



JUNE 2009

# ZERO BEAT

<http://www.hcra.org>

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June 5th, 2009

6:00 PM

Tail Gate Party & Elections

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## *Field Day Meeting*

Who? All interested in helping plan  
HCRA's Field Day

When? Tuesday, June 2<sup>nd</sup>, 7:00 PM

Where? B'Shara's Restaurant

Riverdale Road, West Springfield

Contact: John, Kx1x, [kx1x@arrl.net](mailto:kx1x@arrl.net)

# The June HCRA Tailgate Party

Our June meeting is the annual Tailgate Party, election of next year's officers and Board members and Field Day planning. We pack a lot of stuff into this meeting and that's way it always a fun and interesting evening.

We start off with the Tailgate Party in the Church parking lot. The setup starts are 6:00 PM. Admission for buyers is always free and the fee for sellers in only \$5.00 per parking space. We will have a limit number of tables available for \$5.00 each. There will be cold soda available for purchase. The Party is open to everyone, and non-club members are always welcome to participate, so bring a friend.

When the weather is good, as I expect it to be this year, its really hard to beat talking with your friends as you checkout each table of goodies or dig through assorted Ham Radio apparatus in someone car trunk. You never know were you'll that part you have been looking for. When the weather isn't perfect, you can find some really great buys! One year I bought a great Variac at a bargain price from KI1A; I'm sure Johnny would tell you that the rain had something to do with the low price!

Don't know what a Variac is or what is useful for? Another great part of the Tailgate Party: You'll get to see radio stuff that you will never see at Lentini's or HRO! And there is bound to be someone there that can tell you everything you want to know about that 52-MHz widget. Its the perfect place to ask questions and learn a little more about our great hobby. If you have an excess of aluminum (i.e. more antennas than rooftop), a seller's ticket at the Tailgate Party is what you need. Just be ready for a small stampede! I have never bought an antenna at the Tailgate Party; they're always sold before I get a chance to make an offer. Antennas really are a favorite item every year. If you have any questions about the Party, contact any of the club officers. You can reach me, George, KC1V, at 860-749-2701 or by e-mail at kc1v@arrl.net.

After the Tailgate Party winds down, around 7:30 PM, we head inside for the "formal" meeting, complete with the standard coffee and donuts and a raffle. Oh, the conversation always continues inside. The first order of business is the election of club officers and Board members for the coming year. We have a slate of willing candidates, but we really encourage any interested club member to toss their hat into the ring. Most of the proposed candidates have already served on the Board or as an officer for multiple years and would be happy to see someone new have a chance to participate. New ideas keep the club fresh and exciting. Don't have any experience being a club being a club Treasurer or Membership Director? That is definitely not a problem. You will find past officers and directors more than willing to help out and provide the mentoring needed to get you off on the right foot and succeed in what is truly an enjoyable part of the Ham Radio hobby. What could be better than working with you fellow Radio Amateurs to insure to continued success of an outstanding club?

There will be a brief update on the Field Day planning activities and a chance to talk with Field Day committee folks about the June 27-28 weekend. Now is the time to get involved and find out how you can help out with this important event. There is plenty of room for more operators, equipment teams and people to lend moral support. And don't forget, we'll have plenty of great food. You'll find all the Field Day details in another article in this edition of Zero Beat.

Its a fun evening and an important meeting for your club - be there!

# What is this "Field Day," Anyway?

The debate continues. Is Field Day a contest? Purists would tell you that Field Day is not supposed to be a contest, but a demonstration of ham radio to the public. Indeed, in the beginning, Field Day was an opportunity for hams to setup in a park, school, or other public location with the prime effort on showing off what amateurs can do "on the air."

But, what is it today? To the neighbors of a field day site, towers with large antennas spring up overnight. Wires connect the trees across open fields. The whirr of generators pierce the usually quiet wee hours of the morning. The same purists say that Field Day is an operating event, not a contest. Others insist that the emphasis of Field day is on the "points" rather than the demonstration of radio. In actuality, the increase in the complexity of the rules makes Field Day rather similar to many of the contests that make a casual HF QSO difficult on weekends.

What makes Field Day different from a contest is, of course, the fact that most operators are working from temporary setups. Operating stations that were not there just 24 hours ago are busily trying to work as many contacts across the US and Canada as they can. And they are not alone-- thousands of similar setups are "on the air" making contacts, logging them on laptops or paper, inside tents, RVs, or pavilions.



