Sidebands

The Newsletter of the EAST GREENBUSH AMATEUR RADIO ASSOCIATION

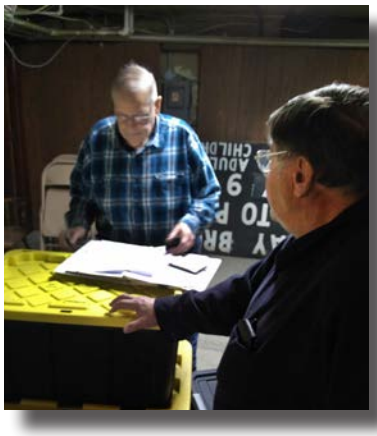
www.egara.club

May 2019

2019 Hamfest Shaping Up as Biggest & Best Ever

With a total of 16 major sponsors on board, this year's 16th annual EGARA Hamfest is promising to be an outstanding event when it kicks off on Saturday morning, May 11th.

Among the highlights planned for the day are prizes and giveaways totaling over $2,100 -- including a Grand Prize of a brand new Yaesu FT-891 HF/6 meter transceiver. Other prizes include BTech tri-band HT radios, a linear amplifier, a communications speaker system, and gift certificates from the ARRL, Ham Radio Outlet, DX Engineering, Bird RF, West Mountain and other leading Amateur Radio suppliers. In addition, KJI Electronics and Mastrant Antenna Guying Systems plan to be on-site along with a number of regional vendors of ham gear and supplies. This year's Hamfest sponsors are listed on page two.



Steve and Tom take an inventory of Hamfest supplies in preparation for this year's big event

"We have terrific success in attracting sponsors this year and each has been generous in providing us with items for giveaways and raffles," said Treasurer Bryan Jackson, W2RBJ. "Their support has made all the difference in helping to build a Hamfest that will be second to none in the upstate New York region."

During the club's April meeting, plans were finalized and staffing assignments were made. Setup will begin Friday, may 10th at 6 pm, with the transport of Hamfest supplies from the Masonic Lodge to the East Greenbush Fire Department on Phillips Road. On Saturday, work at the pavilion will start at 5:30 am, with vendor tables being arranged, kitchen preparation begun, admission booth setup and signage displayed. An added feature this year will include setup of Special Event station W2EGB operated by Chris Linck, N2NEH, who will also handle talk-in duties. Admission to this year's Hamfest remains at $6 and includes free tailgating. Vendor table pricing also remains the same as last year at $20 per table.

Final preparations for the Hamfest will be discussed at the club's monthly membership meeting on May 8th.

In This Issue

EGARA Elections Return Incumbents to Office

With all of the club's officers running unopposed, the EGARA membership unanimously returned all of the incumbents to another one-year term in office. For President Tom Scorsone, KC2FCP, it marked his 16th year in office.

Also returned to their posts were Vice President Nick Field, KD2JCR, Secretary Steve VanSickle, WB2HPR, and Treasurer Bryan Jackson, W2RBJ.

"I am deeply grateful to our members for giving us the opportunity to serve them and our club for another year," said Scorsone. "We've grown over the years, and We look forward to continuing to find new and better ways to serve our members.

Board members were elected last year and serve three year terms.

Next EGARA Meeting - May 8th - Final Hamfest Planning

EGARA 2019 Hamfest Sponsors

KJI Electronics
SERVING AMATEUR RADIO SINCE 1978
www.kjielectronics.com

West Mountain Radio
www.westmountainradio.com

BAOFENG TECH BaoFeng Radios
www.baofengtech.com

MFJ
www.mfjenterprises.com

Please show our sponsors your support and appreciation when shopping for your Ham radio gear and accessories!

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www.N3FJP.com

MASTRANT ANTENNA GUYING
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The RF Adapter Guy
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MTC
WWW.MTCRADIO.COM

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LDG
www.LDGElectronics.com

Quicksilver Radio
www.qsradio.com

Thoughts on Hosting a REALLY BIG Party

This year, 2019, marks the 15th year of the EGARA Hamfest. Conceived by Tom Scorsone, KC2FCP, along with fellow members of EGARA, this year's hamfest promises to be the biggest and best -- ever! Tom's idea was to bring the local ham community together in the springtime, to share ideas, swap gear, tell tall tales – and to have some good food, too!

Things have changed – a lot – from those early years. Hot dogs cooked by one man (Tom) on a re-purposed charcoal grille has evolved to a well-staffed kitchen crew, working over two flat top griddles, offering a breakfast and lunch menu featuring a variety of tempting foods. One thing has not changed – Tom still keeps an eagle's eye on the kitchen to ensure that his high level of quality, cleanliness, and wholesomeness is maintained.

The Hamfest is still held in its original location – the East Greenbush Fire House Pavilion on Phillips Road. The tables usually sell out rapidly, but there is a large paved lot for tailgaters.

Hundreds of man-hours are spent in planning and executing the various activities that make up the hamfest events: parking, ticket selling, cooking, table coordinating, vendor and sponsor communications, set up, tear down, clean-up – to name but a few. In fact, the planning for Hamfest 2020 will begin right after this year's hamfest is "in the books".

All of this would not be possible without the commitment of many EGARA club members who donate their time and labor to pull this off. I am always in awe that the club is able to make this happen. Imagine – if you were to host a party – partly outdoors—and not have any idea how many people were coming – knowing that every one of the hams in the area was invited? Well, that is exactly what happens!

So – why Hamfest?? As already mentioned, it's a great way to bring the local ham community together for the camaraderie, the food, and the ultimate ham radio shopping/buying spree. Along with the chance to win some really big prizes. I am looking forward to calling the numbers of the winning ticket holders for prizes totaling over $2,100 this year!

I sincerely hope that everyone can make it to the Hamfest this year – it's a great way to spend your Saturday and have some fun! See you there.

73,
-- Steve Vansickle, WB2HPR

The East Greenbush Amateur Radio Association Mourns the Passing of its Longtime Member

Anthony "Tony" J. Pazzola, Jr.

