM's largest technical society benefactors, and we appreciate their continued support through the years.

One historical site I visited after the conference was the Cyclorama in Grant Park. This 1880's painting commemorating the Civil War Battle of Atlanta is over 40' tall by nearly 400' in circumference, and is supplemented by figures in a diorama in the foreground. The audience sits on a rotating turntable that slowly scans the entire painting as the story of the battle is described. Then the turntable makes another revolution as the historical and technical aspects of the exhibit itself are described. The only other such painting still surviving today is in Gettysburg. Also located in the same building is the 4-4-0 steam engine "Texas", famous for participating in the "Great Locomotive Chase" of 1862.

Steve Stitzer
MTT-S Historical Collection

Scholarship Value Increased

In 2008 the Robert L. Dwight Scholarship, honoring the founder of HEM, was changed from \$2500 to \$3000 for each recipient. The scholarship was awarded to two upper classmen engineering students, one at the University of Maryland at College Park and one at the University of Maryland Baltimore County (UMBC).

The scholarship winner at UMBC was Charles Hebert, a junior working toward a degree in mechanical engineering. During his college years he has been involved in a number of team efforts to design and build types of robots. On one project his team's solution was selected to represent Maryland at the World Competitions. Last summer Charles worked as an intern at Cardinal Scientific, Inc. There he used solids modeling techniques and CAM technology to produce production level drawings prior to fabrication of a communication van.

Jennifer Donaldson is receiving the scholarship at the University of Maryland in College Park. She is a junior studying aerospace engineering and hopes for a career related to space exploration. She came to College Park after two years at Montgomery College where she maintained a 4.0 grade point average. Last summer Jennifer worked as a co-op at NASA Goddard Space Flight Center and will return next summer. Her assignment was studying the possibility of using signals from the existing GPS satellite constellation to navigate spacecraft located at greater distances from the earth. Since GPS signals are beamed toward the earth, only weak signals resulting from antenna side lobes are available in outer space. During a tour of our museum Jennifer was very interested in side lobe suppression applied to radar antenna design.

The scholarship was instituted at College Park in 2000 to honor the museum's founder, Robert L. Dwight. The scholarship for a UMBC student was started in 2005.



Tom Ballard and Jennifer Donaldson



Robert L. Dwight and Charles Hebert

HEM Celebrates NASA's Fiftieth Anniversary

In honor of the fiftieth anniversary of the founding of NASA, the Historical Electronics Museum and the Baltimore Section of the IEEE presented a special program on the history of the venerable space agency. Eighty guests participated in the program held on the evening of October 25. Robert Zimmerman, an award winning writer, essayist, and author of several books on the history of NASA and space exploration, gave a talk entitled "America's First Half Century in Space: Where the Future Began". Mr. Zimmerman traced the history of NASA with a special emphasis on the engineering challenges faced by the Apollo and the early satellite programs. Mr. Zimmerman will be back in the spring to talk about the history of the Hubble Space Telescope and update us on the latest servicing mission.



Museum Celebrates Sir Jagadis Chandra Bose



On November 15, 2008, over 60 distinguished guest and volunteers joined the Museum in celebrating the 150th anniversary of the birth of Sir Jagadis Chandra Bose's by inducting him into Pioneer Hall. Bose made pioneering contributions in microwave and millimeter waves and also in the study of plant sciences and biophysics. His work more than a century ago resulted in the fundamental understanding of the propagation and detection of electromagnetic waves with significant applications in the fields of Radio Astronomy and Wireless Communications. He remained unknown outside his native India because he felt science belonged to everyone, refusing to patent many of inventions.

The staff worked closely with Dr. Ramesh Gupta of Mobile Satellite Ventures, LLP to organize the event. Three speakers Drs. Tapan Sarkar, Syracuse University, Raj Mitra, Penn State University, and Peter Siegel, California Institute of Technology lectured on different aspects of Bose's life and career. A special letter written by His Excellency Ronen Sen, the Indian ambassador to the United States honoring Bose and the ongoing contribution of Indian scholars to science and engineering was read by HEM Board President Roland Anders. News of the event was picked up by the print media in India and was published in several South Asian newspapers. The event included a dinner prepared by the renowned D.C. chef Mukesh Khanna of Bharat Cuisine, and three student musicians played a traditional Indian Raga before dinner. I would like to thank the staff and volunteers for making this such a successful event.



New Temporary Exhibit

Come visit the latest exhibit in our temporary gallery and learn about two companies involved in radio development for public consumers! Our 'Hallicrafters & Heathkit' exhibit examines the histories of these two companies and their contributions to the rise of amateur radio. See what ham stations from both Hallicrafters & Heathkit looked like! The exhibit runs now through September.



Pioneer Camp 2008

In August we held our 2nd Annual Pioneer Camp for children between the ages of 8-11. Through the planning and direction of Jennifer Robles and Becky Glasby, with the help of our summer intern Anna Rosenbluth, this year we had 62 kids participate in our two day exploration of Communications and Radar. With the help of our volunteers and HAM club members, campers learned about wave lengths and amplification, history of the telegraph and early radio, translated Morse code phrases, created their own code strips and built their own string telephones. This year's camp also included guest speaker Bernadette Woods, a meteorologist for WJZ TV. Ms. Woods spoke to the campers about the uses of weather radar and campers were able to become part of a working radar demonstration! Thanks to all who helped make this a success and we look forward to seeing you next year!



HISTORICAL ELECTRONICS MUSEUM

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ADMISSION IS FREE!
OPEN TO THE PUBLIC

The museum's mailing address is:
Historical Electronics Museum
P.O. Box 1693, MS 4015
Baltimore, MD 21203

The museum's location is:
1745 W. Nursery Road
Linthicum, MD 21090
(Next to the Marriott Hotel)

The museum hours are:
Monday through Friday
9 a.m. to 3 p.m.
Saturdays
10 a.m. to 2 p.m.
(and other hours by
appointment)

National Electronics Museum Membership Application

Name _____

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