What makes Field Day different for the HCRA is the emphasis on the "fun" aspect of the event. Yes, we do try to put up the best stations that we can using the assets that we have at our disposal, but the real reason to attend Field Day the W1NY way is for the good fun, good friends, and good food that has made it the premiere event of the year.



Here is an opportunity for the seasoned ham to show off his operating prowess, and at the same time, it is an opportunity for the new Technician Class operator to discover the thrill of HF operations and working a pile-up. Everyone is invited to participate including HCRA members and non-members, licensed hams as well as non-licensed persons with an interest in radio. We are looking for people to operate our phone stations and our CW (morse code) stations. We are looking for people to help setup and tear down towers and wires. We are looking for people to ask questions about ham radio and spend some time seeing ham radio in action. Everyone is invited and encouraged to participate.

aged to participate.

The HCRA will be working Field Day at Dufresne Park on Rte. 202 in Granby, MA, on June 27<sup>th</sup> and 28<sup>th</sup>. There is no cost to participate. Meals will be provided at a modest charge. You can come for 1 hour or for the entire duration of the event. There are facilities for tenting or small RV camping over Saturday night.

Questions? Contact John Pise, Kx1x, at [kx1x@arrl.net](mailto:kx1x@arrl.net)



## HCRA FD Planning as of May 23

<b>ACTIVE BAND PLAN - Category 6A</b>							
<b>BAND</b>	<b>CAPTAIN</b>	<b>RIG</b>	<b>AN-TENNA</b>	<b>SUPPORT</b>	<b>COMPUTER</b>	<b>GENERATOR</b>	<b>HOUSING</b>
75 SSB	Kx1x <1>	IC-746 (1x)	Dipole (SR)	Trees	Laptop (1x)	?	FABmobile (SR)
20 SSB	""	""	Beam (NY)	AB577	""	?	""
40 SSB	K1KAA <2>	TS-440S (KAA)	Moxon (NY)	Trees	Laptop (KAA)	?	?
80 CW	N1FJ <3>	IC-746 Pro	Dipole (SR)	Trees	Laptop (FJ or DBY)	?	Popup (DBY)
20 CW	""	""	Beam (NY)	AB577	""	?	"
40 CW	KK1W <4>	IC-756 Pro II	Dipole (1V)	Trees	Laptop (1W)	?	Popup (1W)
15 CW	K1JAW <5>	Ele- craft K1	Dipole	Trees	Paper	Solar Powered	?
10/15 SSB	?	?	Mosley TH-3jr	AB577	?	?	?
All Band Digital	KB1PKJ <6>	FT-450 (PKJ)	(?)	Trees	Laptop (?)	?	?
GOTA (WB1Z)	?	?	?	?	?	?	?
Natural Power Station	Part of 15M CW						
VHF/UHF	?	?	?	?	?	?	?
Satellite	?	?	?	?	?	?	?



# Field Day Raffle

## You win—you choose!

We're repeating our popular Field Day raffle this year, but with a twist!  
The winner can choose one of two great prizes. (no, you can't have both)!



You pick either of these great  
Yaesu radios.

*The popular VX-150R HT (shown on  
the left) is a 5 watt HT with recharge-  
able batteries & charger*

OR

*The powerful FT2800M, 2 meter mo-  
bile rig with DTMF microphone and a  
whopping 65 watts output!*



Tickets go on sale at the HCRA Tailgate Party, June 5th.  
Tickets are \$5 each or a book of 5 for \$20. A maximum of 75 tickets will be sold.  
Drawing will be held at 1:00 PM, Sunday, June 28th at Dufresne Park (just before the end of Field Day)

WE NEED  
YOUR SUGGESTIONS

We are asking for your sug-  
gestions and ideas for future  
HCRA meetings. The recent  
success of HCRA has been, in  
part, because of its interest-  
ing and timely  
key speakers and topics.  
If you can help,  
please contact  
Jim, KK1W at [kk1w@arrl.net](mailto:kk1w@arrl.net)

2009  
Boston Marathon Ham  
& Red Cross Volunteers

Frandy, N1FJ in yellow on right



## From the Shack...



### Are you ready for the Tail Gate Party?

It is June, a time of weddings, school closings, Field Day and of course the HCRA Tail Gate Party! Just what exactly is the HCRA Tail Gate Party you ask? Well, it is a low key, inexpensive way, to buy, sell or just plain have a good time with your favorite friends. If you have something to sell bring it to the party! Spots in the parking lot are only \$5. You get the chance to layout your wares on your 'tail gate' (bring a table or a blanket if you don't own a pickup truck) and leave at the end of the evening with some cash in your pocket.