1948 - 2019

W2BEJ

SK

HAM Radio Network Keeps Capital Region Commuters Rolling Along

By Pamela Reese Finch

It's not cellphones or the Internet, but 127-year-old technology that helps to ease the burden of commuting around the Capital Region.

Jock Elliott of Troy coordinates the Capital District Commuter Assistance Network, a group of volunteer amateur, or Ham, radio operators who provide information about travel hazards in an effort to ease traffic congestion. Commuter Net, as it's called, is a 20-year-old system that has sustained itself without dues, bylaws or regular meetings.

"When I started, I felt that if it were my wife or son out there, I would want there to be somebody to help," said Elliott. "I got involved as a participant in 1997, and one day, I found myself thrust into being net controller."

"Dawn patrol," as he calls it, means waking up each day at 5:30 a.m. to feed the household pets before initiating the network at 6 a.m. The commuter network operates for 2 1/4 hours during the morning, and no day is ever the same. Time can range from blissfully boring to frantic, he said.

Jock Elliott, KB2GOM, of Troy coordinates the Capital District Commuter Assistance Network each weekday morning.

The control center receives traffic information via radio and relays it to the proper authorities and the Traffic Management Center in Latham. Unlike cellphones, the radios do not cause a driving hazard and Commuter Net volunteers are trained to provide detailed information, such as landmarks like mile markers that help authorities determine the exact location of the hazard.

Elliott stressed volunteers must adhere to two rules: "Don't cause anything" and "When in doubt, report."

MIke Alecksynas of Columbia County is a longtime Ham radio operator who feels Commuter Net is just another extension of his passion for public service. He joined the network after retiring from his local volunteer fire department and rescue squad. Compared to Elliott, he is relatively new to Commuter Net, becoming involved four years ago, after he heard someone checking in on Interstate 90.

"Someone called in an incident to Jock and the radio, and Jock got ahead of the traffic Alecksynas recalled. "I drive my wife back and forth to St. Peter's [Hospital in Albany] every day and decided to be part of it… There are some areas where a radio signal will get through when nothing else will."

Alecksynas said he thinks of Computer Net as "another set of eyes" for commuters.

"We stay out of the way," he said. "We don't want to tie up traffic."

He and Elliott both stressed that "rubbernecking, as it is called, leads to traffic slowdowns and, typically, additional accidents that further complicate a situation.

"A vast majority of the calls we deal with are disabled vehicles, and most of the time they are not life-threatening." Elliott said.

The Capital Region Planning Commission's statistical report for 2015 found that driving is the most often-used method of transportation to work, accounting for 80 percent of the area workforce. An average day for Commuter Net brings one or two incidents and 26 check-ins, Elliott explained.

He estimates between 100 and 200 people have been involved with the network throughout its two decades.

"A lot of people have good hearts and want to do something, but they are not trained," Elliott said. "My guys are and can provide the exact number and mile marker, so help is sent to the appropriate location."

Note: This story originally appeared in the Troy Record.

Does Shortwave Have a Future?

It plays an important role and can still go a long way

By Ruxandra Obreja, Chairman of Digital Radio Mondiale.

When is the last time you heard a shortwave radio transmission? And why should you put up with possible crackly audio and some interference when we have now internet, satellites, FM and all forms of digital radio?

This holds true if you are in London, Boston, Paris or Toronto. But what if you are on an island in Indonesia, or find yourself in west China, in Kashmir or in Brazilian Amazonia? Because, whether we like it or not, there are several remote places in this vast world, many of which still depend on shortwave broadcasting.

In the past (think the Cold War) a lot of people were able to obtain free information from the international shortwave program. Many international broadcasters were running expensive, energy-guzzling transmitters for this frequency band "without borders" that ranges from 1.7–30 MHz (176.3–10.0 m), from the high end of the medium frequency band just above the medium wave AM broadcast band, to the end of the HF band.

Ruxandra Obreja

Shortwave is just short of a miracle, actually. When it is beamed at an angle, it hits the ionosphere. A mirror around the Earth and then it falls like a ball at great distances, beyond the horizon. Thus these transmissions reach listeners over large areas, continents and beyond. Two or three high-power transmitters can potentially cover the entire world.

Shortwave is used not just by international radio stations or radio amateurs but is also essential for aviation, marine, diplomatic and emergency purposes. Shortwave signals are not restricted or controlled by the receiving countries and, as frequencies change in winter and summer, they need to be coordinated internationally.
The Woofferton transmitting station in the United Kingdom. Photo courtesy of Neale Bateman

This is the task of the High Frequency Co-Ordination Conference (HFCC), a non-governmental, non-profit association, and a sector member of the International Telecommunication Union (ITU). This group meets twice a year to produce a coordinated schedule for a summer and winter season, ironing out any interference issues among countries or broadcasters. At their recent meeting last month, they also discussed — once again — the future of shortwave.

Nobody can deny that shortwave goes beyond geographical, cultural, religious, political barriers, is free and can be consumed anonymously, which few platforms can claim nowadays. About 20 years ago, the BBC decided to cut its shortwave transmissions to countries such as the United States and other developed parts of the world, since these territories, or rather "markets" were served by FM and the internet etc. Other important international broadcasters, including Deutsche Welle, Radio Australia and Radio Exterior de Espana soon copied this model..

But the BBC kept shortwave for its large audiences in Africa and part of Asia. At the moment the major shortwave broadcasters are BBC, Voice of America, All India Radio, China Radio International, Radio Japan, Radio Romania, KBS Korea and Voice of Turkey and many more.

Twenty years after the first big blow to shortwave, this frequency band and its potential is being revisited. After all, not all the listeners in the world have broadband, smart phones, data plans, connected cars or enough disposable income. And analog radio in general continues to be resilient: a third of households in the United Kingdom don't have a digital radio (DAB penetration has reached 64 percent). That is 25 years after the first DAB broadcasts started in London in 1993), and almost 20 years after the commercial players join in.

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The Future of Shortwave Broadcasting...

Shortwave has been put on the agenda again as some of the old transmitters needed to be replaced or upgraded. Meanwhile it has become digital and this means more efficient transmitters and significant energy savings of up to 80 percent compared with the old analog. No wonder most of the analog shortwave transmitters sold today are DRM-capable or ready.

