

**All the Electrons that are fit to flow.**



# OSCILLATOR

The Official Newsletter of the DVHRC

Vol. 10, No. 6, August, 2002

## A modern tube computer? The Oscillator fills in the vacuum.

*July Meeting Notes and Minutes – as reported by  
Dave Snellman*

Tuesday, July 9th was a really hot and humid evening. Our scheduled activity was a “tail-gate” auction. We set aside meeting formalities started with the tailgate auction in the parking lot. We had some members prepared for the rain that was expected to supply some relief from the heat. After a few sales, rain began to dampen the sales. We moved indoors and began some meeting formalities prior to continuing with the auction.

In terms of old business, we had several reports on the Kutztown meet. After reconciling the auction proceeds and other funds taken in at Kutztown, I turned over about \$630.00 to treasurer, Mike Koste.



Lewie Newhard reported on the meet stating that the meet was almost a sell-out! While the weather at Kutztown on the day of the meet was not bad, apparently that was not the case elsewhere. Had the weather been bright and sunny, we would have had a total sell-out. Vendors at the meet also reported a good volume of sales.

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*Next Meeting: August 13, 2002  
Telford Community Center  
7:30 pm*

*Newsletter of the  
Delaware Valley Historic Radio Club  
P. O. Box 847  
Havertown, PA 19083*

good volume of sales.

On to new business, we had a few items. First, was the upcoming Kutztown meet. Yes, Kutztown again – this time is it's the September 14th meet. The location is the same. We are trying to push the activities that are held the evening before the meet. Ideas include moving our monthly meeting for September to the night before the meet – and hold it at Kutztown! To boost interest we are talking about holding a DVHRC picnic-style meeting. Anyway, mark your calendars - September 13 in the evening for the “pre-meet” activities and September 14 for the meet itself.

Another idea that has been put forward is that of holding one of our upcoming meetings at the David Sarnoff Library, located at the former David Sarnoff Research Center in Princeton, NJ. Ted Sorwicka has been in contact with Dr. Alex Magoun, the Director of the Sarnoff Library. Dr. Magoun has offered to host our club at the library. Again, stay tuned to the *Oscillator* for more details. If you have never seen this facility, it is well worth the trip.

After the meeting and some light refreshments, we returned to the auction. It should be noted that the club decided to forego the usual sellers' commissions for this month's indoor/outdoor “tailgate” auction.

Some items that were in the auction included: an Emerson table radio, a Walkman TV, a Bang and Olafsen Beogram turntable. Jim Arnici donated the proceeds from the sale of two radios he had in the auction. The club thanks Jim for his generosity.

Our meeting ended rather early, around 9:15 PM; however, a number of members stayed around talking in the parking lot, in spite of light rain, till almost midnight. Guess you could say, “neither rain, heat, snow, or sleet will keep radio collectors from enjoying their hobby.”

Anyway, that's all for this month. We'll meet again, Tuesday, August 13th in the air-conditioned comfort of the Telford Community Center. See you all there.

The *Oscillator* is published monthly by members of the non-profit DVHRC. Its purpose is to provide information to educate, inform members and communicate with collectors and promoters of vintage radio technology.

We welcome and solicit information relating to radio history or collecting. Submissions should be carefully researched, typed and accompanied with clear photographs or drawings. Material on disks should be in Word and jpg format.

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Personal views, opinions and technical advice offered in the newsletter do not necessarily reflect those of the members, officers or Board of Directors of the DVHRC, nor is the organization responsible for any buying or selling transactions mentioned.

To join DVHRC dues are \$15 per year. The membership year runs from 7 - December. Please mail to the club P.O. box above.

Meetings are held the second Tuesday of the month at 7:30pm in the Telford Community Building, Telford, PA.

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Dave Abramson

#### **CONTRIBUTIONS AND ADS**

DVHRC Editor  
1649 Yellow Springs Rd  
Chester Springs, PA 19425  
610-827-9757 phone fax  
dair@worldnet.att.net  
(deadline is the 20th of each month)

Material submitted is subject to acceptance and editing by the editor.  
A full page article is approximately 400 words. Printed photos may be submitted for a posting. JPG files should be under 100K.

Have You Read Any Good Books Lately?

By Dave Snellman

Over the past two years I've found a number of books that have been written that chronicle many aspects of our hobby. No, I don't mean taking along various radio "picture" books – although there are many fine ones out there. I've discovered a number of good books written that trace the development of radio, TV, radar, electronics, computer and the telegraph that are worth any collector's time. (And you won't look "geek-ish," most people will simply think you're reading a novel.)