Buyers, you get in for free (it doesn't get any better than that) and you get the chance to walk around, look at all the stuff, chat with your friends, partake of some coffee, soda and donuts and all-in-all have a good time. It is also worth mentioning that buyers or sellers don't need to be members of HCRA. This event is open to everyone with the hope we can attract some new folks to our club and our hobby.

Got stuff you don't need but really don't want to spend the time to tail gate? Why not put it on the club table with a price (or even better donate it) and we will sell it for you and only take a mere 10% for the service. And you go home feeling better you were able to help out your favorite radio club. Cool, eh?

Setup is at 6:30 PM (an hour earlier than usual), the club meeting and annual elections will start around 7:30 to 7:45. See you there!

### Field Day – Will you be part of the excitement this year?

Do you have June 27<sup>th</sup> and 28<sup>th</sup> blocked out on your calendar? If not, do it now so you don't miss Field Day 2009 with HCRA. If you've participated in the past then you know what to expect. If you're new to HCRA or ham radio then let me briefly run down what's going on.

ARRL Field Day is the premier operating activity in amateur radio. It is an emergency preparedness exercise, an operating event (not quite a contest) and a chance to show off our abilities to the public – all rolled into the last weekend in June. Here's what the ARRL has to say about it:

***Where the spirit of "Amateur Radio Past" joins forces with the Next Generation of Innovations, Interests and Individuals!!!***

***ARRL Field Day is the most popular on-the-air operating event in amateur radio. On the fourth full weekend in June, tens of thousands of amateur radio operators gather for a public demonstration of our service. Field Day is part educational event, part operating event, part public relations event – and ALL about FUN!***

*Amateur radio is about knowledge and growth. It is a hobby and service that truly offers "something for everyone." Amateur Radio embraces both the old and new. While CW may no longer be a testing element, it is still a strong and favorite operating mode for many. Tens of thousands of operators are embracing digital technologies, from RTTY to newer digital modes like PSK31 and Olivia. Phone operation, probably the largest segment of the hobby, also has new frontiers to be explored with digitized voice, VOIP, and IRLP. And this is why Field Day – the largest annual on-the-air operating event – is so exciting. It gives all – the old timer and the newcomer, the brass-pounder and the computer assisted operator – the chance to share and teach the broad range of modes and technologies we find in our hobby.*

*Field Day is truly the time in which we bring amateur radio to Main Street USA. By setting up in parking lots, malls, Emergency Operations Centers, parks and even at home, amateur operators learn skills that will allow them to better serve their communities. Setting up in these public venues gives added public relations value – their friends and neighbors can see and experience the fun and public service capability that their "ham radio" neighbors bring to the community.*

*Join in the fun! For more information on amateur radio and the ARRL – the national organization for Amateur Radio – visit [www.arrl.org](http://www.arrl.org)*

Sounds pretty interesting, doesn't it? At HCRA we take Field Day very seriously, but always with the idea of having as much fun as possible. We have chosen Dufresne Park in Granby, MA again this year for our location. John, Kx1x is the Field Day Chairperson and he will be surrounded by volunteer helpers, band captains, tower erectors and more. Even though we are well along in the planning stage we always have room for more. More operators, helpers, rag chewers, technical experts, and comedians are always welcome. We operate under the club call of W1NY and hope to be on the air with at least seven stations again this year. Phone (SSB), code (CW) and digital (PSK31 and more) will be on the air from 80 to 10 meters. A great meal will be cooked up and served by Jim, NN1Y and his helpers to keep the troops' energy level high for the entire 24 hours. Ed, KB1NWH will be handling tower and antenna erection and Tuc, N1QFT will be in charge of generators. And that's just the start!