In 2019 the BBC is still on shortwave and has large audiences in countries like Nigeria, having recently introduced new shortwave transmissions in additional languages. In Australia there was recently a wide consultation on the possible reintroduction of shortwave for the many Pacific islands depending on the services of Australian broadcasters, which had rushed to close down good shortwave facilities in the pursuit of internet and local digital.

Koode Radio International, a new shortwave program with considerable goals, has begun broadcasting to much of Western Africa from its base in Nigeria.

Radio Exterior Espana has doubled its transmissions since October, adding other languages than just Spanish to its schedule. Radio Moscow, the blunt propaganda tool of the Cold War, has been transformed into the sleek Radio Sputnik. And Radio China has quietly upgraded some of its many shortwave transmitters for domestic use and is now covering practically the whole country with digital (DRM) shortwave signals.

Digital Radio Mondiale was originally invented to offer medium (AM) and large coverage (HF) and the advantages of the good audio quality and extra multimedia services that can take shortwave into the 21st century. Maybe DRM was ahead of its time.

The new shortwave service to Africa is transmitted from facilities located in Issoudun, France

The phasing in of digital broadcasts internationally was not in tandem with the production and sale of receivers, which remains a regional and national business. Since its birth DRM has proven that it is a suitable option for shortwave offering an good digital quality of audio and even short live video at great distance without fading and crackly sound.

Now, at last, there are DRM receivers capable of receiving shortwave, there are broadcasts and interested broadcasters. Quietly and surely shortwave is being re-examined and appreciated for the quality of broadcasts and its potential as a “crisis radio” too. It can become crucial in emergencies when local and regional radio stations, satellite and internet may be off the air due to damage. Broadband is getting cheaper but is limited, 5G will come but not just yet, digital shortwave is here.

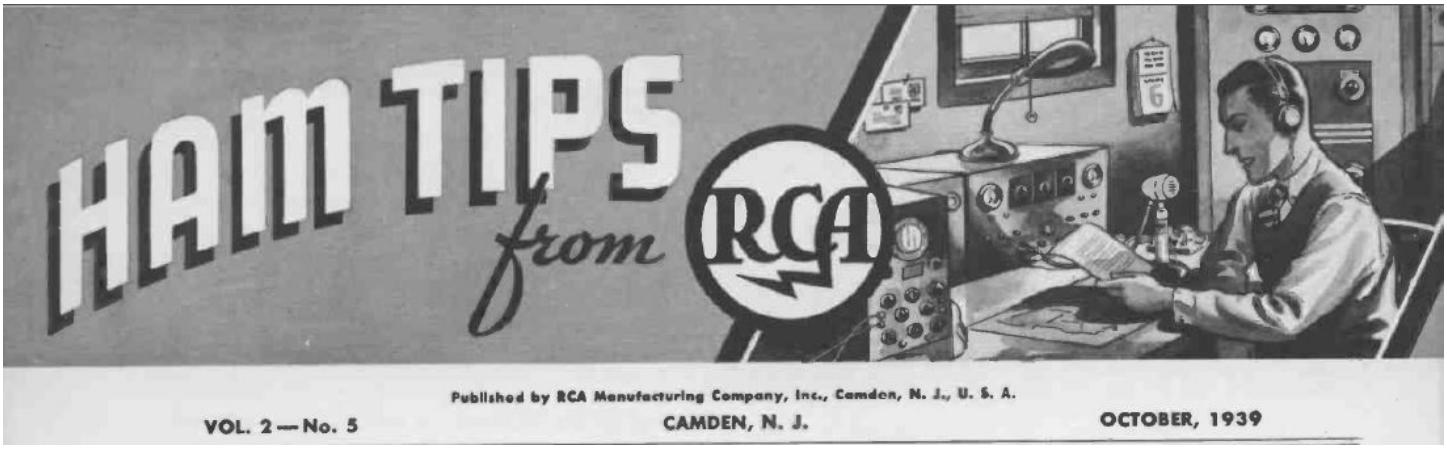
The golden age of analog shortwave broadcasting is probably over. However the band has an important role and great potential. It needs to be appreciated and examined with an open mind as there now seems to exist a true alignment of national interests, technical possibilities and receiver availability, which could give shortwave a new lease on life as a viable and unique platform.

The Venerable 811

Introduced in 1939, it's Still Powering Gear Today

This year marks the 80th birthday of the 811 vacuum tube. Yet open any brand new Ameritron 811 or 811H linear amplifier and you'll find this octogenarian still hard at work -- and with no plans to retire any time soon.

If you've ever wondered about this classic tube's roots, travel with us back in time to October 1939 when RCA first introduced it to the Amateur Radio Community in its publication "Ham Tips." We've reprinted the article that appeared in that issue for your information and enjoyment.



NEW RCA 811 AND 812 GREATEST TUBE VALUES YET

New Zirconium Coated Anode Gives Astonishing Results

Scene: Meeting room of the local amateur radio club. Two hams, early arrivals, settle themselves comfortably in the second row of chairs, feet propped up on the backs of the chairs in front. The following conversation ensues:

1st Ham: "Say, how's your new `final' coming along?"

2nd Ham: "Not so hot-I had it pretty well under way, but now I've decided to junk the whole works and start all over again-the new tubes, you know."

1st Ham: "What? More new tubes? What's the dope this time?"

2nd Ham: "Haven't you heard? RCA has just announced the new 811 and 812 - and they say they're 'head and shoulders' above any other tube now available. Two of 'em in push-pull will take almost 500 watts input, and they cost just a little more than the 809."

1st Ham: "Wow ! That sounds almost too good to be true."

2nd Ham: "That's what I thought, at first. But they've worked up some sort of new plate material-'Zlrconium coated, I believe they call it. But here, take this copy of 'Ham Tips'-it tells all about 'em."

A deep silence followed, while Ham No. 1 "boned up" on the new 811 and 812 from the pages of "Ham Tips." Here is what he read:

"The greatest transmitting tube values ever made available to the radio amateur"- that, in the fewest possible words, accurately describes the new 811 and 812, latest additions to the family of RCA high-perveance, easy-to-drive triodes.