Here's a brief listing of great reading material for those "dog days" of summer, whether you're on vacation and away from your radios or maybe it's just too hot to fire up the soldering iron or one of those treasured multi-tube wonders.

One of the tops on my list is Empire of the Air, by Tom Lewis. This is the book the PBS documentary was based upon. In a nutshell, it traces the lives of Lee deForest, Edwin Howard Armstrong, and David Sarnoff. Sometime it reads like a history book, sometimes like a book on patent law – none-the-less, an important work. Read it even if you've seen the PBS show. Most libraries will have this book.

On the slightly obscure side, this one may be difficult to find. Man of High Fidelity: Edwin Howard Armstrong, Lawrence Lessing. Published by Lippincott in 1959 and later in paperback by Bantam in 1969, you may not find this one at your local bookstore. (I found a paperback copy while visiting a used bookstore on South Street in Philadelphia for \$0.50, while I was entertaining a friend who had no interest in radios, but liked books.) This expands on Lewis' look at Armstrong's life and his work. It's really a good read.

Crystal Fire, by Michael Riordan and Lillian Hoddeson. This book traces the lives of Bardeen, Brattain, and Shockley, the three men responsible for the development of the transistor. Part history, part textbook and part "soap opera," it traces the development of the transistor and its offspring and the impact that it made on our lives. You'll even find a transistor radio or two in here. You should be able to find this at your local library or bookstore.

Another book that is not directly related to radio is The Invention that Changed the World, by Robert Buderi. This book looks into the development of radar from just prior to World War II, through the war years and beyond. It also documents some of the offshoots that radar gave to us. Microwave ovens, MRI's, the SAGE computer system and more are in this book. With all the hype about Pearl Harbor, you can read about the radar that was in place there. This book reads like a Tom Clancy novel at times; however, it's all true! Again, check your library or bookstore. I didn't want to put this one down!

Before radio and computers we had the telegraph. The Victorian Internet, by Tom Standage takes you back one hundred and fifty plus years to the invention of the telegraph and how it grew in use in such a short period of time. It traces telegraph networks and how information was routed around the world via the many interconnected telegraph exchanges. If some of this sounds like the Internet in the 1990's – your correct; hence the title. A great summer read.

Why would a radio collector want to read a book about computers? Well this is no "how to" or "dummies" book, this is ENIAC, by Scott McCartney. It's the story of ENIAC, the first digital computer. If that doesn't grab you, it's also of local interest. ENIAC was a Philly invention, U of P to be exact. Also, the thing had 18,000 tubes! That ought to get any collector's attention.

Well, that's a start. I'm certain there are other favorites of fellow collector's out there. Perhaps you can add to the list. I am always looking for a good book to read.

Happy vacationing and good reading.

# Upcoming Events

## Regular meetings

**DVHRC monthly meeting.** August 13, 2002. Telford Community Center. 7:30 PM.

**NJARC monthly meeting.** August 9, 2002. Old Bridge, NJ. 7:30 PM. Check their website at [www.njarc.org](http://www.njarc.org) for more details and directions.

**Mil.-Atlantic Antique Radio Club (MAARC) monthly meeting.** 2:00 PM, Sunday, August 18, 2002, 7th Day Adventist Church, Burtonsville, MD. Check their website at <http://www.maarc.org>

## Swap meets and local hamfests:

**ARCI Radiofest XXI,** August 9-11, 2002. Ramada Hotel, Elgin, IL. Contact ARCI at Box 1139, LA Grange, IL 60526 or e-mail [arc11280@aol.com](mailto:arc11280@aol.com) for info.

**Niagara Frontier Wireless Association,** August 10, 2002. Amherst Museum, Amherst, NY. See May 2002 *OTB* or contact Gary Parzy 716-668-2943 for info.

**Shrewsbury Ham and Computer Swapfest,** August 11, 2002, Shrewsbury Fire Hall, Shrewsbury, PA. E-mail [shrews-swapfest@ycos.com](mailto:shrews-swapfest@ycos.com) or call David KB3CTF at 410-374-9678 for information.

**Jersey Shore Amateur Radio Society "Hamfest at the Shore."** August 12, 2002, Bayville Fire House, Rte 9, Bayville, NJ. Email [HAMFEST@jsars.org](mailto:HAMFEST@jsars.org) for details.

**Ramapo Mountain Amateur Radio Club Hamfest,** August 17, 2002. American Legion, Oakland, NJ

**Antique Wireless Association 41st Conference and Flea Market,** August 28-31, 2002, RIT Conference Center, Rochester, NY. Info at [www.antiquewireless.org](http://www.antiquewireless.org) or 607-739-5443.