We are still looking to fill a few specific positions and of course EVERYONE is welcome to operate, log or whatever. If you would like to help out with getting the word out to the press we are in need of a Public Information Officer. Like to operate? We could use a band captain for a 10 & 15 meter station (phone or CW) and a band captain for VHF. If you would like to do 10 and 15 meters we can provide you with a tower, a tri-bandner and genera-

tor. Sound like fun? Contact John now so he can get you on the list. We also need some equipment, specifically a few generators and perhaps a screen house for the 40M SSB station. Can you help?

Still not sure what this is all about? Take a look at the Field Day pages on our web site (<http://www.hcra.org/fieldday.htm>) and see what we have done in years past. Here is a chance to be a part of a winning team! HCRA has placed #1 in the Western Massachusetts section for many years and very near the top nationwide. This is a fine example of how to have fun AND be successful at the same time.

Field Day is the perfect time to introduce amateur radio to a friend or co-worker. Although it is a club event everyone is welcome, members and non-members alike. It isn't even necessary to hold a license to be able to operate. Know of someone you think would be excited about amateur radio? This is THE time to bring them along. So don't miss it, otherwise you will have to wait another whole year before you can this much fun. See you there!

#### Elections – are you ready to make a change?

The June meeting is when we vote on the slate of club officers/directors for the new season. Wouldn't you like to be part of the team guiding the club to new horizons? Although we have a full slate (see the details elsewhere in this issue) I believe we really would benefit from some 'new blood' in our board of directors. Many of us have been around quite a while and would be more than willing to relinquish our seat to you. Having new faces promotes new ideas, increased enthusiasm and overall adds great benefit to HCRA.

The requirements are few, but important. All you need is a love of our hobby and our club and a genuine desire to try to guide HCRA down a path of increased excitement and activity. The time commitment is small but the rewards are exceptional. Does making amateur radio more fun for everyone sound good to you? Then you are already a candidate, we just need to know who you are!

Please, now is not the time to sit on the sidelines. If you do another year will pass before you can be a promoter of change. Like society as a whole we are faced with a new set of challenges this year. Different folks, new ideas, we need them all. So don't wait, do it now! Contact any board member or me directly and we can certainly get you on the slate in time for the election.

'73...  
Jim, KK1W

### Have you tried IRLP yet?

IRLP is the Internet Radio Linking Project, connecting radios over the Internet. With your 2m radio, you make contacts all over the world. HCRA sponsors an IRLP node, in South Hadley, MA. It is there for your use, please give it a try (at least turn it on and listen) 146.46 simplex, 114.8hz PL Kx1x, Node #7270, South Hadley, MA.

For a list of IRLP nodes and other IRLP information, go to:  
<http://www.irlp.net/>

*Questions, Comments, and Suggestions  
Can Be Directed To:*

## HCRA OFFICERS

### President

*Jim Mullen, KK1W*

*(413) 245-3228 [kk1w@arrl.net](mailto:kk1w@arrl.net)*

### Vice-President

*John Pise, KX1X*

*(413) 532-7474 [kx1x@arrl.net](mailto:kx1x@arrl.net)*

### Treasurer

*George Collins, KC1V*

*[kc1v@arrl.net](mailto:kc1v@arrl.net)*

### Secretary

*Ed LaCombe, KB1NWH*

*[kb1nwh@comcast.net](mailto:kb1nwh@comcast.net)*

## HCRA DIRECTORS

### At Large

*Irv Slitsky, W6IS*

*[w6is@arrl.net](mailto:w6is@arrl.net)*

### Program

*Open—your name here!*

### Membership

*Dave Cain, AA1YW*

*[aa1yw@arrl.net](mailto:aa1yw@arrl.net)*

### Zero Beat Editor

*Larry Krainson, WB1DBY*

*[wb1dby@arrl.net](mailto:wb1dby@arrl.net)*

### Technical

*Jim Whitehouse, K1JAW*

*[k1jaw@yahoo.com](mailto:k1jaw@yahoo.com)*

## STATION TRUSTEES

### W1NY Trustee

*Don Johnson, W1UPH*

*(413) 566-3560 [w1uph@arrl.net](mailto:w1uph@arrl.net)*

### WB1Z Trustee

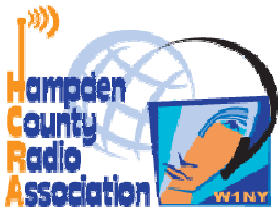
*Jim Mullen, KK1W*

*(413) 245-3228 [kk1w@charter.net](mailto:kk1w@charter.net)*

### IRLP Trustee

*John Pise, Kx1x*

*(413) 532-7474 [kx1x@arrl.net](mailto:kx1x@arrl.net)*



# 2009/2010 Election

It is with great pride we present the following slate of proposed officers for the 2009/2010 Elections. Approval of this slate will be at the June 5th club meeting.