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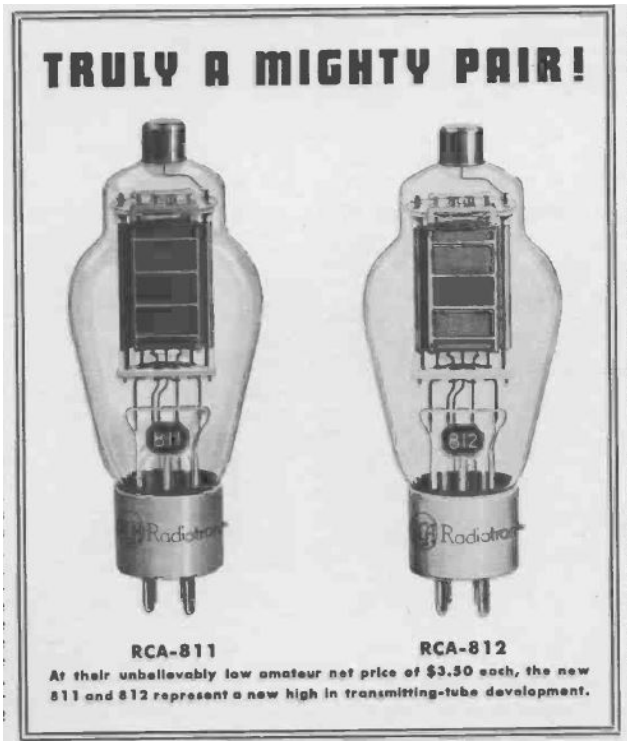

"Ham Tips" Announcing the new 811 & 812 Tubes

EGARA March Meeting Minutes

- The April meeting of the EGARA was called to order at 7:12 PM by President Tom Scorsone, KC2FCP. A moment of silence was observed for Tony Pazzola, W2BEJ (SK). Several members reflected on Tony's many contributions to the hobby and public safety, his sense of humor, and his penchant for several dining spots in the area.

- A single vote was cast by Secretary Steve VanSickle, WB2HPR, for the slate of officers – as no nominees were received from the floor. Officers for 2019-2020 are: President – Tom Scorsone, KC2FCP; Vice President – Nick Field, KD2JCR; Treasurer – Bryan Jackson, W2RBJ; Secretary – Steve VanSickle, WB2HPR. There were no open Board of Directors positions.

- A proposal to establish a new position "President Emeritus" is under consideration and details will be emailed to the membership.

- The Treasurer's report was presented by Bryan Jackson, W2RBJ, and approved by the membership. Dues were accepted by Bryan, and can also be paid online using Paypal. Monthly income included dues received, raffle proceeds, and club processing of ARRL memberships.

- Upcoming events were discussed: The Run for Literacy, VE Session, and the EGARA Hamfest. Signup sheets were distributed.

- A proposal was made to offer new Tech licensees a free one year membership to EGARA. The motion was approved by the membership. Also, Don Carrol, AJ4CN, and Andy Sullivan, KC2WWJ stressed the importance of mentoring new licensees. Also, Don expressed interest in new ham classes.

- The latest vendors to become hamfest sponsors are West Mountain Radio and Bird Electronics. An inventory of hamfest supplies will be conducted on Saturday, April 13. Follow-up emails are to go out the week before the event, and additional supplies will be purchased on May 10th. The hamfest will feature KJI Electronics and Dave Schneider's parts emporium. Hamfest final preparations will be made at the May meeting.

- Tickets were drawn and prizes awarded in the monthly raffle: a variety of tools, and an ARRL tote bag.

- Members are invited to submit any requests for want ads to Bryan Jackson, W2RBJ , for inclusion in the next issue of Sidebands. Members can list items wanted or for sale.

- As customary, refreshments of coffee, soda, and pizza were provided to all the attendees.

- The meeting was adjourned at 8:18 PM.

- --de Steve VanSickle WB2HPR / Secretary

New Dues Options Give Multi-Year Discounts

EGARA members can now save money on their dues when they take advantage of multi-year discounts.

**One year memberships remain $15 for an individual and $25 for a family --
but new two and five renewal options offer the following savings:**

**Two years: Individual $29 (save $1) and Family $48 (save $2)
Five years: Individual $70 (save $5) and Family $115 (save $10)**

On-line payment at www.EGARA.club/dues is convenient, quick, safe and convenient!

On the Beam
News & Notes

EGARA Member Tony Pazzola, W2BEJ, Silent Key at 70

Tony Pazzola, W2BEJ, a long-time member of EGARA, passed away on Monday, April 8th following a brief illness. He was 70 years old.

Tony held an Amateur Extra license and was active in several area clubs and ham radio events. In addition, he was a member of the Shaker Rd. Loudonville Fire Company and Westmere Fire Company, the American Legion Zaloga Post, the V.F.W., the D.A.V. in Lansingburgh. He was a volunteer with American Red Cross, the Urban Search and Rescue of Albany County, the NYS Fire Police Association, the F.O.O.L.S International, the 40 and 8 3rd District Cheminot and was NYS Director of V.A.V.S.

He served in the U.S. Army during the Vietnam War and was stationed in Korea. For many years, he was a procurement officer with the NYS Office of General Services. He was also known for his web page, "Tony W2BEJ's World Famous 2019 Hamfest List", which featured a complete listing of Hamfests around the region.

Tony's passing was noted on the Upstate New York Amateur Radio Group Facebook page and brought fond memories from those who knew him, with many recalling his wonderful sense of humor and good/bad jokes.

In lieu of flowers, Tony's family has suggested that donations be made in his memory to the charity of one's choice.

As Tony would have appreciated, he was laid to rest with a dual band HT radio.

New Volunteer Monitor Program Aims to Crackdown on Band Abuse

The ARRL and the FCC have signed a Memorandum of Understanding that paves the way to implement the new and enhanced Volunteer Monitor program which is aimed at cracking down on misconduct on the Amateur Radio bands. It will replace the Official Observers program and is expected to be in place within the next six to nine months.

"We are excited by the opportunity to codify our partnership with the FCC and to work together to achieve our mutual interests of protecting the integrity of our Amateur Radio bands," said ARRL President Rick Roderick, K5UR.