**Military Radio Collectors Association** equipment displays and swap meet, September 6-8, 2002, West End Fairgrounds, Gilbert, PA. For info, contact Pete Hamersma, [p.hamers@worldpath.net](mailto:p.hamers@worldpath.net)

**FALL-FEST 2002,** Foundation for Amateur Radio and Columbia Amateur Radio Association Hamfest, September 7 and 8, 2002. Howard County Fairground, West Friendship, Maryland. <http://www.fallfest.com> or e-mail [info@fallfest.com](mailto:info@fallfest.com) for information.

**Kent County (Delaware) ARC Hamfest,** September 8, 2002. Felton, DE.

**(Kutztown) Antique Radio Meet,** September 14, 2002 Renningers, 740 Noble St., Kutztown, PA. (Auction by DVHRC at 11:00 AM on the 14th.) DVHRC picnic and meeting Friday, September 13th starting at 5:00 PM (tentative.) Contact 610-385-0104 for info, also [www.renningers.com](http://www.renningers.com). Auction details, contact any DVHRC board member, see listing *Oscillator*.

That's the list for now. If you know of upcoming events that would be of interest to club members, please let me know. Contact Dave Snellman at 214-345-4248 (leave a message) or e-mail me at [snellman@bucks.edu](mailto:snellman@bucks.edu). Feel free to include hamfests, club related events, flea markets, auctions, or whatever you feel would interest your fellow collectors. Don't be afraid to share!

**DVHRC at Renningers**  
**September 14, 2002**  
**7:00am open**  
**11:00am auction**  
**Audio & Ham Welcome**  
**(Non computer show)**  
**Info 610-944-7230**



# The **AOpen** AX4B-533 Tube Output Computer Motherboard

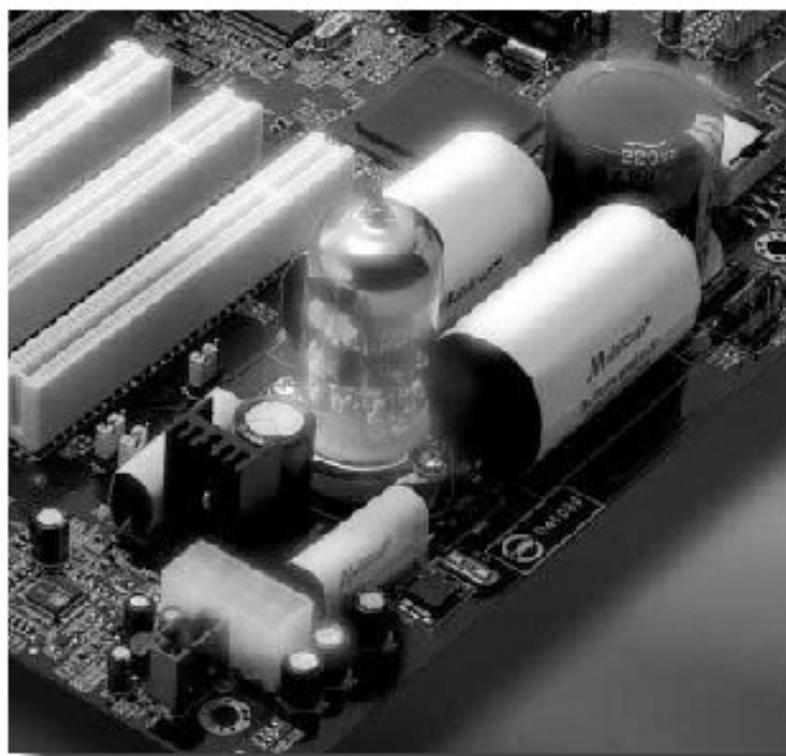
by Dave Abramson

This item came across my desk recently and proved fascinating. It is not often in our hobby that we see a new use for that old favorite, the vacuum tube. AOpen is a computer component maker of about 15 years based in San Jose, CA. They operate through a network of distributors and resellers and sell either the components or complete systems on the Build To Order (BTO) basis.

They have a complete line of home, professional, tower, and notebook computers available. The nearest reseller appears to be Microtek at various locations. I also found a website called [www.myaopen.com](http://www.myaopen.com) that appears to be a direct order site where you can customize your computer with their BTO system. Reviews of their products I found on various audiophile sites were very favorable.