There is still time to toss your hat in the ring. Although all positions are filled there are a few board members that could be 'convinced' to step aside and let some new ham have a hand in guiding our club. If you feel you have something to contribute to HCRA please contact the board before June 1st.

Now on to the slate:

<b>2009/2010 Slate of Proposed Officers &amp; Directors</b>	
<u>Officers</u>	
President	Jim Mullen, KK1W
Vice President	John Pise, Kx1x
Treasurer	George Collins, KC1V
Secretary	Mike Lavery, KB1PKJ
<u>Directors</u>	
Editor	Larry Krainson, WB1DBY
Technical	Dave Cain, AA1YW
Membership	Ed LaCombe, KB1NWH
At Large	Irv Slitzky, W6IS
Program	Jim Whitehouse, K1JAW

Thanks to all of the above that have volunteered their time for the betterment of HCRA and its members. Without hams like you our club would not be as strong, active or fun as it is today.

Join NCS, Tom Doyle (n1muv),  
each Monday night at 7:30 PM (local) on

**28.375 MHz**

Get the latest local word, join good friends,  
take part in good conversation each week!!!  
Anyone can join in, don't be shy!!!



## Frandy's NEQP 2009 Learning Adventure

Buddy Pole "beaming" to Cape Hatteras and Florida over the Atlantic Ocean about 200 yards from the QTH on Nantucket & N1FJ with borrowed Yaesu 897. ("The least user friendly transceiver known to man" actually worked pretty well.) S9 noise on 20 meters didn't help much. (No problem on 80 meters, though! Why?) That tower about 1 mile away is a Loran C, I just found out. 90-110 KHz. I think their main modulation is hash. 1 megawatt? (Or is it 4 megawatts?) Back to the old drawing board! I guess it may have been a miracle I could hear anyone at all. (Loran A, which I occasionally worked on in the Navy, pretty much used the 160 meter ham band.) (Maybe I can get my wife's uncle to buy a place on the other end of Nantucket? :-))

67 cw and 10 Phone QSOs. I was hoping for 200 total. Got discouraged and left the island at noon Sunday. Next year: I'd rather work N4PN from 67 different counties, I think. (Okay, Paul?) A sunspot or two would help. (It reminded me of the times at W1AW recently -- calling CQ and having no one come back to W1AW? Horrors!)

Accomplishments: learning out how to get the 897 up and running. Successfully using Buddy Pole and MP1 antennas. (Note: the sun wasn't really shining...) Learning out how to program the "Code Cube" for the Palm Radio paddle. (But not in time to use it for NEQP. Got lots of practice sending!) Since it was raining most of the time, changing bands on the antennas was a pain. Maybe the MP2 motorized tuning version of the MP1? Oops, no 80 meters. I think I'll go back to a random wire with my AH-2 or my AH-4...

Spent about \$225 out of pocket, plus 330 miles on the car. (50.5 mpg on the way back at 60 mph in my Honda Civic Hybrid.) Included one night in motel near the cape, so I would have time on the island to get things up and running. I needed it!

Thanks to Larry, WB1DBY, for loan of most of the equipment I used. Now, the K-3 would make a nice portable rig, Larry...

73,

Frandy, N1FJ

**Zero Beat Contributions:** Anything of interest is welcome. This is YOUR Newsletter. It's not interesting without YOUR ARTICLE SUBMISSIONS.

Please submit your ideas, articles and more to [wb1dby@comcast.net](mailto:wb1dby@comcast.net). Thank you,  
Larry, WB1DBY, Zero Beat Editor

# A Tale of Two Tubes

## By Dan Romnanchik, KB6NU

A couple of weeks ago, I worked N4QR on 40m CW. I could tell by the tone of his signal that he was operating a home-brew transmitter. There wasn't any 60 Hz on his signal, and it didn't chirp exactly, but I could tell it wasn't the pure tone you get out of today's radios.