Approved by the ARRL Board of Directors last July,the new Volunteer Monitor program is a formal agreement between the FCC and ARRL in which volunteers trained and vetted by the ARRL will monitor the airwaves and collect evidence that can be used both to correct misconduct. Cases of flagrant violations will be referred to the FCC by the ARRL for action in accordance with FCC guidelines. The intent of the program is to re-energize enforcement efforts in the Amateur Radio bands. It was proposed by the FCC in the wake of several FCC regional office closures and a reduction in field staff. Under this program, the FCC will give enforcement priority to cases developed by the Volunteer Monitor program, without the delay of the ARRL having to refer cases through the FCC online complaint process.

The new program will be rolled out in three steps, including development of its mission, training of Volunteer Monitors, and start of monitoring operations. Those currently volunteering as Official Observers are invited to apply for appointment as Volunteer Monitors.

The History of Ham Radio: Regulation and Enforcement

Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(Editor's note: By special arrangement with the authors, Sidebands is pleased to present this multi-part series on the history of ham radio. Subsequent chapters will be published in future monthly editions of the newsletter)

Descriptions of the radio laws and anecdotes about their enforcement during the early years paints a picture of a regulatory environment that could be alternately strict or flexible. A QST article in 1916 by "Little Willie" described his and his friends' experience preparing for and taking an exam for the "first grade comm" (First Grade Commercial license) which consisted of a code test and a written test. Although the author's identity is likely fictitious, the story probably relates an actual testing experience and illustrates this mixture of stringent requirements but flexible implementation.

They managed to pass the code test having practiced using an omnigraph, (or 'graph) on advice that it would be the device the examiner would use, and sounded very different from what they were used to hearing on "the phones," presumably listening to signals on the air.

The first written exam question was to draw a diagram of a ship's radio equipment, naming and explaining each component. A series of other questions requiring written answers followed, and the whole process took four-and-a-half hours.

An ad for an "Omnigraph from 1916

Willie finished with a passing score of 86 out of 95. The examiner had decided on his own authority to scratch 5 points from the maximum possible score for amateurs because, after all, they had no shipboard experience! The First Class Commercial license he obtained was higher than a First Class Amateur license, and carried a superset of operating privileges. The examiner had changed the scoring just for them based on their amateur status, on a test for a license at a higher, non-amateur level. Willie and his pals went home with their certificates in hand, issued shortly after the test.

Local authorities apparently had great leeway in handling individual cases of violations as well.

To operate legally under the law you needed to obtain a government license for both yourself and your station. But completely unlicensed operation continued to be a problem years after the law was passed. In one such case, W. T. Scofield of Stamford, Connecticut, a 42-year-old professional telegrapher, decided to set up a wireless station and began transmitting using a call sign he simply made up himself – which was what everybody did legally before the 1912 law. The initial reaction of the local Radio Inspector, however, was merely to warn him about the illegality of his operation, and grant his station a temporary license on the spot. The inspector also advised Scofield that he could get a Second Class Amateur license just for the asking (filling out a form) and could get a First Class after taking an exam.

Incredibly, Scofield continued to operate without applying! This was not a good choice, especially with his station being located near a sea coast, the area most protected by the law. He was indicted by a federal grand jury. The judge in federal court ruled that it was not necessary to prove actual interference, and that merely the unlicensed use of equipment capable of interfering was enough to violate the law. The jury agreed and Scofield was fined $5, but also ordered to pay the (unreported) costs of the proceedings, which were undoubtedly higher.

Considering it a test case, Maxim was called as an expert witness in the proceedings. He believed it was important to portray amateur radio as a self-policing body and so he appeared before the court without charging the fee normally due an expert witness. A QST article on the matter noted that this further enhanced the standing of the League as "the real thing" in the eyes of the government. The article concluded with a list of district inspectors and a plea for anyone not licensed to send in for an application and get authorized call letters.

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The 811 Celebrates 80 Years in Service...

The RCA power-tube lab has done an out- standing development job on these two new bottles. If, after you have read what follows, you do not agree with this statement, there can be only one conclusion-that the RCA power-tube lab has done a far better job in developing the 811 and 812 than the editors of "Ham Tips" have done in describing them. To avoid this possibility, the editors are going to digress from the 811 and 812 for just a moment.

Most of you, when you are thinking of building a new rig or of re-building an old one, generally decide first how much power input you would like to use. The state of the old pocketbook very often influences this decision to a large degree. You will, therefore, other factors being equal, choose a tube (or tubes) which will take the largest power input compatible with the total cost involved. The tube chosen must, in other words, have a high "figure of merit" expressed in terms of power input watts per unit cost (Win/$). Because this term completely ignores tube life performance, the true, intrinsic worth of a tube is better expressed by a term which includes life; namely, power input watt-hours per unit cost. From a practical viewpoint, however, the first term is more convenient and you must necessarily depend on the integrity and reputation of the tube manufacturer to insure that you will obtain reasonable tube life under the rated operating conditions which he recommends.

Another useful figure of merit is the power sensitivity of a tube, which is a measure of how easy the tube is to drive. This factor, for convenience, can be expressed as the ratio of useful class C power output to the required grid driving power.

In order to show vividly the outstanding performance of the new 811 and 812, we have prepared the table shown below. Tubes A, B, C, and D represent four competitive tubes which were chosen because they had relatively high figures of merit. The data given in the table are interesting as well as informative.

Tube Type	*Initial Cost Factor* $W_{in}/\$^*$	*Power Sensitivity Factor* W_{out}/W_g^*
RCA-812	**64**	**26**
RCA-811	**64**	**21**
A	**40**	**22**
B	**37**	**23**
C	**33**	**17**
D	**32**	**23**

* Approximate.

The significance of the high Win/$ factor for the 811 and 812 can best be appreciated if you will stop to think that it is now possible to construct a final amplifier having a rated input of almost % kilowatt, using two tubes whose total cost is only $7.00!