Their main website is [www.aopen.com](http://www.aopen.com)

Searching farther on into the history of this unique item finds that it started as a lark among the company designers. From their June 3, 2002 press release, "We were all together late one night, kicking around lots of crazy ideas when I proposed it would be really cool if we could combine the warmth and depth - tonal realism, if you will - of the sound produced by an audio tube, with one of our state-of-the-art motherboards" says Al Peng, product manager at AOpen America Inc., an audiophile for more than 10 years. "Laughter turned into serious raves a few months later when we did our first lab demo of our unique hybrid creation. The sound that was



reproduced was absolutely amazing. It left everyone stunned. What we realized at that moment was how the limitations of typical audio output from a PC as we knew it, had come to an end - and what we were pioneering was a way to literally combine the best of two audio worlds - old and new."

What they have assembled is a motherboard for the Pentium 4 series of chips with a Sovtek 6922 dual-triode output tube. The audio section is completely high-end using polypropylene and aluminum section caps from Reliable, resistors from Vishay, Cardas audio cables, 24k gold tube base, and a Maxim 688 DC-DC power supply for the audio stage all on a military style, black printed circuit board.

## Aopen AX4B-533 Tube con't.

To combat noise problems, AOpen is using a technology they call Frequency Isolation Wall to shield the audio section from the various frequencies running around in a computer. In a voluminous Adobe PDF file they post on the internet, I found a frequency response chart for the output that runs almost flat from 20hz to above 20Khz at about -19db. They characterize the components in the AX4B-533 as a Class A. I have copies of the PDF file available on floppy discs for anyone who wishes to see it.

They have designed the board so as to be able to use the audio section, using Open Jukebox, without a full booting up of the computer or the operating system. There is a 3.5mm line-in stereo connector, RCA left/right

outputs, headphone output and a S/PDIF digital output on a separate audio card.

They recommend using either small bookshelf speakers with the computer only or using the computer as a pre-amp in to...what else...your classic tube amp.

If you decide to look further in to this item on their website, be sure to look for the **AX4B-533 Tube** motherboard. They have a similar AX4B-533 solid state motherboard that this was adapted from. I did not find the tube version available at the [www.myaopen.com](http://www.myaopen.com) website. In a note

to me from Aopen product manager, Al Peng, he said that response from around the world has been overwhelming.

I suppose that this application might be a bit over the top for anyone who would just want to play their CD's or LP's, although the use as a stand-alone pre-amp could be interesting. I would be more fascinated to hear what this unit does when connected to the internet to listen to streaming audio. Sites like international broadcasters (Radio Sweden in one of my favorites) using RealOne (download this version of RealPlayer...very good...ed.) and home-grown webcasters like [www.live365.com](http://www.live365.com) have some fairly respectable transmissions even at 56k. Cable modem, DSL and T1 lines could be very good. And then there are all of those bootleg MP3 files that are clogging up computers everywhere. Or give your kids a real treat. Just think how all of their computer games will sound in glorious, vacuum-tube powered, speaker shaking sound. And educational for them too.

# Odds and Ends

The Radio History Society and the Radio-Television Museum announce The Nye Estate Auction, Sunday, October 20, 2002 at the Davidsonville (MD) Family Recreation Center, 3789 Queen Anne's Bridge Road. Preview: 10 a.m. Auction begins at 11 a.m. and runs all day.

Only limited food available--bring a sandwich and a drink.

Hundreds of radios to be sold, no reserves or minimums. Consoles, cathedrals, tombstones, Bakelite 1940s sets, Emerson Aristocrat Catalin, 1950s hi-fi gear, test equipment, novelty radios, and more. Lots of Philcos. Bring a truck--consoles galore! All proceeds go to the Radio-Television Museum.>

Directions: From U.S. Rt. 50 between Washington, DC, and Annapolis, MD, exit south on Davidsonville Road (MD Rt. 424) for about 3 miles. Turn right on MD Rt. 214 for 0.7 miles. Bear left on Queen Anne's Bridge Road. Watch for the chain link fence on the left and enter at the first gate. Information - contact Brian Belanger: (301) 258-0708, [hchelanger@aol.com](mailto:hchelanger@aol.com).

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FOR SALE: Huge quantity of Sams Photofacts for sale. Sets 1 through 136 inclusive (covering years 1946 through 1951). Plus sets 713 through 1241 (covering years 1964 through 1972). Sets 1-90 are in 9 original 2-ring black binders with Sams logs on the outside. All are in excellent condition. They are, to the best of my knowledge, complete. \$110 takes all. Contact: John Okolowicz, 624 Cedar Hill Rd., Ambler, PA 19002. Phone: 215-542-1597. Email: [john@grillecloth.com](mailto:john@grillecloth.com)

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