I asked him about his rig, and he told me that it was a one-tube transmitter made with a 6L6. I forgot to ask him where he got the schematic, but a quick Internet search turned up the following:

- \* The May 2005 issue of the K9YA Telegraph (<http://www.k9ya.org>) has an article written by N4QR titled, "The Wonderful One-Tuber," that contains the schematic for the transmitter. The K9YA folks don't make issues of The Telegraph available on their website, but I was able to get a copy of the issue by e-mailing them.

- \* A 6L6 Classic (<http://www.io.com/~nielw/6l6/6L6.htm>)

- \* WB2MIC 6L6 Transmitter Project ([http://www.metaphoria.us/hamradio/6L6\\_transmitter\\_schematic.htm](http://www.metaphoria.us/hamradio/6L6_transmitter_schematic.htm))

The 6L6 is a pentode that, according to Wikipedia (<http://en.wikipedia.org/wiki/6L6>), was introduced by the Radio Corporation of America (RCA) in July 1936. Apparently, it was used quite a bit in public address systems.

After the tube became successful, tube manufacturers introduced a number of variations, including the venerable 807. The original 6L6 was capable of delivering 19 W; the latest variation, the 6L6GC is rated for 30 W. The 6L6GC is still used in guitar amps, and is still manufactured in Russia, China, and by Groove Tubes ([www.groovetubes.com](http://www.groovetubes.com)) in the U.S. They sell a number of different 6L6 variants; the cheapest is \$16, the most expensive \$180!!

### Tube #2

One of the reasons I was interested in the 6L6 is because about a year ago I came across a schematic for a transmitter using 6A6 dual triode. I had just come into possession of a couple hundred tubes, and while I didn't have a 6A6 (at least I haven't found one yet), I do have a couple of 6J6 dual triodes. They're not quite as high power as the 6A6, but I'm still thinking about building a little transmitter with one.

As you might expect, there's a bunch of information on the Internet about this tube:

- \* The Jones Push-Pull Transmitter ([http://wv7g.home.mindspring.com/jones\\_6j6.html](http://wv7g.home.mindspring.com/jones_6j6.html)) was built with a 6J6 instead of a 6A6.

- \* Another schematic can be found on the AKOB website (<http://www.qsl.net/akOb/>).

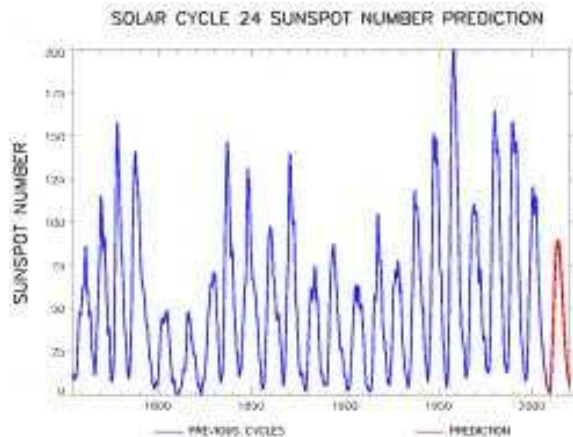
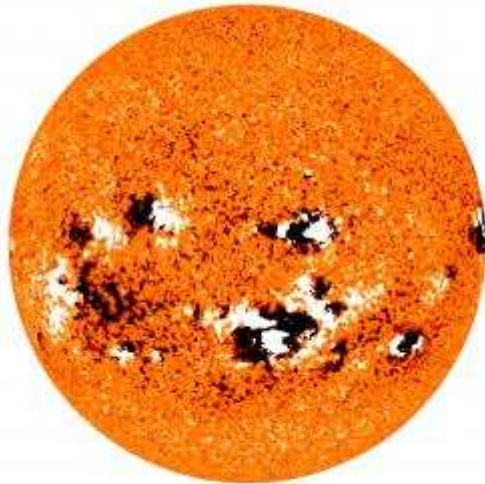
- \* 6J6 data sheet (<http://www.gargnas.net:3000/tubedata/6J6.pdf>) from the GE data book.

One interesting fact about the 6J6 is that IBM used it in the 604 computer. Unfortunately, they found it to be not as reliable as they wanted it to be, but at first none of the tube manufacturers were interested in making a more robust version. This led IBM to set up a tube-making laboratory where they could experiment with designs. They developed a more reliable version of the 6J6 and finally convinced RCA to manufacture the tube. According to the author of the history of the 604 (<http://ed-thelen.org/comp-hist/IBM-604.html#new>), part of the concern is that IBM would decide to get into the tube business.