Now for some detailed information. The RCA-811 and RCA-812 are husky triodes with a maximum plate dissipation of 55 watts for class C telegraph service. Operating at 1500 volts (ICAS rating), two tubes of either type can be used in a push- pull circuit with a d-c plate input of 450 watts, and with the unusually low driving -power requirement of only 13 to 16 watts. The 811 and 812 may be operated at maximum ratings in r-f services at frequencies up to 60 Mc. and at reduced ratings up to 100 Mc.

The 811 is it zero-bias, high-mu class B modulator, as well as an excellent r-f tube. Two 811's in class B provide 225 watts of a-f power, which will do a good job of modulating a % kw. 'phone transmitter. A typical class B modulator stage using two 811's driven by two 6L6's, with inverse feedback, is shown in Fig. 1 on the next page. Operating characteristics are shown in the curves of Figs. 1 and 2. Because of its high perveance and high mu (160), the 811 makes an efficient plate-circuit frequency doubler.

The 812, especially designed for r-f services, has a medium mu of 29. It requires slightly less driving power than the 811 in cw telegraph service. In plate -modulated telephony service, however, the 812 requires much less driving power than the 811 (about one-half).

Both the 811 and 812 are equipped with the new low-loss "Micanol" base, which has excellent insulating qualities at high radio frequencies together with low moisture-absorption characteristics. The plate lead is brought out to a metal top cap to provide high insulation,

The remarkable performance characteristics of both tubes are due in large measure to the use of a new type of anode. The plate, which is Zirconium coated, has unusually high heat-dissipating qualities and in addition functions as an exceptionally effective "getter."

-continued on page 13-

The 811 -- No Signs of Retiring Soon...

Thus, any gas produced by overloads is cleaned up by the plate coating. As a result of this "getter" action of the Zirconium- coated anode, the 811 and 812 are capable of withstanding relatively heavy temporary overloads without damage to their filament emission. This is one virtue in a transmitting tube which most amateurs fully appreciate.

In an actual operating test, two 811's were used in a push-pull circuit on 14 megacycles under heavy overload conditions. The plate -tank condenser was repeatedly detuned from resonance so that the plate current and plate dissipation rose to excessive values. This intentional abuse was continued until finally large holes were melted in the plates of both tubes. The amplifier was then adjusted to rated operating conditions (with maximum ICAS values of plate voltage and current) and was found to operate quite normally.

Destructive overload tests have brought out one peculiarity of a Zirconium -coated anode. When a plate dissipation of about 150 to 160 watts is reached, the high plate temperature causes the plate to alloy with the Zirconium coating. This action produces an oval -shaped shiny spot in the middle of the plate. The bright spot, once formed, remains permanently, but does not necessarily affect the operation or efficiency of the tube in subsequent normal operation. If the excessive overload is allowed to persist long enough, a silvery coating may form on the interior surface of the glass bulb.

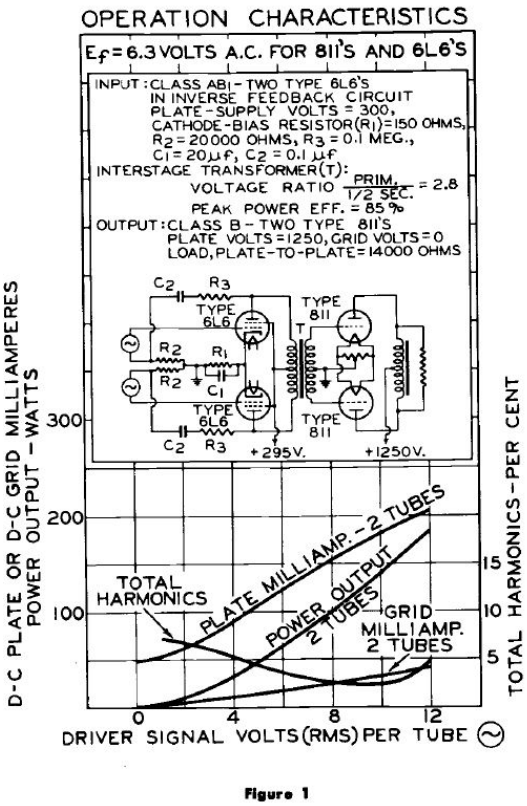
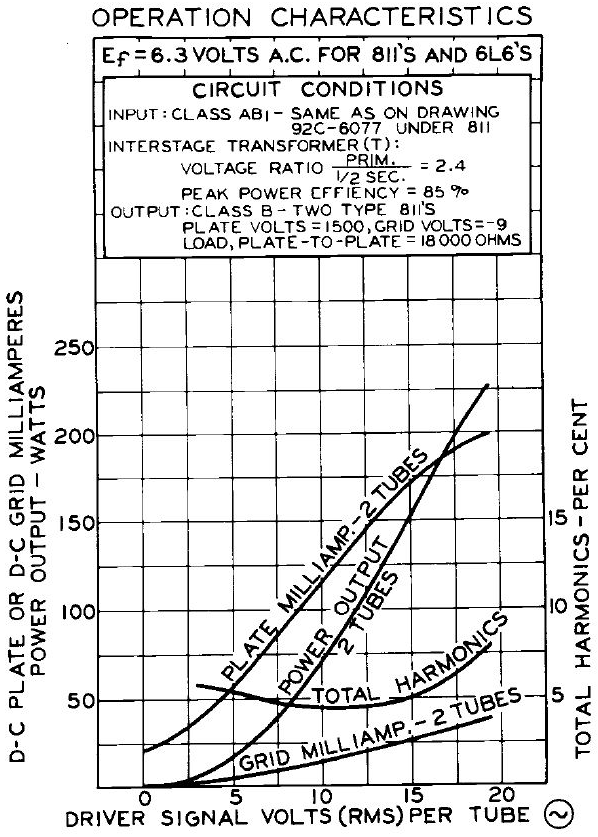


Figure 1



In order to avoid excessive plate overloads, with the attendant "spotting" of the plate and darkening of the bulb, the amateur need only observe the usual precaution of using either a suitable d -c overload relay or a protective resistor in series with the plate supply lead. A 100 watt, 10000 ohm resistor will protect an 811 or an 812 during "tuning up" operations when a new circuit is being adjusted for the first time (before the correct setting of the plate condenser, for resonance, is determined). The resistor should, of course, be shorted or taken out of the circuit during normal operation of the transmitter. A d-c overload relay is preferable to a protective resistor, because a relay can be left in the circuit at all times and offers permanent protection. The relay should be set to open the primary circuit of the high -voltage supply when the d-c plate current reaches a value 50% greater than normal-that is, a value of 225 ma. for a single 811 or 812.