So, the next time you hear a signal that doesn't sound so perfect, remember that there just might be a story behind it. Ask the op about his transmitter, and listen to what he or she has to say.

When not pondering the mysteries of vacuum tube part numbers, KB6NU teaches ham classes, works CW on the HF bands, and blogs about ham radio at <http://www.kb6nu.com>.

## Scientists Predict Solar Cycle 24 to Peak in 2013



This October 2003 (Solar Cycle 23) photo shows an abundance of sunspot activity during a solar storm. Unfortunately, scientists are predicting a weak Solar Cycle 24 and we probably won't see activity like this for some time. [Photo courtesy of NOAA]

Scientists predict that Solar Cycle 24 will peak in May 2013 with 90 sunspots per day on average. [Graph courtesy of Space Weather Prediction Center]

At the annual [Space Weather Workshop](#) held in Boulder, Colorado last month, an international panel of experts led by NOAA's Space Weather Prediction Center ([SWPC](#)) predicted that Solar Cycle 24 will peak in May 2013 with 90 sunspots per day on average. If the prediction proves true, Solar Cycle 24 will be the weakest cycle since Solar Cycle 16 which peaked with 78 daily sunspots in 1928, and ninth weakest since the 1750s, when numbered cycles began.

The panel predicted that the lowest sunspot number between cycles -- the solar minimum -- occurred in December 2008, marking the end of Solar Cycle 23 and the start of Solar Cycle 24. If [December's prediction](#) holds up, at 12 years and seven months Solar Cycle 23 will be the longest since 1823 and the third longest since 1755. Solar cycles span 11 years on average, from minimum to minimum.

An unusually long, deep lull in sunspots led the panel to revise its 2007 prediction that the next cycle of solar storms would start in March 2008 and peak in late 2011 or mid-2012. The persistence of a quiet sun also led the panel to a consensus that Solar Cycle 24 will be what they called "moderately weak."

Although the peak is still four years away, a new active period of Earth-threatening solar storms will be the weakest since 1928. Despite the prediction, the scientists said that Earth is still vulnerable to a severe solar storm. Solar storms are eruptions of energy and matter that escape from the Sun and may head toward Earth, where even a weak storm can damage satellites and power grids, disrupting communications, the electric power supply and GPS. A single strong blast of "solar wind" can threaten national security, transportation, financial services and other essential functions.

The most common measure of a solar cycle's intensity is the number of sunspots -- Earth-sized blotches on the sun marking areas of heightened magnetic activity. The more sunspots there are, the more likely it is that solar storms will occur, but a major storm can occur at any time.

"As with hurricanes, whether a cycle is active or weak refers to the number of storms, but everyone needs to remember it only takes one powerful storm to cause huge problems," said NOAA scientist Doug Biesecker, who chaired the panel. "The strongest solar storm on record occurred in 1859 during another below-average cycle." The 1859 storm shorted out telegraph wires, causing fires in North America and Europe and sent readings of Earth's magnetic field soaring, as well as produced northern lights so bright that people read newspapers by their light, he said.

Biesecker cited a [recent report](#) by the National Academy of Sciences that found if a storm that severe occurred today, it could cause \$1-2 trillion in damages the first year and require four to 10 years for recovery, compared to the \$80-125 billion of damage that resulted from Hurricane Katrina.

The Space Weather Prediction Center is part of the National Weather Service and is one of the nine National Centers for Environmental Prediction. It is the nation's official source of space weather alerts, watches and warnings. SWPC provides real-time monitoring and forecasting of solar and geophysical events that impact satellites, power grids, communications, navigation and many other technological systems.

Page author: [awextra@arrl.org](mailto:awextra@arrl.org)

Meeting Location:

Meetings are held at the  
Feeding Hills  
Congregational Church

21 North Westfield Street  
Feeding Hills, MA 01030.

*Parking is in back of the  
church.*

*Access is HP accessible.*

**Next Meeting:  
Friday Night**

June 5th, 2009 —

**6:00 PM**

**Tail Gate Party  
& Elections**



The Hampden County Radio Association  
P.O Box 562  
Agawam, MA 01001



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