Many radio amateurs may feel that the use of such protective devices is not necessary for home-built transmitters. It should be remembered, however, that a protective device will not only protect the r-f amplifier tubes but may also prevent the destruction of meters, power trans- formers, rectifier tubes, and other circuit components. Just one heavy overload removed in time may represent a saving many times the cost of an inexpensive overload relay. But here, we're digressing again from our original purpose. That was, if you remember, to tell you that the new RCA-811 and RCA-812 are a mighty swell pair of tubes!

Can Indoor Antennas Work? Yes!

By Dan Romanchik, KB6NU

Recently, a reader asked: "I am studying your No Nonsense book as I prep for the Technician test. I am also learning CW. I am going to buy a Yaesu FT 450D as my first radio, and I want to use an indoor antenna as my first antenna. What do you recommend for CW?"

I replied: "To be honest, I've never had a lot of luck with indoor antennas. Don't let that dissuade you, though. I have worked many hams with indoor antennas. Just recently, for example, I worked a guy who was using a Buddipole (http://www.buddipole.com/) inside his apartment.

"If you have an attic, you could easily install a dipole up there. The ARRL web page on indoor antennas (http://arrl.org/indoor-antennas) notes, 'Attics are great locations for indoor antennas. For example, you can install a wire dipole in almost any attic space. Don't worry if you lack the room to run the dipole in a straight line. Bend the wires as much as necessary to make the dipole fit into the available space....Ladder-line fed dipoles are ideal for attic use—assuming that you can route the ladder line to your radio without too much metal contact. In the case of the ladder-line dipole, just make it as long as possible and stuff it into your attic any way you can. Let your antenna tuner worry about getting the best SWR out of this system.'

An attic multi-band dipole

"There are plenty of remote tuners now, too. You could install a doublet with elements as long as you can make them, connect them directly to the remote tuner, and then run coax to your shack.

"I have also worked guys who have used Slinky antennas inside a house. The advantage of using a Slinky is that it is electrically longer than a wire of the same length.

"An attached garage might also make a good location for an indoor antenna. VE3SO, who I've worked several times, uses a magnetic loop antenna installed in his garage (https://www.kb6nu.com/magnetic-loop-antenna-at-ve3so/).
If you do a web search for "indoor amateur radio antennas," you'll get many more ideas. Here are a few that looked promising to me:

* Indoor antenna for 7 Mhz (http://www.iw5edi.com/ham-radio/37/indoor-antenna-for-7-mhz)
* An Indoor Reduced Size Rectangular Loop (http://hamuniverse.com/kl7jrindoorloop4010.html)

"Another option might be to load up your gutters! I've worked a couple of guy who use gutter antennas, including WA8KOQ (https://www.kb6nu.com/operating-notes-gutter-antenna-rac-contest-161-countries-worked/) and K3DY (https://www.kb6nu.com/operating-notes-computer-virus-club-net-gutter-antenna/)."

This blog post garnered a couple of interesting comments. K2MUN wrote, "For many years I've used an attic mounted off-center fed 40 meter dipole. With an automatic antenna tuner and a 4:1 balun I've worked lots of dx with both qrp and, more easily, 100 watts! Certainly, outdoors is much superior but an attic is a nice location in bad weather making playing with your antenna a pleasure :-).

John, KD0JPE, said, 'If you have an attic available, check out the following 6-band coax trap-based antenna: http://degood.org/coaxtrap/. I constructed one of these 9 years ago and have had great results with it.

The bottom line is that indoor antennas can definitely work. They may take more work to put up than outside antennas, but as the saying goes, "Any antenna is better than no antenna."

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About the Author: Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and one of the hosts of the No Nonsense Amateur Radio Podcast (NoNonsenseAmateurRadio.Com).

The History of Amateur Radio...

Stories of enforcement like the Scofield case notwithstanding, in an enforcement environment that was uneven at best and completely absent at worse, the League constantly appealed to members to adhere to regulations and promote such behavior among their peers.

Local clubs also took it upon themselves to manage the behavior of their members. The Atlanta Radio Club, a particularly active organization, was described in a fully reprinted article originally published in the Government Radio Service Bulletin, written by one of its senior members who was also an amateur and one of the first on the air in the metropolitan area.4 Initially established to get everyone together to discuss how to cooperate in using the airwaves locally to avoid QRM, the Atlanta club had grown very rapidly along with the local popularity of wireless as a hobby.

The organization established a set of operating regulations above and beyond those prescribed by the government. A membership-elected radio inspector would periodically examine the members' stations, suggest improvements, and "enforce" the regulations (although the article did not say how). To promote interest and knowledge in radio, the club held regular testing sessions, creating a competition among members for high scores.

The club was invited to participate in the Atlanta area's "electrical prosperity week," where they set up an operational station and were covered by the local press. The writer explained that their relatively late start in wireless was due there being no nearby government or commercial stations to hear in the early days, and that receiving the weaker signals required a more sophisticated station than most amateurs could afford.

Surprisingly, he admitted that their group routinely violated the wavelength limit but said they adhered to the spirit of the regulation in that they took great care not to cause interference; and anyway, that was not very likely since they were so far from the "zone of interference" (meaning the sea coast) and did not allow their members to use power high enough to reach it. They planned next to form a volunteer signal corps and practice operating under "as near actual war conditions as possible."

Here was a government official who was also an amateur, writing an article for a government publication, explaining both the self-policing being practiced by a local club and the selective but judicious disregard for regulations by the same group. These were interesting times.

Early radio was often compared with another budding technology – the automobile. This was understandable given Maxim's early and sustained interest and involvement with internal combustion engines and their use in automobiles.

A January 1916 QST editorial warned about not confusing the League, which was expressly a not-for-profit entity, with new wireless associations popping up selling magazines. The editor (probably Maxim) compared the appearance of such publications to the proliferation of automobile associations. In another automobile comparison, an editorial in the same issue noted that a "Volunteer Radio Corps" was being discussed (it did not say by whom, but presumably the ARRL) to offer the best stations to the military for their use in national defense, and compared this to how the automobile associations in Europe similarly offered their services to the government. Such a group, the editorial said, would probably be better organized by the government than the League, which nevertheless could help get it going by providing lists of stations and other information. Only the better stations would be selected and it would become a point of honor. To that end, everyone should prepare for the day when the government would be looking for good stations and make sure their own stations were in the best working order.

That day would arrive in eighteen months or so. Working stations would not be what was needed.

Ham Tip...

How to Tell if Someone is a CBer:

They think Kilohertz is the metric standard and Megahertz is the US Standard

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"Put Howard to Work" by Working ARRL CEO Howard Michel, WB2ITX, on Maxim Memorial Station W1AW

To help members of the amateur radio community get to know Howard Michel, WB2ITX, the relatively new chief executive officer of the American Radio Relay League, a little better, the organizers of the "ICQ Amateur / Ham Radio Podcast" are putting on an event that will give ham radio operators the opportunity to chat with him in a very natural setting for all hams – on the air! Michel will be at ARRL's Maxim Memorial Station W1AW on Monday afternoon, May 13, at 2 p.m., operating on 20 meters (around the 14.250 MHz frequency on SSB) and will be ready to talk to anyone who wants to "work" him.

Also, to commemorate this event, ARRL is creating a special QSL Card for those who connect with Michel via Maxim Memorial Station W1AW. Organizers hope that this card will become a prized part of most hams' collections.

Michel was a guest on the March 31 episode of the "ICQ Amateur / Ham Radio Podcast" (***https://www.icqpodcast.com/download-the-show/2019/3/31/icq-podcast-episode-290-arrl-ceo-howard-michael-wb2itx***) when the show's organizers came up with this idea.

"While interviewing Howard about his management vision for the League, it hit me that hams need to see the new CEO as another ham operator in addition to being the CEO of the ARRL. Our ham metaphor of 'working' another ham is a humorous way to engage hams from the US and internationally to 'put the CEO to work' on the air at W1AW," said Frank Howell, K4FMH, ARRL Delta Division Assistant Director and a presenter of the podcast.

"Working" Michel via this event will be a very special event for hams around the world, predict the event organizers. Martin Butler, M1MRB & W9ICQ, said, "This event will attract significant international attention, especially from the UK and Europe due to the ICQ Podcast's reach."

Colin Butler, M6BOY publisher of the podcast, added, "There are quite a number of ARRL members in the UK so this outreach 'across the Pond' is something we can easily get behind to promote."

FCC Asked to Allow All Digital Transmissions on AM Band

A prominent advocate for the Standard Broadcast Band (AM band) has petitioned the FCC to allow stations to use all-digital transmissions in the US. Bryan Broadcasting Corporation has asked the Commission to initiate a proceeding to authorize the MA3 primary all-digital service mode for any AM station that chooses to do so. Bryan is the licensee of four AM and five FM stations (and six FM translators) in central Texas.

All HD Radio receivers in the market that have AM functionality would be able to receive such all-digital signals,, but legacy AM receivers would not.

Since last summer, WWFD in Frederick, Maryland, has had special temporary authority to broadcast in all-digital. The Bryan petition appears to be the first to seek all-digital authority. The petition also noted discussions that the AM band has "become so overwhelmed by interference and impulse noise that the resultant audio product is rendered unacceptable to modern listeners." The petition said the noise floor generated by unlicensed devices and affecting the AM band "has been noticeable -- and increasing -- for years."

CALENDAR

May 5, 2019 - Race for Literacy, Schodack State Park, Route 9-J, @ 8 am, communications support.

May 11, 2019 - Annual EGARA Hamfest, East Greenbush Volunteer Fire Department - 8 am to 1 pm.

May 18, 2019 - VE FCC Exam Session - East Greenbush Library, @ 10 am - Tech, General & Extra Exams.

June 22-23, 2019 - Field Day, Masonic Lodge, East Greenbush, 24 hour operation of W2EGB

Pro Tip: Use a Circuit Breaker

If you have a piece of gear that's blowing fuses, don't keep blowing more while you troubleshoot.

Instead, consider using a similarly rated circuit breaker. For example, if the fuse is rated for 1 amp, use a breaker that's also rated for 1 amp.

Just reset it when it trips until you correct the problem.

Of course, be careful not to use a breaker with a higher capacity than the fuse it's replacing or you may wind up causing more damage than what you are trying to troubleshoot.

Want to Buy

Yaesu VX 2 or 3 Radio - $200 or less.
Contact Deb Mariani - 518-221-7985

Rohn 25 Series Tower - 40 foot crank up type
Contact Joe at Joeostering4@gmail.com

For Sale

Johnson Valiant Transmitter AM & CW - $ 600.00
DX 60 Transmitter AM & CC With VFO - $ 125.00
DX 35 Transmitter AM & CW With VFO - $ 125.00
Eldico R124 Receiver - $300.00
MFJ Model 1995 Portable Antenna, 40 To 10 Meter - $75.00

For items above, contact Tom at: KC2FCP@nycap.rr.com

Arrow Model 52-S4 - 4-Element 6 Meter Yagi antenna in good condition. $75.00 See: http://www.arrowantennas.com/solid/52-4s.html for details.

MFJ Model 989C Antenna Tuner - legal limit, very little use, in immaculate condition. $225.00 -- Originally sold for $359.00 See: https://www.universal-radio.com/catalog/hamtune/1332c.html

For above, contact Steve at: svansick@nycap.rr.com

Kenwood TS-690S Transceiver - Excellent condition - Covers 160 to 6 meters, all modes, 100 watts. Comes with manual, power cord, microphone. $500.00.

For above items, contact Bryan at: W2RBJ@outlook.com

Got gear to sell or swap? Looking to buy?
Sent your items to
W2RBJ@Outlook.com

The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, (SK) and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.